

**ORIGINAL**

7 encl. 10

NUCLEAR REGULATORY COMMISSION

---

---

IN THE MATTER OF:

PUBLIC MEETING

MEETING WITH FEDERAL, STATE & LOCAL  
OFFICIALS ON NUCLEAR POWER ISSUES

Place - Washington, D. C.

Date - Thursday, 9 August 1979

Pages 1 - 73

---

---

**POOR  
ORIGINAL**

Telephone:  
(202) 347-3700

ACE - FEDERAL REPORTERS, INC.

*Official Reporters*

444 North Capitol Street  
Washington, D.C. 20001

NATIONWIDE COVERAGE - DAILY

909 196

7909050534

R6348

DISCLAIMER

This is an unofficial transcript of a meeting of the United States Nuclear Regulatory Commission held on Thursday, 9 August 1979 in the Commission's offices at 1717 H Street, N. W., Washington, D. C. The meeting was open to public attendance and observation. This transcript has not been reviewed, corrected, or edited, and it may contain inaccuracies.

The transcript is intended solely for general informational purposes. As provided by 10 CFR 9.103, it is not part of the formal or informal record of decision of the matters discussed. Expressions of opinion in this transcript do not necessarily reflect final determinations or beliefs. No pleading or other paper may be filed with the Commission in any proceeding as the result of or addressed to any statement or argument contained herein, except as the Commission may authorize.

CR6348 1

UNITED STATES OF AMERICA

2

NUCLEAR REGULATORY COMMISSION

3

PUBLIC MEETING

4

MEETING WITH FEDERAL, STATE & LOCAL

5

OFFICIALS ON NUCLEAR POWER ISSUES

6

7

Room 1130  
1717 H Street, N. W.  
Washington, D. C.

8

9

Thursday, 9 August 1979

10

11

The Commission met, pursuant to notice, at 9:40 a.m.

12

BEFORE:

13

DR. JOSEPH M. HENDRIE, Chairman

14

VICTOR GILINSKY, Commissioner

15

RICHARD T. KENNEDY, Commissioner

16

PETER A. BRADFORD, Commissioner

17

JOHN F. AHEARNE, Commissioner

18

ALSO PRESENT:

19

Messrs. Bickwit, Gossick, Jaske, Tucker, and Cunningham.

20

FEDERAL, STATE, AND LOCALS OFFICIALS PRESENT:

21

Lupe Aguirre; Hon. Polly Baca-Barragan; Gino Carlucci;

22

Wilma Espinoza; Anette Kearney; Mario G. Obledo; Eduardo Pena;

23

and Jim Seely.

24

\* \* \*

25

## P R O C E E D I N G S

1  
2 CHAIRMAN HENDRIE: Come to order. The Commission  
3 meets this morning with a group of federal, state and local  
4 officials to talk about nuclear power issues. This meeting  
5 follows from correspondence we have had with representatives  
6 of the group. Mr. Obledo of California is the spokesman for  
7 the group. Why don't I ask you to, for the record,  
8 introduce the people in your party, Mr. Obledo, and go ahead  
9 and frame the discussion for us, if you please?

10 MR. OBLEDO: Certainly. Good morning. To my left  
11 is Lupe Aguirre, who is the state chairperson for the League  
12 of United Latin American Citizens; Wilma Espinoza who is the  
13 national president of the Mexican American Women National  
14 Association. To my right is Senator Polly Baca-Barragan  
15 from the State of Colorado. Ms. Anette Carney, representing  
16 the National Council of Negro Women. We have Mr. Seely  
17 representative of Tom Bradley of Los Angeles. Mr. Carlucci  
18 representing the Mayor of New Orleans, Ernest Morial and  
19 finally, Mr. Pena, immediate past president of the League of  
20 United Latin American Citizens.

21 I first off wish to express my appreciation of the  
22 accommodation by the Commission to meet with us. I am the  
23 Secretary of Health and Welfare for the State of California,  
24 with jurisdiction over health and safety matters of the  
25 citizens of that state. I am also a past president and

bn 1 general counsel of the Mexican American Legal Defense and  
2 Educational Fund, which is a national group representing the  
3 Spanish people and others similarly situated in matters of  
4 legal and constitutional rights.

5 The issue of nuclear power is one that touches the  
6 lives of the citizens of this country and we felt that it  
7 touched the lives of the people in our major cities. The  
8 major cities of this country are becoming minority dominated  
9 and will be in the next few years. Virtually every major  
10 city in this country will be dominated by the brown and the  
11 black communities. Quite a few already are in that posture.

12 Nuclear energy touches on the cities of these  
13 citizens, the poor, the disadvantaged, the minorities. And  
14 as representatives of the minority community, we felt it  
15 important, since it appeared to some of us that during the  
16 discussions involving this issue, few if any minority faces  
17 were ever seen. It was important to us as community  
18 representatives to learn about this issue, to focus on, and  
19 perhaps to make some determinations about this source of  
20 energy, its feasibility, its safety, whatever, and alternate  
21 sources of energy, if that be the case. That is our purpose  
22 here today.

23 We don't want to indict anyone. We are not here  
24 to put blame of anything on anyone. We are not here to use  
25 this as a forum for any kind of rhetoric. We are here to be

bn 1 informed. And just to gather that kind of information. I  
2 don't believe that any one here representing the community  
3 is an expert in this field. We are all new to this very  
4 complex and sophisticated issue. There has been a wealth of  
5 information, if you will, published in the last three or  
6 four months. I have done quite a bit of reading, not only  
7 of reports but of new articles, as I am sure that other  
8 members of our group have done.

9 We get all kinds of opinions on safety, on the  
10 feasibility, on the economics of this issue. Books have  
11 even been written now on the whole situation. There doesn't  
12 seem to be any definitive answers to some of these problems  
13 or questions that have been raised. And what we would like  
14 to have this morning is, if at all possible, an informal  
15 informative discussion about these particular issues.

16 Now, I touched base with 20 leading members of the  
17 minority community that were on the correspondence that was  
18 first sent to you. I expressed my own concern about some of  
19 these matters to the various mayors of Miami, New Orleans,  
20 Los Angeles, Oakland, Detroit, the State of New York, and  
21 from coast to coast, from north to south, all areas of this  
22 country. All were deeply concerned about it. All said they  
23 wanted to learn of our discussion here today and to get a  
24 report from us as to what information we have gathered, et  
25 cetera. We will be getting back to them on this matter.

bn 1 All of us are very, very busy people. I have  
2 jurisdiction over 53,000 employees and I manage a budget of  
3 \$15 billion. All of the person here have extremely vital  
4 responsibilities, as you have. So I think that we ought to  
5 utilize our time. I know we were set for an hour and a  
6 half. Perhaps we need not take that long, and we can  
7 proceed.

8 Initially I had written a letter to the chairman  
9 questioning a meeting calling attention to the fact that  
10 this nuclear issue impacted on minorities and poor of  
11 America that reside in our cities, and the following  
12 questions were raised. How safe are nuclear power plants?  
13 To what extent are the nation's cities dependent on nuclear  
14 power? In the event that nuclear power industry fails to  
15 meet its safety obligation to the public and is forced to  
16 shut down, what is being done to assure alternative energy  
17 sources for the urban populations?

18 Then we wondered about the impact, economic or  
19 otherwise, that any deficiency in alternative sources would  
20 have on the people of our major cities. The urban risk.  
21 Now, since my correspondence in May to the Commission, quite  
22 a few articles have been written about the risk factors,  
23 about the economic impact of nuclear power, about all these  
24 issues. But perhaps it is a good thing that we meet with  
25 the body that regulates this and get, firsthand, the

bn 1 answers to some of the questions that have been raised.

2 I received a response from the executive director  
3 of the Office of State Programs, indicating that perhaps the  
4 Commission was not in the position to answer the question on  
5 economics or the question of the development of alternative  
6 sources of energy, but perhaps you could address the risk  
7 factors, the safety factors to the extent the nation depends  
8 on nuclear energy.

9 I am going to defer at this time to any member of  
10 our group to have them articulate any particular concerns or  
11 overviews they might have on the issue. Why don't we start  
12 here? Do you have anything?

13 MS. ESPINOZA: I still don't understand what role  
14 you have defined for yourselves as a Commission.

15 MR. OBLEDO: Why don't we defer to that question?

16 COMMISSIONER AHEARNE: Could you expand a little  
17 bit and say what role?

18 MS. ESPINOZA: I was concerned because of the  
19 response we received that you could only deal with three of  
20 the questions and that three of the others you were not  
21 prepared to respond to.

22 MS. BACA-BARRAGAN: I might comment that I  
23 represent an area in Colorado, north of Denver, that has  
24 within its boundaries, Rocky Flats. And also just farther  
25 north, about say 20 miles north, is Fort St. Vrain power



bn 1 plant. Of course, one of the problems we have, I am sure  
2 you are well aware of the -- not -- accident, but -- at  
3 Fort St. Vrain about a year ago there was some leakage in  
4 the air, the atmosphere. That presented quite a problem to  
5 the citizens of our state and, of course, the state  
6 legislature. One of the things we are constantly dealing  
7 with is safety versus jobs, you know, and how do you balance  
8 the two.

9 I have got constituents that work at Rocky Flats  
10 that I am concerned about in terms of their employment. And  
11 recognizing that the closing of that facility would be of  
12 great economic consequences to my particular constituents, at  
13 the same time I have got other constituents who have been  
14 demonstrating for quite some time about Rocky Flats, because  
15 of their concern that it is not safe. There are health  
16 hazards. There is real concern in the area with regard to  
17 health hazards to the citizens that live in the area. The  
18 water situation at Broomfield, not far from Rocky flats, has  
19 often been a point of concern, that it might have been  
20 contaminated.

21 So I think as an elected official we have  
22 responsibilities that are somewhat similar to yours in the  
23 sense that we need to deal with how you protect citizens as  
24 well as provide for the development of this type of energy,  
25 if necessary. I guess I just have a lot of questions along

bn 1 the same line that Secretary Obledo outlined.

2 MS. KEARNEY: Yes, I represent --

3 CHAIRMAN HENDRIE: If you will pull the microphone  
4 up close, we can hear fine, but for the people in the back,  
5 if you would pull it up close.

6 COMMISSIONER KENNEDY: It would be best if  
7 you could attach it somehow.

8 MS. KEARNEY: Let me hold it. Mr. Chairman, and  
9 Commissioners, I represent Dorothy Height, national  
10 president, National Council of Negro Women. We are a major  
11 women's organization, representing a linkage to four million  
12 black women in this country, minority women, also. We are  
13 very much concerned about the issue of nuclear energy. We  
14 have to respond to our constituents out there in the cities  
15 and suburbs and rural areas, and we get an increasing  
16 amount of questions today requesting some answers. We just  
17 don't seem to have the answers and I don't know if you do  
18 either.

19 But we have to respond to them intelligently.  
20 Now, coming November 11, that entire week we will convention  
21 here in Washington, D.C. Approximately 4000 to 5000 women  
22 will come in for that event. One of the issues on the  
23 calendar will be nuclear energy. We need to respond to them  
24 intelligently with your assistance. They seem to be asking  
25 us how safe is nuclear energy, as the Senator has stated to

348 01 01

on 1 you in the telegram. Also, we are very much concerned about  
2 waste disposal because many of our women not only live in  
3 cities but in the rural areas, also in the suburbs. We must  
4 never forget that, even though we are concerned about people  
5 in the cities. Surrounding those cities we have the suburbs  
6 and the outlying areas -- we have the rural areas.

7 So that we are all connected together. We are not  
8 removed in terms of land space and area. Those are our  
9 concerns at this point.

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

c 1 MR. SEELY: Speaking on behalf of Mayor Bradley  
2 of Los Angeles, a city of approximately 3 million people,  
3 which also, incidentally, owns the largest municipal power  
4 company in the United States, his concern is that the  
5 uncertainty surrounding nuclear energy has created problems  
6 for him as an administrator, both of the city and somebody  
7 who oversees the municipal power company which has  
8 responsibility of either participating in nuclear power  
9 plants or coal-fired power plants.

10 The controversy has in the past caused the kind  
11 of projections by the power company of not being able to  
12 supply the kind of energy that will be needed by the city.

13 So, we are really caught between a rock and a  
14 hard place in terms of how you project future demand,  
15 project future supply, and how we reach those goals.

16 To reiterate, the uncertainties that exist here  
17 make it difficult for him personally to resolve and be  
18 responsible to the constituents as consumers and as human  
19 beings who want the answers before they embark on either  
20 large expenditures or health risks.

21 MR. CARLUCCI: The city of New Orleans has three  
22 concerns concerning power plants. First of all, I would  
23 like to become more familiar with the regulations concerning  
24 the exclusion area around the plant.

25 The plant that is being constructed near the city

c 1 of New Orleans has an exclusion zone that includes the  
 2 Mississippi River. If you were to close off the river for  
 3 any length of time, it could be devastating to our port, the  
 4 third largest port in the world and our major source of  
 5 employment.

6 A second concern is the present regulations that  
 7 require an evaluation plan, I believe that is true, for a  
 8 10-mile radius around the plant and control of food chain  
 9 for 50 miles, a 50-mile radius. A 50-mile radius of the  
 10 Waterford 3 plant includes a large area of wetlands.

11 As you probably know, Louisiana consists mostly  
 12 of wetlands in the southern part of the state. The food  
 13 chain that begins in the wetlands ends out in the gulf. So,  
 14 it would be extremely difficult not only to control that  
 15 food chain, but if it were controlled, it would damage  
 16 severely our seafood industry and fishing industry.

17 The third area I would just like to comment on,  
 18 Brookhaven, a Brookhaven study from 1957 and a Union of  
 19 Concerned Scientists' report more recently in the '70s  
 20 indicates a possible danger area in the event of a meltdown  
 21 greater than the 10-mile radius that present regulations  
 22 call for an evacuation plan for.

23 I would just like your comment as to the validity  
 24 of these earlier studies. And what impact they might have  
 25 on changing the regulations.

c 1 MR. OBLEDO: Mr. Carlucci informed me last night  
2 that New Orleans is at least 50 percent black. It never  
3 had -- I never thought of New Orleans as a minority  
4 dominated city. That is one of the cities represented on  
5 our list.

6 If you scan the list, you will see cities with  
7 great, great brown and black populations, Hispanic  
8 populations.

9 Ed.

10 MR. PENA: I don't guess any of you knew at the  
11 time you were appointed how fast your agency would become a  
12 focus of great interest on the part of all Americans in this  
13 country.

14 Energy, all of a sudden, has become a major  
15 concern for all of us. The shortage of energy affects all  
16 of us. But particularly us, the poor people who live in  
17 large cities.

18 The price of gasoline has gone way out of  
19 proportion to what it used to be, and it hurts the poor  
20 people more than anybody. The price of heat and the great  
21 inflation that the shortage of energy has caused has raised  
22 prices to a point that the poor are the most adversely  
23 affected.

24 I think it all comes back down to the problem of  
25 the shortage of energy. But most important, the shortage of

c 1 energy in the future, I think, will limit our growth in  
2 jobs. That is what it means to us. Jobs for our  
3 community.

4 The Hispanic community is the youngest community  
5 in this country, and it is growing fast. And we will need  
6 the jobs that need to be created every year in order to  
7 maintain an employment ratio that is reasonable.

8 And so the shortage -- what I want to say is, we  
9 want to believe that there is an answer to the shortage of  
10 energy in this country and that there is an answer that can  
11 be utilized quickly, not until all the technology is  
12 developed. So we need some quick interim kinds of remedies  
13 for our present problem of shortage of energy.

14 I guess what my real concern is is truth. We  
15 really need some truthful answers to the questions being  
16 raised by the people who are concerned about the  
17 environment. We are concerned about energy and jobs and  
18 lowering the inflation ratio, but we are also concerned  
19 about creating a wasteland in this country through the  
20 possible injudicious use of nuclear energy.

21 And so our real concern has been that when people  
22 talk about the problems of energy, they talk in great  
23 extremes. It is either the worse thing that could happen to  
24 this country, or people on the other side say it is the best  
25 thing that could happen to this country. There is very

c 1 little in between. Maybe that is the way the issue is. I  
2 don't know.

3 My great concern when we talk to people and read  
4 articles, they always point out where people testifying  
5 either on behalf of nuclear energy or against nuclear energy  
6 always leave something out of their statements. And there  
7 is always some areas where they find that we haven't been  
8 entirely truthful.

9 You people have been appointed by the President  
10 and ratified by the Senate to be the experts in this field.  
11 I think you have to be way out front telling us the real  
12 true story of how energy affects us and how it will affect  
13 us. How nuclear energy will affect us. And how we are  
14 going to live with it or if we are not.

15 I think we need answers fast. We can't wait  
16 until solar energy is built.

17 MR. OBLEDO: So, from this overview, you gather  
18 our concern. And I think that as representatives, as  
19 citizens of the country, but particularly as representatives  
20 of two of the major minority groups in this country that are  
21 going to be severely impacted by any decisions made by this  
22 Commission, we have a responsibility to report to our  
23 respective communities about this issue.

24 Now, the Chair or members of the Commission may  
25 wish to ask myself or any member of our group specific



c 1 questions before we get into the general format, or you may  
2 wish to make some statement on your own.

3 CHAIRMAN HENDRIE: Why don't I start out by  
4 trying to touch some of the questions that you have raised  
5 in your telegram and that others have suggested here. And I  
6 would think my colleagues would want to make comments of  
7 their own, sort of subject by subject as we go down the  
8 line.

9 Let me start out with a sort of preliminary  
10 comment raised by a question from that end along the lines  
11 of what is the Commission's role.

12 It may be helpful to you to understand to some  
13 extent the scope of responsibility that this Commission has  
14 under the Atomic Energy Act and other acts that we are  
15 responsive to.

16 Our principal mandate here is to regulate  
17 commercial nuclear technology, not just the power, nuclear  
18 power technology, but all commercial nuclear activities,  
19 including, for instance, the medical uses of radiosotopes  
20 in health diagnosis, industrial uses, radiographers that  
21 take X-rays of welds in oil pipelines and all kinds of  
22 things like that.

23 The basis of our regulation under the Atomic  
24 Energy Act is primarily a health and safety basis as  
25 contrasted to an economic one. We do not regulate on the

c 1 basis of economics. We do not set rates, we don't directly  
2 influence the cost, although clearly as we require safety  
3 provisions, that raises the cost of a nuclear power plant,  
4 there is a cost element that way. But we don't do rate  
5 regulations. We do regulate on a health and safety basis.

6           There are some other aspects in the Atomic Energy  
7 Act. Our licensing of commercial nuclear activities has to  
8 be judged by us not to be adverse to the national defense  
9 and security. We have to give weight to environmental  
10 values on decisions we make in licensing. This is a  
11 requirement of the National Environmental Policy Act.

12           And, finally, there are some antitrust provisions  
13 in the Atomic Energy Act that are sort of a specialized area  
14 and have to do with the proposition that since nuclear  
15 technology was developed by the public funds, in effect for  
16 all of us in society, that the sponsors and writers of the  
17 Atomic Energy Act didn't want the technology used in a way  
18 that would contribute to monopolistic practices, and so on.  
19 So there is an antitrust question.

20           But the central thrust of our regulation is  
21 health and safety, and just of commercial nuclear  
22 technology. I don't believe there is a comparable  
23 regulatory body for any other energy form. In fact, there  
24 are not really very comparable regulatory structures for  
25 much else except the commercial aviation, the civilian

c 1 aviation industry in this country, where the Federal  
2 Aeronautics Administration has a very similar sort of health  
3 and safety and licensing for health and safety purposes  
4 mandate.

5 But in the energy field, while there are economic  
6 regulators, both to the federal and state level, I think  
7 nuclear is the only place where, certainly in the federal  
8 sphere, you have a group who are supposed to be expert in  
9 the technology and to be watching it from a health and  
10 safety standpoint. How safe are nuclear power plants and  
11 related questions. And can I tell you the truth.

12 MR. PENA: It is hard to answer one without the  
13 other.

14 CHAIRMAN HENDRIE: I certainly will, but I think  
15 "can I" is an even more interesting question. What I have  
16 to say about that is the following.

17 COMMISSIONER KENNEDY: What is truth?  
18  
19  
20  
21  
22  
23  
24  
25

1                   CHAIRMAN HENDRIE: What I can tell you is what I  
2 believe to be the case on the basis of my own experience and  
3 background in the area. You will hear from other people, as  
4 you have read in numerous articles, of very widespread abuse.  
5 All the way from the proposition that this technology is the  
6 most diabolical evil ever visted on the face of the earth to  
7 the proposition that it will do everything, including cure the  
8 common cold, that needs to be done for mankind.

9                   I suggest to you that neither of the extremes of  
10 opinion that you encounter have very much to do with reality.  
11 It is neither a panacea for all of man's problems, nor is it  
12 a particularly malevolent technology. I point out to you that  
13 the concerns that people have about nuclear technology are  
14 related to exposure to radiation. I point out to you that  
15 every life-form on the planet evolved, was created, evolved,  
16 has existed, lives in a radiation field which is fairly  
17 substantial compared to levels that are emitted in normal  
18 operation from nuclear technology.

19                   The hazard that we are concerned with in this field,  
20 radiation, at least has the familiar property that radiation  
21 has always been a part of the environment of living things.  
22 What we are talking about is a little more or a little less in  
23 normal operation of nuclear facilities, or indeed, in  
24 **accident situations, locally, lots more.**

25                   But at least it is something that has been around.

1 Radiation has been around since the beginning of time, as far  
2 as life on this planet is concerned. And that is not  
3 something that I can say about an assortment of chemical  
4 products which have been introduced by man by virtue of our  
5 technological advances within the last generation or two. And  
6 whose effects, then, we are able to observe only through quite  
7 recent times.

8         So radiation may indeed be mysterious and awful to  
9 some people who have just heard about it in a way that doesn't  
10 allow them to think about it very much. It may seem very  
11 mysterious and terrible. But of the assorted industrial  
12 materials, products of our civilization, radiation, of all,  
13 is the oldest form, if I may put it that way.

14         Now, how safe are nuclear power plants? It is my  
15 view that, considering the sources from which we can get  
16 substantial amounts of electricity, that nuclear power does  
17 not present a larger risk than the other sources.

18         You will note that I have not said no risk. Because  
19 in all of these methods of producing electricity, and the  
20 nuclear technology just produces electricity -- it doesn't  
21 produce gasoline to go in your car, or nuclear engines to run  
22 even a railroad train have not evolved, and in my view are  
23 unlikely to. We do have some nuclear boilers in ships,  
24 notably the Navy ships, but even for commercial vessels,  
25 nuclear plants haven't -- there have been a couple of

1 trials, and ships have run all right, but it hasn't seemed  
2 really, on balance, to work out and be worth the complications  
3 of worrying about nuclear safety aspects and so on.

4           So we are really talking about nuclear technology  
5 in the engineering sense as an electricity producer. We have  
6 to recognize that electricity is, I don't know, something of  
7 the order of maybe 20 percent of our gross energy -- 20, 25  
8 percent of our gross energy need.

9           So this is just a piece of the whole energy pool.  
10 The other bulk sources of electricity are generation in  
11 fossil fueled -- that is, coal, oil, natural gas -- fired  
12 plants, and generation from hydroelectric sources. The fossil  
13 sources all have the interesting property that they create  
14 carbon dioxide.

15           The carbon dioxide level of the atmosphere has been  
16 rising steadily. We have been mapping it with some precision  
17 since I think, I don't know, the mid-'20s. It has gone up  
18 substantially. I can't tell you where it is going and what it  
19 all means, except to point out that my friends the  
20 climatologists say that there is at least a possibility in  
21 that increase of CO2 that by about the end of the century we  
22 will have precipitated a temperature change for the earth  
23 which cycle will last some decades, more likely hundreds of  
24 years, with unknowable effects in terms of changes in crop  
25 production worldwide.

1           Some barren regions may become producers, but some  
2 producing regions may become barren. And whether the net  
3 balance in terms of a world food supply might be of benefit  
4 to us or an utter catastrophe is very much, I think, in the  
5 balance.

6           All I can say on this subject is that there are  
7 some very unpleasant possibilities out along that line from  
8 the production of carbon dioxide. And if we want to talk  
9 about very remote -- that is, of the order of one chance in  
10 10,000, sorts of accidents at nuclear power plants -- I think  
11 it is fair to talk about one chance in 10,000 events in the  
12 other technologies.

13           And I would not put the possibility of difficulty  
14 of a substantial amount from carbon dioxide at nearly as  
15 low a number as that.

16           MR. OBLEDO: I was going to make --

17           CHAIRMAN HENDRIE: Yes.

18           MR. OBLEDO: I follow what you are saying. But I  
19 think we had wanted to focus on nuclear engineering as such,  
20 and the risk of the operation of nuclear power plants.

21           CHAIRMAN HENDRIE: Of course.

22           MR. OBLEDO: No question about the comment you make  
23 on radiation. I believe Dr. Feller in the Wall Street Journal  
24 ad pointed out that specific area. But if we get back to the  
25 risk, I take it that the risk -- there is a risk; am I correct

1 in that conclusion?

2 CHAIRMAN HENDRIE: Absolutely.

3 MR. OBLEDO: All right. Now, what is the risk of  
4 a nuclear meltdown, for instance, of one of the almost 100  
5 plants in operation, or that are -- I say operation. You will  
6 have to forgive me, because I don't know how many are really  
7 operating. Some may be shut down.

8 CHAIRMAN HENDRIE: About 68 at the moment.

9 MR. OBLEDO: Whatever.

10 CHAIRMAN HENDRIE: Yes.

11 MR. OBLEDO: And, in case of a meltdown, what would  
12 be the consequences to the surrounding population in terms  
13 either of death, destruction of property, property damage,  
14 knowing the capacity, for instance, of a nuclear plant? And  
15 we could even get specific. Any one nuclear plant, knowing  
16 the capacity, then a meltdown -- knowing the population of the  
17 area, what might be the consequences? The risk is there.

18 CHAIRMAN HENDRIE: Yes. But you cannot answer the  
19 question how safe is nuclear power without also answering,  
20 compared to what?

21 MR. OBLEDO: We will just -- I will get back to the  
22 specifics, Mr. Chairman. You have a nuclear power plant, and  
23 I don't know the terminology that is used in the production  
24 of energy, and you have a meltdown, and you know that the  
25 nuclear power plant is close to Chicago, and you know the



1 population of Chicago. And it would seem to me, as a lay  
2 person, that some projections could be made. I saw some  
3 statistics that had been projected by some scientists or  
4 whatever.

5 But couldn't a projection be made on the number  
6 of -- probable number of deaths, probable number of people  
7 that would be impacted by radiation, the economic, the  
8 property loss? Is that possible? I am asking. I am not even  
9 sure what I may be asking, if you will pardon me.

10 CHAIRMAN HENDRIE: I wanted to go on and turn to  
11 these aspects that you have raised. But I want to point out  
12 that you can't -- you do have to ask -- ask yourself and  
13 eventually answer the question, compared to what, when you  
14 consider a risk question. This is true whether it is for  
15 nuclear or anything else. We do not live, are not able to  
16 live in a risk-free situation.

17 MR. OBLEDO: I understand.  
18  
19  
20  
21  
22  
23  
24  
25

lp

1           CHAIRMAN HENDRIE: Let me turn to this that you  
2 have talked about with regard to accidents in plants. There  
3 have been various estimates of both probabilities and  
4 consequences for large and small accidents. The most  
5 extensive of these is work called the Reactor Safety Study  
6 which was completed in 1975.

7           We have reexamined this study again recently and  
8 concluded on the basis of the review made for us that, while  
9 it does represent a substantial gathering together of what  
10 is known, that our ability to calculate with precision in  
11 this area is not that good. And, indeed, that the  
12 probability estimates in that work and in comparable  
13 estimates simply have large error bands on them. That is,  
14 they are not very precise. By not very precise, I mean  
15 factors of 10. That is, a given estimate may be factors of  
16 10 or more higher, 10 or more lower, or even a factor of a  
17 hundred, perhaps, in some cases.

18           The general thrust of those risk estimates studies,  
19 probability and consequence, comes out that major accidents  
20 that would lead to a melt-down might occur of the order of  
21 once in 20,000 plant years, something like that. And there  
22 is a substantial error on that, as we have said. In fact,  
23 what we have said is that representing that the imprecision  
24 in those estimates is so great, we don't use those estimates  
25 for policy decision purposes.

lp 1 But, beyond that estimate, which comes from the 1975  
2 study, as I reiterate, it's about one in a hundred. It's  
3 estimated that about one in a hundred of those cases would  
4 result in a near term fatality in the general public.

5 It seems to me that is about the --

6 MS. ESPINOZA: Is that about one in a hundred?

7 CHAIRMAN HENDRIE: Yes. About one in a hundred  
8 melt-downs would lead to an off-site fatality in the near  
9 term. That is, a radiation exposure large enough to cause  
10 someone to die within the first several weeks.

11 Anybody remember whether I have got the right order to  
12 that?

13 MS. BACA-BARRAGAN: This is off-site?

14 CHAIRMAN HENDRIE: Yes.

15 MR. OBLEDO: The statistics I looked at last  
16 evening -- I think it was part of that report, and,  
17 Mr. Carlucci has that, two or three pages -- were quite  
18 alarming insofar as deaths from radiation, the economic  
19 loss, things of that sort.

20 COMMISSIONER GILINSKY: This is from the 1957  
21 Brookhaven Report?

22 MR. CARLUCCI: Union of Concerned Scientists  
23 Report.

24 MR. OBLEDO: That is where I was getting that  
25 kind -- whether it's true, has any validity, I don't know.

lp 1 CHAIRMAN HENDRIE: Well, as one moves to accidents  
2 which are estimated at least to have lower and lower  
3 probability levels, that is, the less and less likely  
4 events, then you can come to -- then in principle, at least,  
5 you can get the bulk of the fusion products out of the  
6 reactor, and that can lead to some substantial loss of life.

7 MR. OBLEDO: Yes. See, what we have here is this  
8 risk, even though it may be a minimal risk, and the fact  
9 that such an occurrence could take place. You take your  
10 statistics of one in 20,000. What if that one were to occur  
11 this month or next month? And the loss of life that might  
12 come about. And so when I was speaking to some people, a  
13 minority group, the observation was made, well, what good is  
14 it to get nuclear energy, perhaps, at a more economic -- at  
15 lower scales than other forms of energy to where poor people  
16 might be able to afford the rates -- even though there is  
17 some question about whether it's more expensive or less  
18 expensive -- if it were to wipe out, you know, hundreds of  
19 thousands of people, only one accident. You're saving money  
20 but you're facing a loss of life.

21 CHAIRMAN HENDRIE: My own view is that the  
22 hundreds of thousands numbers are simply not --

23 MR. OBLEDO: Realistic?

24 CHAIRMAN HENDRIE: Well, not only not realistic  
25 but simply couldn't be reached. But there are others who

1 hold those views. All I can tell you is what I think.

2 MR. OBLEDO: From the fallout in later years?  
3 People with thyroid cancers, et cetera?

4 CHAIRMAN HENDRIE: Yes.

5 MS. ESPINOZA: But 20,000 is bound to happen  
6 within the century for sure. We have 71 plants operational  
7 now. There are 29 under construction and 30 on the drawing  
8 boards. That sounds to me like the chances for an accident  
9 to happen are very, very great.

10 CHAIRMAN HENDRIE: Well, I can't tell you whether  
11 the one in 20,000 is really the number we should focus on.  
12 All I can tell you is that that was, as I recall it, the  
13 result from the safety study. But, there are about 200, as  
14 you say, either operating or in the pipeline, although  
15 whether all of those, in fact, will be finished being built  
16 is an open question.

17 But suppose for purposes of discussion there are 200.  
18 Okay. Then if the statistic is right, one would expect  
19 that, if we make no further safety improvements over the  
20 plants for which the study was done, which were a pair of  
21 plants that were recently started operation, in about 1972  
22 or '3, that on the average, every hundred years there would  
23 be a melt-down accident, and, on the average, every hundred of those  
24 times, or every 10,000 years, if my recollection is correct,  
25 the melt-down would result in serious, more or less serious

lp 1 off-site consequences. That is, radiation levels that would  
2 cause immediate fatalities.

3 Now, everyone will have to decide for himself whether or  
4 not, if these numbers are, in fact, reasonable and to be  
5 credited, whether or not that is an acceptable risk.

6 MS. ESPINOZA: I want to ask you, is it true that  
7 this country is accepting waste from other countries to be  
8 buried here?

9 CHAIRMAN HENDRIE: Not I think in the sense in  
10 which you mean, at least thus far. Because I think --

11 COMMISSIONER AHEARNE: Why don't you go through,  
12 though, the research reactor and -- Because there is waste  
13 coming into this country.

14 CHAIRMAN HENDRIE: I think what you have got in  
15 mind are the power reactors making electricity someplace  
16 else, and we're getting the waste from it. For that the  
17 answer is clearly no. However, there are a number of  
18 research reactors which were given to other countries by the  
19 United States over the years at various universities and  
20 research institutions abroad. Those use a special enriched  
21 fuel which typically we export to them, and we take back, in  
22 many cases, the spent fuel from those in order to reprocess  
23 and recover the unburned enriched uranium. So that there  
24 has been and there is, that is, it's an ongoing situation,  
25 spent fuel elements from some of those research reactors.

lp 1 I guess maybe most of them, because I think the  
2 arrangements typically included a reprocessing provision as  
3 best I can remember.

4 COMMISSIONER AHEARNE: But it is waste, it is  
5 coming to the country and after processing that waste is  
6 being stored. That is correct. You have to recognize,  
7 though, that when the Chairman talks about an enriched fuel,  
8 another way of talking about that material is also usable  
9 for bombs. That is one of the reasons for getting it back.

10 COMMISSIONER KENNEDY: Indeed, that is why the  
11 Non-proliferation Act suggested the option this country  
12 might wish to pursue to cover fuel in order that, to  
13 discourage the reprocessing of this.

14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

on 1 MS. BACA-BARRAGAN: How is it being stored?

2 CHAIRMAN HENDRIE: At government installations,  
3 probably Savannah River, but possible, probably some also in  
4 Idaho and the State of Washington, at major government --

5 COMMISSIONER AHEARNE: It would be a very small  
6 part of very similar waste from U.S. Government activities  
7 also being stored there. The foreign part is a small  
8 portion.

9 CHAIRMAN HENDRIE: Let me kick off on some of the  
10 other questions.

11 COMMISSIONER KENNEDY: One point, a minor point  
12 perhaps, that ought to be cleared up. Very early on,  
13 Senator, you commented on Rocky Flats. It should be  
14 understood that this agency, Nuclear Regulatory Commission,  
15 does not have regulatory authority over Rocky Flats. We do  
16 not have any responsibility or authority for that.

17 MS. BACA-BARRAGAN: I understand that. You do  
18 have, you do regulate Fort St. Vrain.

19 COMMISSIONER KENNEDY: Yes, indeed.

20 CHAIRMAN HENDRIE: We license Fort St. Vrain.

21 COMMISSIONER KENNEDY: And inspect it regularly.

22 CHAIRMAN HENDRIE: You were asking some specific  
23 questions about exclusion areas and so on. Let me see if I  
24 can give short answers to those and so on. It is not  
25 uncommon for the exclusion area around a plant to include



on 1 something like a waterway, in the case you are referring to,  
2 the Mississippi, or -- if the plant is, say, on the shore of  
3 one of the Great Lakes, then the exclusion area will include  
4 an arc out into the lake.

5 The intent of the exclusion area is simply to have  
6 an area close in right around the nuclear unit itself in  
7 which the licensee can control access when that is  
8 necessary. It does not mean that people have to be kept out  
9 of that area all the time. And in fact, at numbers of  
10 plants there are recreational areas, public recreational  
11 areas within the exclusion area. What does have to be true  
12 is that if anything happens, the licensee has to be able to  
13 get people out there in a hurry and has to be able to  
14 control the access then, which you can do on a waterway.  
15 That is, there is no interference with the traffic up and  
16 down the Mississippi.

17 On the other hand, if there were an emergency, the  
18 licensee on one of these water site locations has to have  
19 facilities to signal, you know, both, fishermen or whatever,  
20 who may be right off-shore at the plant to please move on  
21 and get half a mile away or whatever the distance is. So it  
22 is not, I would think, not a problem for traffic on the  
23 Mississippi, recreational or commercial.

24 MS. KEARNEY: My concern was if there were an  
25 accident, how long would it be necessary to restrict traffic

bn 1 in tnt area?

2 CHAIRMAN HENDRIE: I can only say in a general  
3 way. My guess would be, at most, for a day or something  
4 like that. That is, I guess it could be longer, but the  
5 characteristic of -- the characteristics of the large  
6 accidents that we have been concerned about, at least in the  
7 past, is that the leakage of radioactive material, the major  
8 part of it would probably occur over a relatively short time  
9 span. Either a period of hours or a day or two or something  
10 like that. That is, it wouldn't be months.

11 COMMISSIONER GILINSKY: As you say, you can't  
12 really be sure.

13 CHAIRMAN HENDRIE: You can't.

14 COMMISSIONER GILINSKY: We would do whatever is  
15 necessary to protect the public in that area.

16 COMMISSIONER KENNEDY: And in the process, it  
17 would be under a continuing monitoring, so that as the  
18 situation changed, we would be aware of it and actions would  
19 be taken as appropriate, either to extend, retain the  
20 exclusion or relax it, depending upon the results of the  
21 actual monitoring.

22 COMMISSIONER BRADFORD: In a major accident today  
23 that might be pretty optimistic.

24 CHAIRMAN HENDRIE: Well, the sorts of cases that  
25 have tended to attract the attention are those in which

on 1 the effects on people are the greatest, and the effects on  
2 people are the greatest if it all happens very fast, before  
3 very many people have a chance to move away, to get out of  
4 the area.

5 COMMISSIONER KENNEDY: And the containment is  
6 breached to permit a major release.

7 CHAIRMAN HENDRIE: So that the stuff gets out,  
8 yes.

9 MS. BACA-BARRAGAN: The concern we had in our  
10 area, of course a little over a year ago, was when  
11 radioactive dust, a cloud of radioactivity, whatever it was,  
12 at the Fort St. Vrain escaped. I don't know quite the  
13 correct terminology, but it did escape. We were very  
14 concerned about the wind, where it was going to blow that  
15 cloud and the effects it would have on people should it, you  
16 know, hit a populated area. Denver, of course, is just 30  
17 miles to the south, 30 to 40 miles to the south of Fort  
18 St. Vrain.

19 I think that is an area that I would like some  
20 comment on. Are you doing research, do you know how to deal  
21 with that kind of problem?

22 CHAIRMAN HENDRIE: In terms of — we have a  
23 substantial research program on reactor safety which would  
24 have as a fundamental aim in a general way, you know, not  
25 letting the stuff get out.

bn 1 MS. BACA-BARRAGAN: It came as a great shock to us  
2 that it did get out. That is the concern, if it does get  
3 out, what happens. It got out of Fort St. Vrain before it  
4 was at full operating capacity. I understand yesterday was  
5 the first day it went into full operating capacity.

6 CHAIRMAN HENDRIE: I didn't know it was.

7 MS. BACA-BARRAGAN: A gentleman on the way with me  
8 told me that on the way out here. It hit full operating  
9 capacity yesterday. The question, of course, that will go  
10 back down because of the continual checking, monitoring of  
11 the power plant. But my question is that if a year and a  
12 half ago the cloud was able to escape, and the concern in  
13 Colorado, on the part of the Governor and the others, was  
14 how would that effect the rest of the population?

15 Of course, this dissipated eventually. That could  
16 conceivably happen again. I guess what I am concerned about  
17 is how do you -- is there any, what is the effort being made  
18 to be able to dissipate that cloud or deal with it when it  
19 gets out?

20 CHAIRMAN HENDRIE: Once -- the form in which  
21 radioactive material might get out in the event of an  
22 accident, or in the case of a small accident, small  
23 accidental release of the kind you had at Fort St. Vrain,  
24 the stuff that is of interest, that you worry about, is a  
25 gas. Is it simply atoms of radioactive atoms of xenon

bn 1 which is a gas, krypton which is a gas, or iodine which is a  
2 gas, and so on. So those atoms just move with the  
3 atmosphere just like they were molecules of oxygen or  
4 nitrogen and they go in the direction the wind is blowing.  
5 So that is the direction of one's concern. We can't do much  
6 about it once they get out.

7 If there is a high enough concentration so that  
8 the radiation fields are a concern from a health standpoint,  
9 then you try to move people away from the path of the cloud,  
10 if you have time and it is practical to do so.

11 COMMISSIONER AHEARNE: There is also some possible  
12 advanced precautions that can be taken, depending upon what  
13 the material is. For example --

14 MS. BACA-BARRAGAN: Pardon me?

15 COMMISSIONER AHEARNE: Depending upon what is  
16 released. If it is radioactive iodine being released, there  
17 is a blocking agent, potassium iodine I believe it is, that  
18 the FDA and we are looking at the possibility of  
19 recommending it being stored in certain areas.

20 MS. BACA-BARRAGAN: Would that help dissipate the  
21 cloud?

22 COMMISSIONER AHEARNE: It does not help dissipate  
23 the cloud, but what it does is help prevent some of the bad  
24 effects if you happen to breathe the stuff.

25 MS. BACA-BARRAGAN: So it would be mixed in?

on 1 COMMISSIONER KENNEDY: Just take a pill or  
2 something.

3 MR. PENA: After you burn, you get a pill.

4 COMMISSIONER KENNEDY: No, you don't burn. You  
5 are inhaling the gas.

6 MR. PENA: What happens to you when you inhale?

7 COMMISSIONER KENNEDY: It conceivably could result  
8 in latent cancer development.

9 CHAIRMAN HENDRIE: If you inhale enough.

10 COMMISSIONER KENNEDY: Thyroid cancer, and if in  
11 fact, the substance functions as it is presumed to, the  
12 blocking agent, presumably that would substantially, if not  
13 totally, eliminate the likelihood of development of cancer  
14 resulting from that inhalation.

15 COMMISSIONER AHEARNE: But you have to inhale a  
16 lot of it.

17 COMMISSIONER KENNEDY: That is right. It is not  
18 as though you took one quick breath and were immediately  
19 doomed to develop thyroid cancer. That just would not be  
20 the case. It would be a rather substantial amount that  
21 would have to be inhaled.

22 MR. PENA: How about storing gas masks instead of  
23 pills?

24 COMMISSIONER GILINSKY: Well, the best thing if  
25 you are threatened with exposure to radioactive cloud like

909 233

on 1 that is to get people out of the way. That is the purpose  
2 of emergency plans and preparations which we are now taking  
3 a far greater interest in than we did before the Three Mile  
4 Island accident.

5 MS. BACA-BARRAGAN: Is there no effort being made  
6 in terms of research to possibly find a neutralizing agent  
7 or some means of dealing with a cloud to neutralize it or  
8 dissipate it or do something?

9 COMMISSIONER KENNEDY: It dissipates anyway.

10 CHAIRMAN HENDRIE: No, because it dissipates  
11 anyway.

12 MS. BACA-BARRAGAN: With time.

13 COMMISSIONER KENNEDY: And distance.

14 CHAIRMAN HENDRIE: And air turbulence as it moves  
15 downwind.

16 MR. OBLEDO: Talking about the plans, the GAO  
17 report which I also scanned through last night, but haven't  
18 really read, seemed to be quite critical of the Commission,  
19 particularly in the area of the response from the Commission  
20 back to GAO; there was an admission of some failures. There  
21 were also some statements that the Commission felt the GAO  
22 report was quite misleading in several areas. And that if I  
23 recall incorrectly, Mr. Carlucci has a copy of the report,  
24 that the Commission felt in most circumstances, in most  
25 circumstances, there were adequate plans.

on 1 I focused on the word "adequate" because I didn't  
2 know exactly what was meant by that. Adequate is a minimal  
3 requirement being met?

4 COMMISSIONER AHEARNE: I think the quick answer  
5 would be that there are many people including us who are  
6 doing a lot of rethinking after Three Mile Island.

7 MR. OBLEDO: The Governor of California informed  
8 me of a review group that I believe is still ongoing that  
9 formulated some plans for emergency situations. One of them  
10 I know includes one of the departments in the health and  
11 welfare agency, department of health services, would be  
12 charged with distributing the pills, potassium iodide, in  
13 the case of emergency of some kind. I would think the  
14 Commission probably has a copy of the Governor's --

15 COMMISSIONER AHEARNE: We do.

16 MR. OBLEDO: You do. All right. I am sorry.

17 COMMISSIONER GILINSKY: I don't think that letter  
18 represents the view of the Commission.

19 MR. OBLEDO: I knew it was signed by staff members  
20 which was surprising.

21 COMMISSIONER GILINSKY: That often is the case  
22 with GAO reports, given the timing.

23 CHAIRMAN HENDRIE: The staff always comments on  
24 the draft report. Then the staff comments are included in  
25 the final issue of the GAO report.



on  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

MR. OBLEDO: I operated a bit different --

CHAIRMAN HENDRIE: The Commissioners reply to the GAO report separately --

MR. OBLEDO: -- my jurisdiction, one of the 500 programs, I also responded as the Secretary. Not a staff person. Because I want to make sure that --

CHAIRMAN HENDRIE: Mr. Obledo, the Commission has responded.

MR. OBLEDO: Yes, sir.

e-r

1 CHAIRMAN HENDRIE: The response of the Commission  
2 is not in the GAO report. The response of the Commission was  
3 some weeks -- close to two and a half months after the GAO  
4 report. I would be glad to supply you with a copy of that.  
5 It is rather different.

6 MR. OBLEDO: Okay.

7 COMMISSIONER AHEARNE: The point the Chairman is  
8 making, the way the GAO cycle works is that the Commission's  
9 response is after the report is issued -- normal federal  
10 agency response.

11 I would like to reiterate though, my earlier point  
12 that the GAO report came out prior to Three Mile Island and  
13 many people are rethinking --

14 MR. OBLEDO: This is not the form to address the  
15 process --

16 COMMISSIONER GILINSKY: It should have reviewed  
17 it. I think you are right.

18 MR. OBLEDO: My response goes in the report when  
19 that report is issued, because that is the report that gets  
20 out to the public. I was not aware of the subsequent response  
21 of the Commission.

22 CHAIRMAN HENDRIE: You know, I can't be responsible  
23 for the traditional practice of the General Accounting Office,  
24 you know. There is a certain pattern of response. The  
25 agency formal response comes 60 days afterwards.

1 MR. OBLEDO: You might, even though you are a minor  
2 official in this whole bureaucracy, have an impact on how  
3 government works.

4 CHAIRMAN HENDRIE: Let me assure you that my ability  
5 to influence the pattern of publication of GAO reports is nil.  
6 Let me talk about emergency planning, however, because we have  
7 been dealing with some procedural -- in effect -- some  
8 procedural matters on who spoke first in the GAO report and  
9 what and when the Commission responded.

10 The essence of the matter is that the Commission  
11 went forward pretty aggressively with very considerably  
12 enhanced emergency planning activities. We are working with  
13 all the states including California on state-level plans. We  
14 will be publishing sets of guidelines for improved state  
15 plans. We want to, are going to be working and are working  
16 with local authorities to improve the local civil defense  
17 planning around plants.

18 So the substance, or whatever comment I have to make  
19 about emergency planning is we think it ought to be better and  
20 we are moving pretty hard to try to make it better.

21 COMMISSIONER KENNEDY: Let me add there that of  
22 course, responsibility for emergency planning may rest with  
23 this agency, but responsibility for emergency plans, that is,  
24 their execution, must inevitably rest with the state and local  
25 authorities.

1 MR. OBLEDO: I was wondering if the Commission may  
2 have responded to its subsequent report by some Congressional  
3 committee, also I believe on the planning process. I forget  
4 the name of the Congressperson who signed off on that report.

5 COMMISSIONER KENNEDY: Mr. Moffett.

6 MR. OBLEDO: That is right. If there was an  
7 official response to that we would be glad to have it as well.

8 CHAIRMAN HENDRIE: I don't think we have received  
9 the official transmission. In some fashion it has been  
10 published in the newspapers, but we haven't been allowed to  
11 have a copy.

12 MR. OBLEDO: We have -- I think we might have --  
13 (Laughter.)

14 CHAIRMAN HENDRIE: Do you think you could slip us  
15 one?

16 COMMISSIONER AHEARNE: We are serious. We have not  
17 received it.

18 COMMISSIONER KENNEDY: We have not received one.

19 CHAIRMAN HENDRIE: I am not sure it is formally  
20 published.

21 COMMISSIONER KENNEDY: I have asked for it. I have  
22 not received it. I have asked for it.

23 COMMISSIONER GILINSKY: I have seen a draft copy.

24 CHAIRMAN HENDRIE: I believe what's happened is that  
25 various drafts of the Moffett subcommittee report have been

1 made available to the press. So I read newspaper stories  
2 about it. But I don't get either the drafts themselves, and  
3 certainly the final report so far as I know has not been  
4 approved by the Committee and published. So I am sort of  
5 helpless.

6 If you have got it, if you have got a copy I would  
7 be fascinated to see it.

8 COMMISSIONER KENNEDY: Let me say that some -- that  
9 from some of the newspaper accounts, I think the report  
10 deserves and will get, as soon as we get a copy, careful  
11 attention.

12 CHAIRMAN HENDRIE: Senator, let me try to pick up  
13 or at least introduce a couple of the other questions on your  
14 telegram and some of the others that have been mentioned at  
15 the table. What is the urban risk?

16 My own view is that your urban risk is fairly  
17 small. For the most part the plants tend to be sited away  
18 from urban areas by deliberate policy. And particularly for  
19 the most recent plants, there has been a stronger regulatory  
20 policy to keep them in less-populated areas.

21 I think there is a plant, what, maybe 20 miles --

22 COMMISSIONER KENNEDY: Zion.

23 CHAIRMAN HENDRIE: -- outside, north of New York.  
24 Zion, I am not quite sure how far it is from Chicago.

25 MR. OBLEDO: People who live -- you have detailed

1 information on people who live within 10, 20 miles from the  
2 plant?

3 COMMISSIONER KENNEDY: Yes, detailed information on  
4 the plant, out to a distance of over 50 miles.

5 CHAIRMAN HENDRIE: The third question, to what  
6 extent are the nation's cities dependent on nuclear power?  
7 In a general way, yet sort of taking it on a national basis,  
8 you could say, well, the cities are dependent to the same  
9 extent that everybody else is. On a national basis that is  
10 about, I guess in 1973 it was about 13 percent of the  
11 electrical energy supplied was nuclear generated.

12 Obviously, the situation in any particular city will  
13 be specific to the generating patterns in that area. For  
14 Chicago, I suspect that the nuclear generation is quite high.

15 MR. OBLEDO: 50 percent is the figure I have read.

16 CHAIRMAN HENDRIE: It may be. Yes, 50 I would think  
17 easily. Probably high in New York. Elsewhere, perhaps lower  
18 than the national average.

19 MR. OBLEDO: I think it decreases as you move  
20 westward generally.

21 CHAIRMAN HENDRIE: I think that is true.

22 MR. OBLEDO: Without really knowing, perhaps some  
23 plants were first constructed in the East.

24 COMMISSIONER BRADFORD: East coast and California.

25 COMMISSIONER KENNEDY: There is probably some

1 relationship with other fuel sources, availability of other  
2 fuel sources in those areas, and relative cost comparisons  
3 that were made early on.

4 COMMISSIONER HENDRIE: There were some questions  
5 over here about the -- that relate, I suspect, to the  
6 Commission's emergency planning zone documents and proposals.  
7 The thrust of a joint NRC-EPA study on emergency planning  
8 matters out a little further from the plant than we normally  
9 work, suggested that although the chance of meltdown accidents  
10 which would breach the containment and be a serious problem  
11 outside is not large, nevertheless, it is prudent to have  
12 some thought in mind as to what one would do, and recommended  
13 a 10-mile radius emergency action zone, and out beyond that,  
14 a 50-mile radius action zone for interruption of the food  
15 chain if that became necessary.

16 You were concerned about the food chain in the Gulf  
17 and so on. What is of interest in the food chain, the main  
18 thing one has in mind is concentration of radio-iodine up the  
19 vegetation-cow-milk can to human being chain. And if there were  
20 a lot of radio-iodine released in an accident, you might want  
21 to interrupt the milk supply for a while until that iodine  
22 peak had passed and the levels were back down.

23 We checked the iodine levels at Three Mile Island,  
24 for instance, pretty carefully to see that they were low,  
25 which they were.

1 MR. CARLUCCI: But my question was relating to the  
2 wetlands surrounding the plant in Louisiana and if the  
3 radio-iodines that were to enter the food chain, that the  
4 ecology of the wetlands is interrelated with the Gulf.

5 COMMISSIONER HENDRIE: Yes, but on time cycles,  
6 which are I think generally longer than --

7 MR. CARLUCCI: Right.

8 COMMISSIONER HENDRIE: Long enough so that --

9 MR. CARLUCCI: That is my question.

10 COMMISSIONER HENDRIE: The iodine in particular --  
11 that is obviously not the only thing that I would be concerned  
12 about, but it is one that one looks at, because there is a lot  
13 of radiation in the core. The iodine has about an 8 1/3-day  
14 half-life or something like that. On the time cycle for the  
15 food chains that you are talking about to get out in the  
16 Gulf -- why, it just washes out, disappears -- that is, it  
17 decays.

18 MR. PENA: Isn't there one element that sort of  
19 builds up, one radioactive element that builds up, accumulates,  
20 say if the fish --

21 CHAIRMAN HENDRIE: There are several.

22 MR. PENA: So if a fish with so much of that element  
23 eats another with so much of that element, it winds up twice  
24 the amount and just sort of accumulates in the body?

25 CHAIRMAN HENDRIE: That is what I mean when I talk



1 about effects that are amplified up the food chain.

2 MR. PENA: What kind of effect would that have, say,  
3 in the New Orleans area, if you were to have a discharge of  
4 that element?

5 CHAIRMAN HENDRIE: That is what we just talked  
6 about.

7 MR. PENA: You said iodine is a problem, but you  
8 didn't say about anything else.

9 CHAIRMAN HENDRIE: I think iodine wouldn't be a  
10 problem in the food chain out to the Gulf. Iodine could be  
11 a problem if a batch of it got out, could be a problem in the  
12 milk chain. You would want to check the milk.

13 MR. PENA: What would be a problem in the food chain  
14 of the fish and oysters and stuff like that?

15 CHAIRMAN HENDRIE: One would want to check levels  
16 like cesium and strontium. There are a number of elements  
17 that are of interest in these food chain questions.

18 MR. PENA: Wouldn't those elements cause a severe  
19 problem in the ecology of the area?

20 CHAIRMAN HENDRIE: I doubt it very much. You have  
21 to have a whale of a lot of it out to make a problem. Unlike  
22 the iodine, strontium and cesium are not gases at ambient  
23 temperatures. So although they can be carried along with a  
24 cloud in the form of atoms of that material on a dust  
25 particle, it is still a stage removed as a transport mechanism

1 from having it be directly a gas itself. And it would just  
2 go off down --

3 COMMISSIONER BRADFORD: But your question is, if  
4 they get out, are they a problem? The answer is certainly  
5 yes.

6 MR. PENA: Are they less likely to get out than  
7 iodine?

8 CHAIRMAN HENDRIE: Yes.

9 MR. PENA: Much less likely?

10 COMMISSIONER KENNEDY: Yes.

11 COMMISSIONER GILINSKY: Well, the iodine is a gas.  
12 Along with the xenon, it would come out first. More easily.  
13 Primarily the xenon came out in the Three Mile Island  
14 accident.

15 CHAIRMAN HENDRIE: And finally you were asking is  
16 a 10-mile zone enough? I guess some would say it was too  
17 much. Others would say it wasn't enough. What you are  
18 looking at here are a set or pretty unlikely accidents, the  
19 core melt accidents. And there are a spectrum of these;  
20 that is, they can occur in various ways and have various  
21 consequences.

22 And attempts have been made to estimate, well, what  
23 is the probability distribution? How likely is it that it  
24 could occur this way? How likely is it that it would occur  
25 that way? And a 10-mile zone is taken to accommodate a very

1 large fraction of all those accidents. That is, there is a  
2 residual tail which you might want to work out to 12 miles or  
3 15 or whatever. But those are such a small fraction of all  
4 core melt accidents that you would say for practical planning  
5 purposes -- it amounts to saying the following.

6 For practical planning purposes, it is neither  
7 necessary nor reasonable to plan against the worst possible  
8 thing that could occur in the whole world. In that case, I  
9 think it is consistent with the kind of guidelines that one  
10 uses in making public decisions.

11 MR. CARLUCCI: My question related to the Union of  
12 Concerned Scientists report that estimates the radiation  
13 can be fatal as far as 65 miles from the plant. That is what  
14 led to my question, since New Orleans is 25 to 30 miles from  
15 Waterford 3.

16 CHAIRMAN HENDRIE: Yes.

17 COMMISSIONER GILINSKY: Well, the 10-mile limit  
18 doesn't take into account the very worst cases.

19 MR. SEELY: What would be the mileage for the very  
20 worst case?

21 COMMISSIONER GILINSKY: I think it is hard to put  
22 an upper limit here. But the idea is that, in fact, in the  
23 worst cases, the radioactivity is moving rather slowly,  
24 because it is in fairly stable conditions that you can get an  
25 amount of radioactivity moving out -- stable weather

1 conditions, yes. If the wind is, the more vigorous winds,  
2 the radioactivity gets out further faster, but it gets  
3 dispersed, also. There is a lot of mixing. The notion is  
4 that if you should have to move people beyond the 10-mile  
5 radius, you have some time to arrange for that. What you  
6 have to decide is where are you going to draw the line  
7 between making fairly substantial preparations and regions  
8 where you will in a sense improvise.

9 That is where the group drew the line.

10 COMMISSIONER AHEARNE: But I think you ought to  
11 realize that we are trying to rethink what are the appropriate  
12 actions, what are the appropriate regulations. We have asked  
13 for public comment on a proposed change in our rules and  
14 regulations on emergency planning and what those ought to be.  
15 I would certainly encourage all of you to provide comments  
16 on that.

17 COMMISSIONER BRADFORD: Do you have the document  
18 soliciting public comment?

19 MR. OBLEDO: No, I do not. But it would be a good  
20 thing to distribute, that we could distribute.

21 CHAIRMAN HENDRIE: Yes, that would be very useful.

22 COMMISSIONER AHEARNE: Some of the questions that  
23 you are raising are the ones that we are trying to rethink.

24

25

lp 1 MS. BACA-BARRAGAN: This is a result of Three Mile  
2 Island?

3 COMMISSIONER AHEARNE: Yes.

4 COMMISSIONER GILINSKY: Of course these  
5 recommendations came before that.

6 COMMISSIONER AHEARNE: Well, a lot of it, though,  
7 is seriously as a result of Three Mile.

8 MS. BACA-BARRAGAN: I had understood in the manner  
9 in which you were rethinking your position as a result of  
10 Three Mile Island --

11 COMMISSIONER KENNEDY: March 28.

12 COMMISSIONER GILINSKY: We all remember.

13 COMMISSIONER AHEARNE: We remember it well.

14 MR. OBLEDO: Three days later, the GAO report  
15 issued March 30 --

16 COMMISSIONER KENNEDY: They worked very rapidly.

17 MR. OBLEDO: Oh, is that right? Well, that is --  
18 the fastest any government agency ever worked.

19 COMMISSIONER KENNEDY: I'm joking.

20 MR. OBLEDO: Sometimes problems come up and we  
21 react to them. And, of course, things surface that some of  
22 us never really think about until the problem is presented,  
23 until there is an occurrence of this sort. It's fortunate  
24 that no one was killed in a major accident and that we have  
25 the opportunity to really focus and make our plans to meet

1p 1 any kind of emergency, should nuclear power continue and  
2 nuclear plants continue to be built. I don't know if  
3 someone else from the group, or whether the Chairman  
4 wishes --

5 MR. PENA: I would like to hear from the other  
6 Commissioners as well.

7 MS. BACA-BARRAGAN: I think we should finish  
8 analyzing the nuclear -- Well, your response?

9 COMMISSIONER KENNEDY: We want to be sure before  
10 you leave that you do get a copy of the notice that has gone  
11 out.

12 MR. OBLEDO: Oh, yes. I would like to get that  
13 and then the response to the GAO as well.

14 CHAIRMAN HENDRIE: Yes.

15 MR. OBLEDO: Those two at least.

16 MS. KEARNEY: Senators, as the Commissioners  
17 respond, I wish they would say a word about disposable  
18 nuclear waste.

19 COMMISSIONER AHEARNE: I intend to.

20 CHAIRMAN HENDRIE: Start at one end or the other.  
21 Go ahead, Peter.

22 COMMISSIONER BRADFORD: Let me just touch on a few  
23 of the points that you have raised, in no particular order.  
24 As to the question of how safe nuclear power is, as already  
25 indicated, there is no definite numerical answer to that

lp 1 question. I find myself sometimes thinking about it sort of  
2 as though one lived 500 years ago and asked how big the  
3 solar system was. It would be similar. It's clearly big.

4 By most societal standards, nuclear power in terms of its  
5 accident rate is pretty safe. But, as far as measuring  
6 relative to other things, we just don't have yet the data  
7 base and ability to come down with a numerical answer that  
8 means very much.

9 I would caution you not to take the one in 20,000 number  
10 or other numbers involving probabilities away from here as a  
11 basis for your own thinking. We explicitly don't do that  
12 because the uncertainties associated with those numbers are  
13 just too big for policymaking purpose.

14 A reiterated question to that is the question of what is  
15 acceptable. We regulate in large part on a acceptable risk  
16 standard. And not only is it not possible to state the risk  
17 itself with precision, it's also not possible to state what  
18 society considers to be an acceptable risk with any great  
19 precision.

20 In reports, of course, people use standards like beyond a  
21 reasonable doubt for some types of verdicts. One could  
22 develop, I suppose, comparative standards as to other risks  
23 people accept in their daily lives. But, the definition of  
24 acceptable risk is really an ongoing one and is part of a  
25 political process that involves the states, localities, the

ip 1 Congress and us. And I don't know that -- I'm quite  
2 confident that if you went around the table, you would get a  
3 number of different definitions of what is acceptable.

4 And to the extent that you can articulate it for  
5 yourselves in your communities through the Congress, that is  
6 a project well worth doing because it's an area in which, as  
7 to nuclear power, there is, I don't think, a working  
8 definition.

9 We talked a little bit about areas in which reassessing,  
10 I think, the emergency response planning, also site  
11 selection, waste management all come to mind. I find myself  
12 looking at the Three Mile Island accident not as a single  
13 event that has forced a reassessment but as far and away the  
14 most dramatic moving force in the reassessment process that,  
15 in fact, has been going on for three or four or five years  
16 on a large scale.

17 Proliferation risks are being reassessed in the  
18 international fuel cycle evaluation. Low level radiation  
19 risks have been under debate for some time, and the federal  
20 government is now reorganizing the way in which it intends  
21 to deal with them. Costs are being reassessed before public  
22 utility commissions left and right in many different guises  
23 around the country and have been since before Three Mile  
24 Island.

25 The waste question as well has gone through the



lp 1 interagency review group exercise and are now at the  
2 beginning of setting up a regulation and licensing process  
3 for high level waste.

4 A lot of the Old World assumptions are at least under  
5 question. The Kennedy Commission and Three Mile Island  
6 situation are the most dramatic example of the  
7 reassessment, but they aren't unique.

8 One issue I know I have some differences with my  
9 colleague on. As state and local representatives, at least  
10 some of you, I have felt, as a former state official myself,  
11 that the section of the Atomic Energy Act which says that  
12 state and local authorities should have no voice in the  
13 setting up of radiological health and safety standards in  
14 their own communities, that is, you can't regulate what a  
15 nuclear power plant will emit, is a mistake on a couple of  
16 levels.

17 One, we don't deal with other pollutants from stationary  
18 sources that way. As to air and water pollution and most  
19 other sources, the state is allowed to go beyond the  
20 federally set minimum standards if it feels that that is  
21 necessary. I think that that regulatory regime ought to  
22 apply to radiological emissions as well, and I am urging you  
23 to think about it.

24 The second adverse consequence of that is that it means  
25 that states and localities having been excluded from many of

1p 1 the decisions, or at least having not had a mandatory role in  
2 those decisions, setting the standards are only really  
3 brought into the action when something goes seriously  
4 wrong. They may be less prepared. I know, in main, even  
5 as a public utilities commissioner, I paid much less  
6 attention than I would have to the status of Maine's  
7 emergency response plan simply because all the steps leading  
8 up to it were not in the state's hands.

9 Last point. One of you mentioned Edward Teller's  
10 advertisement in the Wall Street Journal. On a quick  
11 reading of that, I notice several things that seem to me to  
12 be significant overstatements.

13 There is no real reason to touch on them, but I wouldn't  
14 take the ad as a policymaking guide. I would, to help put it in  
15 perspective, note for you that the company that sponsored  
16 it, Dressler Industries, is sponsoring the claim that Edward  
17 Teller was the only casualty of the Three Mile Island  
18 accident neglected to mention that they manufactured the  
19 relief valve that malfunctioned during the Three Mile Island  
20 accident.

21 MR. OBLEDO: I might mention that I had a meeting  
22 with Dr. Edward Teller when he was in the hospital, Cedar  
23 Sinai in Los Angeles. He related to me then that he had  
24 been the only casualty.

25 COMMISSIONER BRADFORD: I wish him a speedy

lp 1 recovery, but I think we will be in very serious trouble if  
2 we ever come up with the conclusion that he was the only  
3 casualty.

4 COMMISSIONER GILINSKY: I don't really have much  
5 to add to what's been said. It might be worth saying a word  
6 about the different nature of the safety problem we're up  
7 against here as compared to something like automobile  
8 safety where we know that whatever it is, 40,000 or 50,000  
9 people get killed every year. We wouldn't expect that  
10 number to change dramatically from one year to another. We  
11 have pretty good statistics, and people can decide whether  
12 or not they're comfortable with that.

13 Here we're concerned about small chances of rather large  
14 happenings. We don't have the data. Our best estimates on  
15 the chances of these occurrences are just our own experience  
16 up to now. But it really isn't sufficient to give you a  
17 firm handle on an estimate.

18 So you're thrown to your own intellectual resources in  
19 trying to calculate the answer. Various people attempt to  
20 calculate this in different ways. And you try to do it the  
21 best you can. But it's a necessarily imprecise process.

22 We have discovered that calculations that many person  
23 have relied on now look to be a good deal less reliable than  
24 were thought. The Commission concluded that they were  
25 considered too unreliable for use as a guide to

lp 1 decisionmaking.

2 So in this situation, it's very important that since  
3 we're dealing with pretty complex, technical questions, that  
4 there been a body of experts as there are here, and that  
5 they act independently. That is why it's so important that  
6 this agency be independent of those agencies that are  
7 concerned with producing power, so these calculations and  
8 judgments aren't affected by other concerns.

9 And, it's also important that the process be open,  
10 accessible, so that others can check the answers to see what  
11 we're doing and comment on that.

12 MR. OBLEDO: That is precisely why we're here.  
13 With all conflicting reports about all of these things.

14 COMMISSIONER GILINSKY: Right.

15 MR. OBLEDO: We thought we would meet with the  
16 persons the regulate.

17 COMMISSIONER GILINSKY. Right, so you get an idea  
18 of how it's done and also so you can have your other  
19 experts take a look at what professionals in this agency are  
20 up to. And if they have comments to make on the process or  
21 find errors or better ways to do things, certainly, that is  
22 certainly help we can use. Ultimately, you have to make  
23 some judgment on how much safety you're going to require  
24 because there really isn't any limit to how much safety you  
25 can pile on. Ultimately, there is a judgment on what is

lp 1 reasonable, how much is enough.

2 There are a lot of factors that enter into that  
3 judgment. There isn't any rule. There is nothing laid down  
4 in the law except that the law requires that there be  
5 adequate protection for the public health and safety.  
6 Historically, a certain standard has developed on the basis  
7 of that language. Put into -- a little more specific in our  
8 regulations. But ultimately, it is a kind of historical  
9 process, a cumulation of requirements that this agency has  
10 imposed over the years. And a situation or accident at Three  
11 Mile Island causes one to rethink and go back to the drawing  
12 board and say where did things go wrong, we have to  
13 recalculate.

14 We may have to come to some new conclusions. I think  
15 it's a kind of iterative process. There probably is no  
16 other way to approach it if one is to get into it at all,  
17 but it is terribly important that it be approached in a  
18 highly professional and independent and sober way.

19 MR. SEELY: Somebody made the point this is part  
20 of a political process. I would say it isn't just a  
21 scientific process. We went through the LNG siting problem  
22 in California, whether or not in terms of jobs we would like  
23 it right at Long Beach, Los Angeles Harbor in terms of  
24 health and safety, which was uncertain. You had a big event  
25 with a minimal risk which we had to deal with.

lp

1 An unfortunate coalition in the Harbor brought  
2 everybody's attention to the potential of that happening  
3 with minimal risk. So we appreciate the process that you go  
4 through.

5 In that case, our politicians were, our leaders were  
6 quick to comprehend the political process and the decision  
7 was made. We are concerned the commissioners who are  
8 outside the political process are also responsive to what  
9 politicians have -- and I think you are. The fact you get  
10 out your statements, respond, you have listened to this  
11 group, all is reassuring. We have been through that with  
12 earthquakes, LNG siting, skyscrapers, and we know it. We  
13 have structured a process in Los Angeles that responds.

14 MR. PENA: I don't know why anybody wants to live  
15 in California. They have all the problems.

16

17

18

19

20

21

22

23

24

25

c 1           COMMISSIONER GILINSKY: Let me add one more  
2 point. Because you are going on the basis of calculations  
3 and one doesn't have enough experience to really get a firm  
4 estimate of what the risks are, it is terribly important  
5 that we make use of whatever data we have available. And  
6 that we watch the process very closely, watch the operation  
7 of these plants very closely and make use of what we learn  
8 from the various occurrences there.

9           One of the things we have discovered after the  
10 Three Mile Island accident is that we didn't watch carefully  
11 enough. In fact, there was at least one similar accident or  
12 incident at another plant, had one taken sufficient note of,  
13 would probably have avoided the Three Mile Island accident.

14           I think there is a great deal more awareness of  
15 the need for this close attention now. And we are in fact  
16 starting up a new office to specifically pay attention to  
17 the safety data that comes from operating reactors.

18           MR. OBLEDO: One of the major points that  
19 Dr. Teller has made is the fact that the personnel operating  
20 the plants ought to be more highly trained.

21           COMMISSIONER GILINSKY: That is one of a whole  
22 list of improvements that are being looked at and will in  
23 fact be effected.

24           MR. PENA: But you raised a question that has  
25 been in my mind, too. That is while you are learning from

c 1 problems that develop in these existing plants, should there  
2 be a continuation of building of plants, you know, should  
3 you continue to build plants that you are going to be  
4 learning from down the line as well? I don't know.

5 Should all the learning take place with the  
6 existing plants that exist, or should we be building more  
7 plants.

8 COMMISSIONER AHEARNE: Well, at the moment, as  
9 you probably know, there is a pause in the granting of  
10 permits for constructing plants, and the granting of  
11 licensing for operating plants.

12 That certainly is one of the issues that -- we  
13 have got a variety of groups that are trying to review what  
14 are the major lessons learned from the Three Mile Island  
15 accident and pulling together a lot of the suggestions and  
16 thoughts that have been around. Some of those reports have  
17 already been presented and some will be presented in coming  
18 months.

19 One of the questions is the one you just asked.

20 MR. PENA: You know, we came to get reassured. I  
21 guess this is sort of a unique group. I don't think you  
22 have ever had a group here that you have talked to that  
23 isn't committed to either being for or against nuclear  
24 energy.

25 COMMISSIONER KENNEDY: It is refreshing.

POOR ORIGINAL

909 259



c 1 MR. PENA: To a large extent, we are here to get  
2 information so that we can make up our own minds about it.  
3 Maybe that is why the meeting so far has been rather low  
4 key. We haven't had any shouting or gesturing as I  
5 understand at other meetings.

6 But I still feel unfulfilled. I don't know what  
7 the hell to tell people when I get out of this meeting,  
8 whether it is good or bad or what?

9 COMMISSIONER KENNEDY: That ultimately is as it  
10 properly should be. Something for you to think about and  
11 conclude. Not for us to try to tell you or lead you to. I  
12 hope it would be that we have not.

13 Let me just, if I might, add only a few comments  
14 to those that have been already made. There is much talk  
15 about the question of acceptable risk in various  
16 contentions. I would only urge that as you think about it,  
17 and indeed that you do so, but as you do, manifestly it is a  
18 very, very complex question.

19 And to go back to something that Dr. Hendrie said  
20 earlier, it is essentially as compared with what, because  
21 one can't go about, I think, making a series of independent  
22 judgments of acceptability of risk. If he did, it is  
23 conceivable he would come out with a zero risk society which  
24 does not exist. Thus, something would have to give.

25 And there was a lot of talk many times as each of

c 1 you was advancing concerns, about jobs and economics. Those  
2 are some of the factors that have to be thought about when  
3 one is talking about what is an acceptable risk.

4 If nothing else is at stake, I guess you would  
5 certainly say zero. I don't want any. But life isn't that  
6 way. So, it is a very, very complex question.

7 I would think that in the process of looking at  
8 the question, then, one would have to take into account what  
9 the options, what the alternatives would be to determine  
10 what level of — what level is really acceptable.

11 As to the question of waste, I will just simply  
12 make an assertion. I would be glad to spend lots of time  
13 and talk about it. I don't think we have that time. My  
14 assertion is simply that I believe the waste problem to be  
15 solvable and to be solvable now. There are acceptable ways  
16 to resolve it.

17 The only question in my judgment now is, which is  
18 better, which is the best? Not whether there are acceptable  
19 ways. There are, in my view. I have gone out and looked at  
20 a number of them, and I am satisfied.

21 Based on the judgments of the technical expert;  
22 dealing with them, even more satisfied, having gone and  
23 looked at the ways to doing this that those solutions  
24 exist. It is only a question of deciding.

25 Since there is time to make that decision, it is

c 1 worth taking that time to see which is the preferable course  
2 among acceptable ones.

3           As to the state and local authorities question,  
4 it is true that state and local authorities have been, I  
5 think the word is "preempted" in the law. Personally, I  
6 think that unfortunate.

7           On the other hand, I submit to you, as you are  
8 thinking about that question and what rule states and  
9 localities ought to play in radiation protection questions  
10 and so on, one also has to think again, coming back to that  
11 business about economy, jobs and all the rest, one has to  
12 realize, remember, that jobs and the economy, which you know  
13 better than I, don't rest wholly on local circumstances, but  
14 rather are reflection in the long run of the totality of the  
15 economy and social structure.

16           And if all decisions can be made, each individual  
17 of all others, it is, I think, possible at least, at least  
18 worth thinking about, that you might wind up with a  
19 situation in which the sum of a series of correct decisions  
20 at individual levels becomes a very bad decision on a  
21 larger, more national level.

22           So, those questions have to be thought about, it  
23 seems to me, as one approaches the question of how much  
24 autonomy, how much total authority can lower and lower, smaller  
25 and smaller units be given in such questions.

c 1 I would urge that if you have not done so, that  
2 you meet with officials of the Department of Energy, because  
3 inherent in this whole question is the one that you did  
4 raise: How does one see this technology as part of the  
5 total energy picture?

6 It has been said, it seems to me rightly so, that  
7 the energy problem in this country cannot be solved,  
8 certainly in this generation, without the use of all the  
9 forms that we now have, because possible substitutes are  
10 somewhere down the road. One can argue about how far, but  
11 there is no question that it is some way down the road.

12 And we are talking about 13 or 15 percent of the  
13 electrical generation now being produced by this technology  
14 leading, reaching to perhaps something over 20 percent in  
15 the relatively near future. The question is what supplants  
16 it if it isn't there?

17 I would also urge that if you -- that you not  
18 consider this opportunity, this talk, which I found  
19 particularly helpful and beneficial to me, the end of your  
20 discussions with our agency. I would suggest that it ought  
21 to be considered only the beginning.

22 I think if you want to talk safety, you ought to  
23 talk with the experts in safety in this agency, who are the  
24 staff members who are working on it day by day doing the  
25 calculations to which reference has been made.

c 1 I think you ought to do that for two reasons.  
2 First, you can pursue the issue as far in depth as you want  
3 with them. Secondly, you can in the process get an  
4 appreciation of what you think about who they are and what  
5 you think of them, because, after all, in the last analysis,  
6 a lot of this just depends upon trust. Do you trust the  
7 people who are doing the work?

8 If you do, then the answer to the safety question  
9 means one thing. But if you n't trust the people who are  
10 doing the work, the answer to the safety question means  
11 something else.

12 So, I would urge, and I know that the staff would  
13 be more than happy to sit down and arrange further  
14 discussions at any time on any subject. I would urge that  
15 you do this. And if we can help arrange that, we are here  
16 to do so.

17 Let me just say thank you very, very much for the  
18 opportunity to meet with you and to hear your thoughts.

19 COMMISSIONER AHEARNE: If you could bear with a  
20 few more minutes.

21 MR. OBLEDO: We want to hear from the swing vote  
22 on the Commission.

23 COMMISSIONER AHEARNE: I see. Then perhaps I  
24 shouldn't say anything.

25 COMMISSIONER BRADFORD: Just keep swinging.

909c 264

c 1           COMMISSIONER AHEARNE: As you undoubtedly knew  
2 before you came and as you can see, we are a Commission,  
3 which means many times we have five different views.

4           Perhaps a committee --

5           MR. PENA: Usually ten.

6           COMMISSIONER AHEARNE: Perhaps a committee on  
7 which many of you people have served off and on, I am sure,  
8 or various committees, you know the difficulty of getting a  
9 uniform position. So, I sympathize with you trying to come  
10 away with a crystal clear or a clear picture.

11           Let me just go through some of the -- my comments  
12 on some of the questions. Many are just a reiteration of  
13 other points.

14           Insofar as how safe plants are, in the past, many  
15 people have either taken one of two parts of that. One  
16 group has said, well, let us look at how likely an accident  
17 is. And that group has tended to say, well, accidents are  
18 very unlikely to happen, and we will concentrate on that.

19           Another group has said, well, if an accident  
20 occurs, let's consider how bad it can be, the results can  
21 be. They have tended to concentrate on how serious the  
22 results would be.

23           I think, actually, you have to look at both of  
24 them together. Unfortunately, that ends up being very much  
25 a balancing judgment, as you mentioned, that you have gone

c 1 through in Los Angeles. I think as most people involved in  
2 the governmental process end up making balancing judgments,  
3 and it is not completely clear.

4 Again, that is one of the areas we are spending  
5 more time reviewing, looking at the two of those in  
6 combination.

7 It is certainly true that cities end up having,  
8 just because of the large density of population and  
9 difficulty of moving that population rapidly, probably the  
10 highest risk if there is a major accident close to them. As  
11 was mentioned, that was one of the reasons gradually the  
12 emphasis was to move plants farther out.

13 And I wouldn't be surprised over the next few  
14 months that we would be focusing in one of those reviews on  
15 tighter siting criteria and perhaps other additional actions  
16 to be at least addressed to some of the plants that are  
17 close to these major urban centers.

18 You had mentioned early on, why couldn't we  
19 answer some of the questions. I think the point has been  
20 made several times that one of those was because of the role  
21 that we have versus the role of the Energy Department. I  
22 will mention that that touches somewhat on a debate we began  
23 to have earlier this year here.

24 You may recall that the Commission took some  
25 action to shut down five plants because of earthquake

c 1 problems.

2           One of the questions we began to get into at that  
3 time is to what extent do we try to balance some of the  
4 economic impacts with respect to action taken solely in  
5 health and safety. As the Chairman had pointed out, the law  
6 seems to be very clear, health and safety.

7           In my mind, I don't go that far. I think there  
8 are some other balancing points. But certainly not to the  
9 extent I think was embedded in your question, the  
10 consideration of alternative energy forms, if you close down  
11 a nuclear plant, what alternative energy form is there  
12 available. We haven't gone anywhere near that far.

13           The emphasis upon alternative energy forms and  
14 what kind are available and how can they be utilized to meet  
15 urban needs is much more appropriate to John Deutch or  
16 people at the Energy Department.

17           The question of waste, I probably am not as  
18 optimistic as my colleague on the left. I think that there  
19 are a number of problems that have to be solved.

20           I think the Federal Government in the last couple  
21 of years has gotten a lot of its effort together, much more  
22 than it has in the past.

23           I tend to believe that the so-called  
24 institutional problems are the largest ones. Those are the  
25 ones that people in the states and localities are going to



c 1 have to have fundamental say-so, because just as there are a  
2 lot of debates on relative risks and how safe is a nuclear  
3 plant, there will be similarly many debates on the relative  
4 risks of various types of waste disposal and how safe is a  
5 disposal site.

6 A disposal site has an additional major problem  
7 the nuclear power plant doesn't have. The nuclear power  
8 plant obviously is generating a lot of electricity that ties  
9 into clear benefits in the locale. The waste disposal site  
10 doesn't at least have that strong advantage.

11 Finally, you mentioned you need some truthful  
12 answers. I think, as far as I can tell across the spectrum,  
13 people who are very pro, people very anti, people in the  
14 middle, the Commission, by and large, people are trying to  
15 give truthful answers. They are certainly sincere in their  
16 answers.

17 One of the difficulties is most people are using  
18 different sets of assumptions. They start out with a large  
19 range of assumptions, and that leads them to positions which  
20 can be quite different than someone else who started out  
21 with a different set of assumptions.

22 On the surface, it may appear one person can't be  
23 telling the truth because the answers are so different. It  
24 might be useful to try harder to make sure that in probing  
25 into those areas that you understand clearly what are the

**POOR ORIGINAL**

c 1 assumptions people are starting with.

2 In many cases, the answer is found in the  
3 assumptions. Like I think all my colleagues, I am also very  
4 glad to have been able to meet with you.

5 CHAIRMAN HENDRIE: Mr. Obledo, I don't have  
6 anything else to add. If there are other questions, we have  
7 run a little longer than we expected, but I think it has  
8 been a very useful exchange.

9 MR. OBLEDO: It has. I didn't have anything else  
10 on our agenda.

11 I feel much like other persons, probably, around  
12 the table, that there is no definitive answer. It depends  
13 on what assumptions you start with. I think it is just a  
14 matter of trying to work together on these issues for the  
15 benefit of the public generally. For our country.

16 That is — maybe I will get this information and  
17 will stay in communication. Your executive assistant has  
18 been very, very helpful with my office in arranging the  
19 meeting and communicating with us. I am appreciative of  
20 that.

21 Beyond that, perhaps we can arrange a meeting  
22 with the Department of Energy in the next few weeks to get  
23 into that.

24 CHAIRMAN HENDRIE: Very good.

25 Thank you all very much for coming. It has been

**POOR ORIGINAL**

909 269

c 1 very interesting and a useful session.

2 Why don't we take five minutes.

3 (Whereupon, at 11:41 a.m., the meeting  
4 adjourned.)

5

6

7

8

9

10

11

12

13

14

✓ 15

✓ 16

17

18

19

20

21

22

23

24

25

POOR ORIGINAL

909 270