

**OFFICIAL TRANSCRIPT OF PROCEEDINGS
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

**Title: PUBLIC MEETING
BIG ROCK POINT**

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

PUBLIC MEETING
BIG ROCK POINT

Stroud Hall
12491 Waller Road
Charlevoix, Michigan

Thursday, November 13, 1997

The meeting met pursuant to notice at 6:30 p.m.

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P R O C E E D I N G S

[6:30 p.m.]

1
2
3 MR. JOHNSON: If I can have your attention now.
4 My name is Phil Johnson. I am chairman of the Charlevoix
5 County Board of Commissioners, and I will be serving as your
6 moderator tonight. Tonight's public meeting is held by the
7 U.S. Nuclear Regulatory Commission. It is designed to focus
8 and share information concerning Consumers Power's decision
9 to immediately dismantle the Big Rock nuclear plant.

10 Making the presentation tonight will be Mr. Jim
11 Rang of Consumers Energy. Mr. Rang is manager of business
12 and regulatory administration for Big Rock. He will discuss
13 the Proposed Shutdown and Decommissioning Activities Report
14 for Big Rock Point.

15 Mr. Paul Harris of the NRC is in the Office of the
16 Nuclear Regulatory Reactor Regulation of Non-Power Reactors
17 and Decommissioning Projects, and he will discuss the
18 regulatory process involved in decommissioning a nuclear
19 power plant.

20 We have Mr. Bruce Jorgensen of the NRC's Division
21 of Material and Safety. He will describe the NRC's
22 decommissioning and inspection process.

23 This is the third meeting to be held to discuss
24 the proposed decommissioning activities at Big Rock Point.
25 Your comments are valued. If you have a comment or

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1 question, we ask you to stand, state your name and also
2 spell it. If you can talk a little loud, we have a court
3 reporter here, she will be taking all the notes tonight, and
4 this is going to be a recorded meeting and it is going to be
5 a public record.

6 We thank you for your attention, and if you have
7 any questions? If not, Mr. Jim Rang.

8 MR. RANG: Thank you, Phil.

9 MR. JOHNSON: One other thing. If you want a copy
10 of the proceedings tonight, there is a sign-up sheet in the
11 back.

12 MR. RANG: I have copies of my presentation that I
13 am going to be going through with you. Perhaps we can hand
14 those out.

15 We are pleased to be here tonight to discuss our
16 decommissioning plan. I think we probably set a record.
17 This is our third opportunity to discuss the decommissioning
18 planning process, but now that we are into it, it is another
19 opportunity for us again to walk you through what the
20 planning process is all about within Consumers at our Big
21 Rock site.

22 Before I get started, let me introduce some of our
23 people from Consumers that are here tonight.

24 Bob Fenech is our senior vice-president of fossil,
25 hydro and nuclear operations.

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1 Ken Powers. Ken is our site manager, site and
2 decommissioning manager.

3 We have Ken Pallagi, who is our radiation and
4 environmental manager.

5 Dr. Bob English is our corporate health physicist,
6 our radiation health physicist specialist.

7 We have Don Hice. Don is our plant manager.

8 Craig Szczopka next to him from our corporate
9 office, nuclear plant administration services or our quality
10 assurance manager.

11 Harry Linsinbigler. Harry is the purchasing and
12 materials manager here at the site.

13 Curt Jurgens. Curt is our construction manager.

14 It's nice of you guys to all sit in a row there.

15 [Laughter.]

16 MR. RANG: Greg Debner. Greg is manager of our
17 reactor fuels project.

18 Tim, I know Tim Petrosky is here. Tim is our
19 public affairs director.

20 Karen Wooster. Karen is here. She is our
21 emergency planning director.

22 Ellen Zienert, our human resources director, way
23 in the back.

24 Did I miss anybody?

25 Greg Withrow is our engineering manager.

1 I guess Bill Trubilowicz is not here, is that
2 correct?

3 We have got most of our, essentially all of our
4 managers here from the site that are leading us into and
5 through the decommissioning process. Once I finish mine and
6 I turn it over to Paul, then Paul will introduce the NRC
7 people, his people that support him.

8 We have some people from the state.

9 Dave Minard and Dennis Hahn.

10 Anybody else that we have? Ron Kallin.

11 I am going to take you through some of the
12 planning processes that we went through, and if I happen to
13 slip into nuclearese, please raise your hand and I will go
14 back and state what those are. Sometimes it is too easy for
15 us to do that. I will try to be vigilant of that.

16 This is my agenda. We are going to go through our
17 team priorities that we identified and laid out for our
18 decommissioning process as well as I am going to spend most
19 of my time discussing the Post Shutdown Decommissioning
20 Activities Report. This is the decommissioning document
21 that is formally submitted to the Nuclear Regulatory
22 Commission, and it is made up of four parts, and I am going
23 to come back and visit those four parts. Scope, cost,
24 schedule, and environmental assessment, it is basically what
25 the decommissioning process is all about, and then I will

1 summarize.

2 In developing our team priorities, the entire
3 staff worked at putting these together, and we came up with
4 three areas we felt we would need to address to lead us
5 through the decommissioning process. Not unlike what we had
6 during power operation. Safety, efficient restoration, and
7 future of our people, of our plant and people.

8 First of all, dealing with the first part, the
9 first priority, the safety component, there is really three
10 parts to that: Nuclear, radiological and industrial.
11 Safety is a priority that we are quite proud of throughout
12 our 35 year plant operation history at Big Rock, and it is
13 our intent to carry that same safety record all the way
14 through the decommissioning in all three of those areas. We
15 want to maintain that throughout the decommissioning
16 process.

17 Now on the nuclear safety side, while the plant is
18 not operational, it is shut down, we still have rules and
19 regulations by which we operate the spent fuel pool, where
20 the spent fuel is stored, and all of the support systems,
21 and also throughout the storage of fuel, both in the fuel
22 pool as well as in the dry cask portable canister system.
23 It is our intent to and under requirements to meet those
24 regulations and continue our safe operation through those
25 systems. Even though the risk of power operation is not

1 there, we still have the nuclear safety issues that we need
2 to address surrounding fuel, and we have set up a program to
3 do just that.

4 In the area of radiological, we have committed to
5 dose reductions, ALARA, which is as low as reasonably
6 achievable for both the site people working at the site as
7 well as the general public. As you will see, as I go
8 through, we have set up our priorities to do just that, and
9 I will cover a few of those activities in a few moments.

10 Then also industrial safety. We are quite proud
11 of our 20 years without a lost time accident. We have led
12 the nation for some time in industrial safety, and it is our
13 intent to continue that same safety record throughout the
14 decommissioning process.

15 Going through the decommissioning, in some ways,
16 because of the construction site that we have, the removal
17 of equipment, the scaffolding and so forth, there is a
18 greater risk of safety issues that may come up. So we have
19 to be very vigilant to maintain our industrial safety.

20 I think we at the site would like nothing better
21 than -- I mentioned we just recently celebrated our 20 years
22 without a lost time accident. It is our objective in five
23 years for Mr. Fenech and Mr. Powers to receive a citation
24 for going 25 years in the nuclear industry without a lost
25 time accident. It is going to be quite a goal, but we think

1 we are up to achieving that.

2 The next priority, efficient restoration. It is
3 our intent to use all of our resources productively, to
4 decommission the plant and restore the site to green field
5 condition in five years, and not only to do it in five
6 years, but to do it under budget. That also will be a goal
7 that we expect to achieve, and we have set our standards
8 high to accomplish that.

9 Our third priority -- we think if we take care of
10 the first two, that if we do 1 and 2 well, that the third
11 priority will take care of itself, and that is establishing
12 future opportunities for our people once the plant is
13 decommissioned.

14 It is our intent to be able to market our services
15 after the plant is decommissioned, but we can only do that
16 if we are successful. Now if we are good and we are
17 successful, our rewards will be what? We work ourselves out
18 of a job in the next two years, three years, four years or
19 five years. But if we are successful, we will also create
20 new opportunities for our people, and that is what our
21 objective is, to attempt to do that, and be able to provide
22 a future for our people not only here following Big Rock,
23 but then also perhaps at Palisades and at other facilities
24 throughout the United States.

25 These are the team priorities that we have

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1 established to guide us through our decommissioning.

2 Mike, if you would go back to the first slide just
3 for a moment.

4 The PSDAR, there are four parts to it, as I
5 mentioned. There is the scope, cost, schedule and
6 environmental assessment. I will discuss the first part of
7 that, which is the scope of our decommissioning process, and
8 it is a flow chart that takes us through from beginning to
9 end what our decommissioning process will look like.

10 We shut the unit down in August 1997. We are into
11 the dismantlement stage. Some areas we had already -- those
12 areas that we had already prepared and had the documents
13 for, allowing us to begin dismantlement. By about early
14 2000 we expect to have the dry transportable canister
15 systems on site to allow us to load fuel from the spent fuel
16 pool into the canisters and expect to have them all loaded
17 later in the year 2000.

18 Along about early 2002, we plan on terminating our
19 Part 50 operating license and then transfer the fuel that is
20 currently, the fuel storage that is currently under the Part
21 50 license to the Part 72 license for continuous storage in
22 the dry transportable canister system on an interim basis
23 until the Department of Energy picks up the fuel.

24 Our site restoration, the balance of the plant, we
25 begin that early in 2002 and finish up in 2002 getting us to

1 the green field condition.

2 The fuel will be stored on site on pads, security
3 fenced, until the Department of Energy takes the fuel, and
4 that, you know, with the passage of the bills in Congress,
5 perhaps that process may be speeded up a bit, and if it
6 does, our fuel could be gone by the time we have finish
7 dismantling the plant.

8 In the PSDAR, we covered the scope. Now we go to
9 the cost. I am going to cover two -- I can't just talk
10 about the cost without talking about the funding. We expect
11 to be fully funded with interest earned and market value of
12 the fund within a couple of years. We are currently -- we
13 currently have, as of September, 195 million dollars in the
14 trust fund as of September 30, 1997. We are continuing to
15 collect 2.1 million dollars per month through December 2000.
16 So if you run out the numbers and then factor in some
17 interest and perhaps market value, we would easily have our
18 290 million dollars that we are authorized to collect in the
19 fund.

20 On the cost side, we filed in 1994 our cost
21 estimate of 290.1 million dollars. That was under the
22 SAFSTOR operation. We will be updating that cost estimate
23 and filing by March 31st of 1998 our new cost estimate
24 update addressing the immediate dismantlement, five years
25 and green field option, and we anticipate that no additional

1 funding will be required from the customers.

2 I have covered scope and cost. These next two
3 slides will go to the schedule and give you a summary, a
4 schedule of the activities as we work our way down, and as
5 you see in your handouts, we plan on maintaining fuel pool
6 operations into the year 2000. We expect to be dismantling
7 our equipment and have the equipment basically dismantled by
8 2001. We expect to have our dry cask fuel loaded by late in
9 the year 2000, and then we go into major building demolition
10 in 2001 and 2002 and then complete the site restoration.

11 The next slide gives us some specific projects
12 that we are working on through the decommissioning process
13 these next six to nine months. You will see here the three
14 safety issues as part of our priorities.

15 We plan on performing a primary system
16 decontamination. We will be starting -- the contract has
17 been awarded, and we will be starting in December and
18 finishing in January. The net effect of that system
19 decontamination will be to reduce the dose to our workers,
20 the radiation dose to our site workers by a factor of 10 to
21 100. We also will be installing high efficiency particulate
22 activity filters, the HEPA filters, prior to the chemical
23 decon process, which also provides the radiological safety
24 values, and then we will be installing a radwaste
25 evaporation system to process our liquid waste, and that is

1 currently in the design phase.

2 From an industrial personnel safety standpoint, we
3 are installing a new substation and electrically repowering
4 the site. It is kind of interesting. When you think about
5 decommissioning, you think, gee, we are going to remove
6 everything from the site. Before we can do that, and one of
7 the lessons learned from other sites that we have visited,
8 is that you need to install some things from a worker safety
9 standpoint in order to help you dismantle and decommission
10 the plant.

11 This electrical repowering of the site will remove
12 the shock hazard that is there. Let me give you an example.
13 If you go in and start working on a motor control center
14 bus, there are several breakers in that bus. In a number of
15 cases most of those breakers will be dead and will no longer
16 be used to power the facility, to power the fuel pool
17 operations. However, typically there could be one or two
18 that is going to be live in that bus work, and one of the
19 hazards you have is if you still have that bus bar in the
20 back and it's live, and if you have a worker that is in
21 removing the breakers, it is very easy to inadvertently
22 touch a live bus work. In other plants they have had
23 significant safety issues that have arisen, and one of the
24 lessons learned is to do this repowering around the site to
25 eliminate that safety concern.

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1 Also, one of the first things that we are
2 addressing over the next few months is removing the
3 insulation, the asbestos from piping. That will be going on
4 well into next year, and once we chemically decon the
5 primary system, that insulation will be removed as well.

6 A third industrial safety project is removing the
7 oils and lubrication. Another safety hazard that we can
8 remove and eliminate early on.

9 From the nuclear safety standpoint, some
10 additional projects is control room relocation. This will
11 allow us to more accurately operate the spent fuel pool and
12 its equipment. We are also going to reconfigure security.

13 We will be installing skid-mounted equipment in
14 the spent fuel pool to accommodate a more efficient
15 operation.

16 We will also be revising several of the documents
17 on the soft side, like the Final Hazards Summary Report will
18 be revised along with the design basis documents. We have
19 our technical specifications, our site emergency plan,
20 security plan, quality assurance plan and fire plan that
21 have either been submitted for approval or are in the
22 process of being submitted, with all of those documents
23 being approved later on next year, probably between the
24 first and second quarter of next year.

25 The fourth component in the PSDAR, the Post

1 Shutdown Decommissioning Activities Report, is the
2 environmental assessment. We have concluded that the
3 impacts due to decommissioning Big Rock are in compliance
4 with the rules and regulations. The regulations, as you see
5 there, require it.

6 There are two decommissioning methods, two
7 decommissioning options that can be utilized: Decon,
8 immediate decon, which in our case is our five year green
9 field, and/or SAFSTOR method. Both of those were evaluated
10 for Big Rock, and both are fully addressed within the bounds
11 of the Final Generic Environmental Impact Statement, the
12 FGEIS.

13 We have concluded that there are no unique aspects
14 of the decommissioning plan process that would invalidate
15 the conclusions reached within the bounds of the impact
16 statement, the generic impact statement.

17 An example of one of the things that we have done
18 to ensure that we stay within the bounds is the installation
19 of the HEPA filter within containment that I described
20 earlier as one of our projects.

21 Also, the last item is the worker doses that are
22 projected as our goal for decommissioning Big Rock are
23 considerably less than those that are referenced in the
24 standard boiling water reactor that is described in the
25 Generic Impact Statement.

1 In summary, our target is to decommission Big Rock
2 by 2002. That is green field in five years. We plan to do
3 it safely. We plan to do it within budget. We plan to be
4 good environmental stewards of the environment, to be
5 environmentally conscious.

6 This is the plan that we submitted, Revision 1,
7 back on September 19th, to the NRC, and this is what we are
8 using in going forward. I would also state that the earlier
9 versions of the decommissioning plan and the PSDAR have
10 allowed us to go forward. This is just the next step of the
11 process.

12 I think I will turn it back to Phil. I guess we
13 will have Q and A after you and Bruce are finished.

14 MR. JOHNSON: Thank you very much.

15 Our next speaker is Paul Harris from the NRC.

16 MR. HARRIS: Good evening. My name is Paul
17 Harris. I am the NRC project manager for the
18 decommissioning of Big Rock Point. I am glad to see a
19 number of members of the public here tonight.

20 After I do my presentation and Bruce does a
21 presentation on inspection, we look forward to your comments
22 and your questions.

23 First, as project manager, I am the principal
24 point of contact for the NRC and the focal point for the NRC
25 for all activities associated with Big Rock Point. In

1 particular, I process license amendments, and I also process
2 requests for exemption from regulatory requirements. I also
3 coordinate NRC staff review of licensee activities and
4 submittals. I also work in the NRC headquarters in
5 Rockville, Maryland. However, I am not the only person at
6 the NRC who does any regulatory reviews for Big Rock Point.
7 I would like to introduce some of our staff that are
8 attending this meeting tonight.

9 My immediate supervisor is Dr. Mike Masnik. He
10 has extensive experience in regulatory processes and the
11 decommissioning of the Trojan nuclear power plant.

12 His immediate boss is Sy Weiss. Sy is the
13 Director of Decommissioning of Nonpower Reactors.

14 From Region III we have Mr. Roy Carniano. He is
15 Deputy Division Director of Nuclear Materials Handling.

16 Also we have Mr. Bruce Jorgensen, who is the
17 Branch Chief of Region III.

18 Mr. Roy Leemon, the senior resident at Big Rock
19 Point. Roy is our on-site inspector. The current plans are
20 to keep Roy on site for approximately one year in direct
21 oversight of licensee activities.

22 Also with us we have Ms. Ann Hodgdon. She is our
23 lawyer from headquarters, from Rockville.

24 We also have Mr. Jim Shepherd. He is a project
25 manager out of the Office of Nuclear Materials, Safety and

1 Safeguards. His division has the primary review on the
2 license termination plan that Big Rock Point will be
3 submitting.

4 We also have Etoy Hylton, who is at the desk back
5 there. She is our licensing assistant. She basically keeps
6 us out of trouble, and she helps us process amendments and
7 exemptions.

8 I would like to cover -- pardon me. Etoy just
9 flagged that I missed Ms. Angela Greenman. She is our
10 public affairs officer out of Region III.

11 And Lee Thonus. I am glad Lee is here tonight.
12 Lee is the Project Manager at TMI Unit 2. Lee has extensive
13 experience in the decommissioning activities at TMI Unit 2
14 following the accident that occurred at that facility. I am
15 happy to have him here.

16 I would like to cover some history first with Big
17 Rock Point.

18 As indicated by Mr. Rang, in 1995, Big Rock Point
19 submitted their decommissioning plan. The plan they
20 provided provided specific information on how they intend to
21 store, dismantle, maintain and decontaminate the facility.
22 This facility includes structures, systems and components
23 that are radioactive. Their proposed schedule utilized the
24 27 year SAFSTOR period, and this was to allow the decay of
25 radioactive materials, radioactive isotopes, prior to any

1 major dismantlement activities.

2 Also in this plan there were descriptions on how
3 they planned to accomplish specific decommissioning and
4 decontamination activities, the expected occupational doses,
5 and a site-specific decommissioning cost estimate. They
6 also provided a supplement to their environmental report to
7 discuss the decommissioning of their facility.

8 In the decommissioning plan they described their
9 intent, as Mr. Rang indicated, to restore the site to a
10 green field condition. In this submittal, however,
11 Consumers did recognize and did state that they maintain the
12 option of pursuing immediate dismantlement of the facility
13 after shutdown should a low level waste site become
14 available.

15 Following the submittal of the decommissioning
16 plan, we held a public meeting in May of 1995 to discuss the
17 decommissioning plan with the public, and Consumers Energy
18 again provided some specifics regarding their plans. And
19 again this was 1995 so everything they were doing was their
20 best guess estimate of what would occur.

21 However, in July of 1996 the NRC amended their
22 decommissioning rules, and these rules were published August
23 26th. So as not to get caught between the old rules and the
24 new rules, Consumers Energy asked us to delay our review and
25 approval of their decommissioning plan to allow them time to

1 assess the new rule.

2 In August of 1996, the amended rules became final,
3 and then we held another meeting in March of 1997, and this
4 meeting was held here and was held to discuss how the rules
5 changed for decommissioning, and it provided Consumers
6 Energy another opportunity to explain their plans for
7 decommissioning. Again, they discussed their intent to go
8 into 27 year SAFSTOR. However, they again maintained the
9 option to pursue immediate dismantlement and decontamination
10 should a low level waste site become available.

11 To summarize what we discussed in March, we
12 discussed the rule-making change, and we discussed the fact
13 that the decommissioning plan was now called the Post
14 Shutdown Decommissioning Activities Report. We discussed
15 why it's the licensee's decision on how to decommission the
16 plant, whether to pursue immediate dismantlement, or to
17 place the plant into long-term safe storage. We also
18 discussed why NRC's review and approval of the
19 decommissioning plan was no longer necessary, bearing in
20 mind that NRC's review and approval of the license
21 termination plan is now specifically required in the
22 regulations. Also, because there is a specific review and
23 approval associated with the licensee's termination plan,
24 there is an opportunity for hearing when that major activity
25 will occur.

1 Further, as Mr. Jim Rang also mentioned, as long
2 as their decommissioning activities are within the bounds of
3 our generic environmental impact statement, there is
4 reasonable assurance and confidence that decommissioning
5 will be safe, can be conducted safely, and would not result
6 in any undue harm to the public.

7 Following that March meeting, the licensee
8 submitted a letter telling us that they intend to shut down.
9 That was in June of 1997. In August, Big Rock Point shuts
10 down.

11 On September 19th, Consumers Energy makes a
12 decision and informs the NRC staff of their decision to
13 pursue immediate dismantlement and decontamination.

14 On September 20th, the licensee safely removes all
15 their radiated fuel from the reactor vessel and places it in
16 the spent fuel pool.

17 On September 23rd, the licensee certifies the
18 permanent removal of all its fuel, and with this
19 certification, they are prohibited by regulation from
20 returning that fuel back to the reactor vessel.

21 Today is November 13th and we are holding a public
22 meeting to discuss these plans the licensee has decided.

23 Now what is decommissioning? I know that the NRC
24 staff has received a number of questions from the public on
25 this topic. For clarification purposes, decommissioning is

1 to remove a facility safely from service and reduce residual
2 radioactivity to a level that permits release of the
3 property and termination of the license. Note that this
4 definition does not include nonradiological dismantlement,
5 nor does it differentiate between reactor plant structures,
6 systems, components, and spent fuel storage systems.

7 Consumers has indicated that they plan on
8 completing decommissioning in the year 2002. This refers to
9 their power plant, structures, systems and components, and
10 would also include those systems needed for the wet storage
11 of spent fuel. However, they also stated that they intend
12 to pursue a dry cask fuel storage system. Our regulations
13 also require decommissioning of those systems. Therefore,
14 the plant system will be gone in the year 2002. However,
15 the spent fuel will still be maintained in dry cask storage
16 on the site until transferred to another facility.

17 Remember that the NRC's focus is on the safe
18 removal of all radiological hazards. However, the licensee
19 first must remove that facility safely from service. They
20 have done that. Now the licensee must reduce levels of
21 radioactivity on the site. During these activities that
22 they perform, we will conduct inspections, independently
23 assess their activities, and independently reach conclusions
24 regarding their conformance or compliance with the NRC
25 regulations to assure that decommissioning is conducted

1 safely.

2 If the licensee decontaminates their facility to
3 levels that meet the minimum site release criteria, the NRC
4 could release the site and terminate the license. The
5 definition of site release is a site may be released for
6 unrestricted use if the dose resulting from contamination
7 remaining on the property will be as far below 25 millirem
8 per year as is reasonably achievable.

9 To clarify Big Rock Point's planned activities, we
10 see two flow paths. Right now Big Rock Point maintains a
11 Part 50 license. That is their operating license. That is
12 for the power plant structures, systems and components,
13 including wet spent fuel storage. On the left-hand branch,
14 we go down the facility trail, and we see that we have
15 license termination in the proposed year of 2002. If they
16 eliminate dry cask storage, we go down the other way, down
17 dry spent fuel storage, and they obtain a general license.

18 When they terminate their facility license in
19 2002, they have to convert this general license to a
20 site-specific license for that spent fuel dry system. When
21 they convert it to the site-specific license, we will have a
22 public meeting and an opportunity for a hearing. When they
23 transfer all the fuel off the site, that structure will then
24 be terminated, and they would have to go through a
25 prerelease, and the NRC would have to approve license

1 termination.

2 That concludes my presentation for tonight. I
3 look forward to your questions and your comments, and I
4 thank you for your attention.

5 MR. JOHNSON: Thank you very much.

6 Our last presenter this evening will be Mr. Bruce
7 Jorgensen from the NRC.

8 MR. JORGENSEN: Thank you, Phil. Thank you for
9 being the moderator tonight, and thanks to the township for
10 this excellent facility.

11 My name is Bruce Jorgensen. I am Chief of the
12 Decommissioning Branch in the Inspection Office in Chicago.
13 It is always good to get back to Michigan, though. This is
14 sort of my second homestate. I grew up in Nebraska, but my
15 kids grew up in Michigan because during the 1980s I was the
16 senior inspector at both Palisades and Big Rock or Palisades
17 and DC Cook, and we lived outside the little town of South
18 Haven, which is sort of a Charlevoix wannabe down along the
19 southwest shore of Lake Michigan.

20 I am going to be talking about the decommissioning
21 inspection program. There are really just three things to
22 talk about: What kind of inspections are we going to do,
23 who is going to do them, and how our plans might change
24 according to the circumstances over the period that these
25 decommissioning activities take place.

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1 Starting with what kind of inspections are we
2 going to do, Big Rock has been regulated basically all of
3 its life, and it is going to continue to be regulated until
4 it has no more life. NRC is a by-the-book sort of a
5 regulator. We call our book the Manual, and the Manual has
6 many chapters, and most of what I will be talking about is
7 Manual Chapter 2561. As an agency, we sat down and prepared
8 a program and procedures for just the eventuality that
9 reactors would be decommissioned, because it is obvious that
10 eventually that's going to happen to all of them.

11 Manual Chapter 2561 is a public document. Its
12 title is Decommissioning Power Reactor Inspection Program.
13 Not a big surprise. It contains a number of objectives,
14 including verifying safety and compliance independently, as
15 Paul has said. Ensuring the adequacy of what the licensee's
16 programs and procedures are accomplishing. Identifying
17 changes in performance, that is, declines in performance,
18 before performance becomes unacceptable, and effectively
19 using our limited inspection resources.

20 There are some definitions in there that may be
21 apropos to the discussions we have tonight. Two of them you
22 have probably heard already. Decon is one of them, and that
23 is a decommissioning option. SAFSTOR is another. The
24 program is really set up based on how many activities and
25 how frequently and how intensely the licensee is working.

1 So a high level activity program is defined and a low level
2 activity program is defined.

3 Consumers has chosen to go immediately to
4 dismantlement. That means that they have chosen what we
5 would call the high level activity option, and that affects
6 how we do our inspection planning. A final definition is
7 ISFSI. That is one of those nuke-speaks. It stands for
8 Independent Spent Fuel Storage Installation. That is also
9 part of Consumers Power's current plans.

10 Responsibilities and authorities for who is going
11 to do what are laid out in our Manual Chapter. I think the
12 only thing that I would call out is that it is the
13 responsibility of the regional administrator to make
14 decisions about how much inspection is going to be done, by
15 whom, and that includes making a decision as to whether we
16 leave a permanent inspection presence at the project while
17 it is undergoing decommissioning.

18 There is some flexibility required in planning to
19 do decommissioning inspections. Activities may take place
20 at a plant over a period of anywhere from five years to
21 maybe 50 years, and obviously you don't do the same
22 activities at programs that have that much difference in
23 time span. Our Manual Chapter defines, however, a minimum
24 inspection program that will take place at every facility,
25 and that is called our Core Inspection Program. That's laid

1 out in some detail in Appendix A to the Manual Chapter.

2 In addition to that, there is an optional
3 inspection program that is called Regional Initiative, which
4 is above and beyond the core program, and that is where we
5 choose extra types of inspection activities to do, depending
6 on what has gone on at the facility and what activities the
7 licensee is pursuing. There are some estimates in the
8 program for how much direct inspection efforts, and how many
9 hours an inspector might reasonably be expected to spend
10 doing this inspection procedure or that one.

11 There is a requirement for a Master Inspection
12 Plan, and we are putting together a Master Inspection Plan,
13 we call that the MIP, and it will say which procedures will
14 be done, what the estimated schedule will be, what
15 organization is responsible to carry that out.

16 There will be periodic management visits to the
17 site to assess how things are going. There will be periodic
18 visits that the inspection staff will make to the Regional
19 Office to make adjustments to that Master Inspection Plan as
20 we go along.

21 The program provides for flexibility in staff
22 utilization, using a resident inspector, assigning a
23 decommissioning inspector, and use of regional or
24 headquarters inspectors.

25 There are basically four areas that are covered by

1 the Core Inspection Program. Being a by-the-book regulator,
2 we have prepared procedures that fit into each of those four
3 areas. One of the areas is called facility management and
4 control. The basic focus is, is the licensee on top of
5 things? How is their planning going, internal
6 communications, that sort of thing? There are four
7 procedures that are in the Core Program in facility
8 management and control.

9 There is an area called decommissioning support
10 activities. There are four procedures that apply to that.

11 Spent fuel safety. And, of course, the spent fuel
12 is where most of the radioactive material is, 99.9 plus
13 percentage. It's the thing that most concerns an agency
14 that wants to ensure that radioactive materials don't cause
15 any harm. We have nine procedures that are available to use
16 in the core program for spent fuel safety.

17 And, finally, radiological safety. In a way all
18 of this feeds into radiological safety, keeping the
19 radiation where it is and away from people. We have four
20 procedures there.

21 I think that is a total of 21 procedures in the
22 Core Program. There are another 35 procedures in the
23 Regional Initiative Program.

24 That lays out what kinds of inspections we will
25 do. Who is going to do them? The regional administrator

1 has the authority to determine whether an inspector should
2 be assigned to the site full-time. That's the option we
3 have chosen, because there is going to be a lot of
4 activities going on at Big Rock at least for the next year.

5 Roy Leemon has agreed to stay at Big Rock Point
6 and take the assignment as the decommissioning inspector for
7 a one year period. Roy is a very experienced guy, and he is
8 exceptionally knowledgeable about Big Rock. He has been the
9 senior resident inspector here for four years. He knows how
10 the place is put together. He might know something about
11 how it ought to come apart. He has had a wide range of
12 experience in his career, and has the ability to do
13 inspection activities and exercise inspection procedures in
14 different areas. He will be joining the decommissioning
15 branch, which is my branch, as part of the assumption of the
16 duty as the decommissioning inspector for Big Rock.

17 I have seven additional people in the office in
18 Chicago that work for me, a very educated group. I have got
19 three master's degrees and three Ph.Ds in those seven
20 people. More than 20 years experience on the average. A
21 diversified group. A biochemist, an industrial hygienist, a
22 nuclear engineer, that is one of the Ph.Ds, so is the
23 biochemist, three health physicists and a civil engineer
24 with a Ph.D. So I have got staff that's directly available
25 to me to support Roy in the areas where we think we want to

1 apply some specialized expertise.

2 The civil engineer Ph.D is also the independent
3 spent fuel storage coordinator for all of Region III, so he
4 has responsibilities relating to all of the so-called dry
5 cask projects.

6 My people are, some of them, certified already as
7 reactor inspectors and as decommissioning inspectors. Above
8 and beyond that, I can borrow expertise virtually anywhere I
9 want and whatever I need. So that is what kind of
10 inspection we are going to do and who is going to do it.

11 The last topic is how we evolve the inspection
12 plan according to circumstances. I mentioned the Master
13 Inspection Plan. We have put together a Master Inspection
14 Plan already. We are finalizing that. To start with, we
15 loaded all the core procedures in there, of course, and
16 virtually all of the regional initiative procedures.
17 Experience will tell us whether we have got too few or too
18 many inspection activities planned. Roy Leemon will conduct
19 the majority of those inspection activities.

20 We will be producing inspection reports, which are
21 public documents, every six to eight weeks to discuss what
22 it was that we looked at, what we found. And then, as I
23 mentioned, there will be performance reviews periodically.
24 I think probably, to start with, quarterly, to make
25 judgments about do we need to shift emphasis, do we need to

1 add some activities, are we spending too much time in one
2 area or another.

3 Among the things that would result in changes to
4 our Master Inspection Plan would be following up on events
5 that are not planned, they just happen, and we make
6 decisions on an individual basis. Is this something we have
7 to look into? We might want to focus on something that
8 looks like it might be a weak area or might be a trend that
9 is going in the wrong direction. There are generic issues
10 that come up that might apply to all kinds of plants that
11 are in decommissioning or plants that have safety-related
12 equipment that is still functional.

13 We have maintenance rules and inspections planned
14 at all the facilities. The decision has been made to do an
15 inspection of compliance to the maintenance rule at Big Rock
16 Point. It may be relatively reduced in scope because the
17 amount of equipment that's required to be maintained under
18 the NRC maintenance rule is going to be relatively small.
19 In addition, bulletins or generic letters that NRC produces
20 in response to events at other plants or to things that we
21 find out during inspection of other plants can generate
22 inspection activities that apply across-the-board, generic
23 inspections.

24 Much of our scheduling is dependent on watching a
25 specific activity. What that means is we do the inspection

1 when Big Rock Point people do the activity. So one of the
2 things we need to do is monitor the schedule that they have
3 very closely, and changes in their schedule may result in
4 changes in our plans as well.

5 After the first year of activity, we will revisit
6 and either assume the inspection lead out of the regional
7 office and send inspectors as needed with continued periodic
8 licensee performance assessments, or extend the tour of the
9 full-time inspector at the site. That is a decision we will
10 make down the road. I guess the one thing I am sure of is
11 that we will be here as an inspection presence to the very
12 end.

13 That is the very end of my remarks. I look
14 forward to your comments and questions.

15 Thank you for your attention.

16 MR. JOHNSON: Thank you very much. We will go
17 into the comments and then questions. I have a list of five
18 people that have comments. As I call your name, would you
19 please spell it and -- we are going to take a five minute
20 break first and then we will start.

21 Thank you.

22 [Recess.]

23 MR. JOHNSON: We will begin again. At this point
24 I believe we are going to take questions. Again, I would
25 like to emphasize that when you get up to state your

1 question, if you can be brief. State your name, spell it,
2 and please try to talk loud enough for the court reporter.

3 At this time we will start taking the questions.
4 Does anyone have any questions?

5 Yes, sir.

6 MR. KEEGAN: Michael Keegan, K-e-e-g-a-n.

7 In October of '96 the NRC issued an industry-wide
8 letter demanding that utilities respond under oath as to how
9 the plant was built, was it in compliance with the Final
10 Safety Analysis Report, was it built as designed, were the
11 technical specifications up to code, and I am wondering if
12 Big Rock plant has in fact done that response to the NRC as
13 they requested in October of '96.

14 MR. RANG: Jim Rang responding. I believe that
15 was the 54(f) letter in response to that. We provided our
16 response addressing those issues. It was submitted, and we
17 had a dialogue with the Nuclear Regulatory Commission on how
18 we were going to address the issues, and we were proceeding
19 along with that, and then we shut the plant down. So that
20 we had accomplished the things that we had set out to do in
21 that time frame. I don't know if we have anything
22 additional that anybody would want to add to that. But we
23 did respond, and we had a time line addressing the issues.

24 MR. KEEGAN: Well, I need to know from the NRC if
25 in fact the plant is built as it is specified in the FSAR.

1 MR. HARRIS: For clarification purposes, this
2 letter he is talking about is commonly referred to as the
3 50.54(f) letter that is sent to operating power reactors,
4 requesting them to describe their understanding of what
5 their licensing and design basis is of their facility. From
6 a decommissioning perspective, it is equally important that
7 the licensee understand the design of their facility while
8 they take it apart.

9 The current NRC position on the 50.54(f) letter is
10 our review is not completed yet, and the reason is there are
11 approximately 105-106 operating reactors that submitted that
12 letter. The NRC staff is currently reviewing those
13 responses in a generic fashion to understand the problems
14 across the industry. When that analysis is done, we will
15 understand what the generic problems are, and we will apply
16 those as needed to facilities such as Big Rock Point.

17 MR. KEEGAN: With no assurances that the plant is
18 built as the Final Safety Analysis Report indicates, how can
19 dismantlement of this plant commence when they don't know
20 exactly how they built it and you have not verified it?

21 MR. HARRIS: We continually verify the design of
22 that facility and the licensing basis for that facility.
23 There are reports that the licensee is required to provide
24 us regarding any changes, tests or experiments that they
25 conduct at their facility, and they are required in writing

1 to provide us those submittals. When they send us those
2 submittals, we conduct a review of them, and in most cases
3 we perform an inspection to assess their engineering
4 controls and how they address that.

5 Through the years of the operation of Big Rock
6 Point facility, we have conducted a number of inspections on
7 an engineering and design basis, on modifications of systems
8 and structures, and we have confidence, based upon the
9 docketed inspections that we have performed, that this
10 licensee understands the configuration of their facility and
11 can enter into decommissioning.

12 MR. KEEGAN: I would like a track record of the
13 50.54 Part (f) communications.

14 MR. HARRIS: Okay.

15 MR. JOHNSON: Do we have any more questions?

16 MR. KAMPS: Is this the same as our name signed up
17 on the sheet or is this separate?

18 MR. JOHNSON: We are doing questions. We will do
19 comments at the end.

20 MS. BEEMON: JoAnne Beemon, B-e-e-m-o-n.

21 I am concerned about some of the radioactivity on
22 site and the levels on site for the in quotes green field
23 unquote, and specifically two things. One, I remember
24 reading back in the Sixties, there were alarms that were
25 turned off and discharges from liquid waste batches into the

1 channel. So I am concerned about one thing. I am concerned
2 about the levels of radiation in the channel, and two, the
3 cesium spill and what the plans are for that kind of
4 decontamination. At the time it wasn't possible because you
5 would have to get big equipment and go under the ball and
6 stuff like that. So what's up?

7 MR. RANG: I think I will defer the response to
8 Dr. English. Do you feel comfortable in responding to that
9 question?

10 DR. ENGLISH: I am Bob English, Certified Health
11 Physicist. I have been working for Consumers about 23
12 years.

13 The cesium I think you are referring to is the
14 condensate tank. There were a few millicuries of
15 radioactivity that leaked in about 20,000 gallons of water
16 under the tank and under the turbine building. That which
17 was available for -- that which was not under the turbine
18 building was removed, and we have since done sampling
19 elsewhere in other areas around that and have found no
20 contamination of the areas that are up gradient. That would
21 be to the -- basically to the south.

22 The materials, such as the cesium you mentioned, a
23 very small quantity of it, 37 millicuries potentially there
24 that we will -- we know where it is, and we will be
25 evaluating it and taking it out in terms of a limit that we

1 have identified by running computer programs that are
2 utilized by licensees to show compliance with subpart (e),
3 that is the 25 millirem plus ALARA for the site to be
4 terminated, and our termination plan for how we are going to
5 accomplish that and what those levels are, how we are going
6 to measure them and confirm that we are below those levels
7 will be submitted two years prior to the termination of the
8 license for NRC to evaluate and approve.

9 The discharge canal is not currently a problem.
10 The analysis we have done do not show it is above the 25
11 millirem per year levels. It is well below that.

12 MR. JORGENSEN: As for NRC, our inspection program
13 for final release includes our own surveys, our own samples
14 analyzed in our laboratory, and our standard, as Ken
15 mentioned, has got to be as far as reasonably achievable
16 below 25 millirem.

17 We have a fairly long history in the nonreactor
18 industry of performing these kinds of surveys. In the State
19 of Michigan we have done those jointly with the Michigan
20 Department of Health, and we would expect to cooperate with
21 them in the final surveys at Big Rock Point.

22 MS. GREENMAN: Bruce, can you put 25 millirem in
23 perspective, like what you get for an X-ray, that type of
24 thing?

25 MR. JORGENSEN: I guess one of the comparisons

1 that is made is average exposure to a U.S. citizen is in the
2 neighborhood of 300 millirem per year. So 25 millirem would
3 be a month's worth of living, driving, flying, going to the
4 doctor, all of that stuff.

5 MR. HARRIS: Angela, that's a good question,
6 because 25 also is equivalent to your annual exposure just
7 from cosmic radiation, and it is equivalent also to the
8 amount of radiation dose you get from food and water, from
9 just intake from food and water.

10 MR. JOHNSON: Yes, sir?

11 MR. KAMPS: Yeah, I have a question about the 25
12 millirem dose because some of the --

13 MR. JOHNSON: Excuse me. Could you state your
14 name?

15 MR. KAMPS: My name is Kevin Kamps, K-a-m-p-s.

16 It seems like an arbitrary level to me because of
17 the research that I have read, that there is no safe
18 threshold for exposure to radioactivity. So the cosmic
19 radiation that you have referred to, yeah, that is natural,
20 but it does harm to health. So any increase in that
21 exposure will increase harm to the public's health or the
22 individual's health. So that is my concern about returning
23 the site to unrestricted use is that the radioactivity that
24 is present there, if homes are built there, the people that
25 live in those homes are going to receive additional

1 radioactivity, increasing their risk for contracting
2 diseases. Whatever that site would be used for, it is a
3 public space as well, people coming onto that site. So I
4 don't understand how that level of exposure was deemed
5 acceptable because there is no safe threshold of exposure to
6 radioactivity.

7 MR. JORGENSEN: I think you have just made the
8 argument why our real standard is as low as reasonably
9 achievable, below 25 millirem. Reasonable efforts should be
10 made to make it zero if that's possible. But failing that,
11 if it is unreasonable, prohibitively expensive, just
12 impossible from an engineering standpoint to get it to zero,
13 then it should be reduced as far as practicable. NRC
14 operates on the exact principle that you are talking about,
15 that exposure should be avoided when it's possible, but that
16 doesn't mean that it always has to be zero.

17 MR. HARRIS: The NRC just published a final
18 rule-making on this license determination on the 25 millirem
19 limit. That went through an extensive regulatory process
20 that involved the public, involved the scientific community.
21 Not to give you a bureaucratic answer, but I am sure those
22 people in the research you mentioned had the opportunity to
23 provide comment to the NRC and the commission regarding
24 that. While it is true that the current NRC position is
25 that it is based upon a linear threshold where dose would be

1 proportional to harm, you might say, it is currently being
2 reviewed by the NRC in light of current scientific studies
3 on exposure to radiation.

4 Do you have any additional questions along those
5 lines?

6 MR. KAMPS: Well, I have additional questions but
7 not on that subject.

8 MR. JOHNSON: Yes, sir.

9 MR. WINNELL: My name is Mike Winnell,
10 W-i-n-n-e-l-l.

11 In your big black book here entitled NRC
12 Correspondence Related to Plant Shutdown and
13 Decommissioning, my question is -- this says the
14 radionuclear inventory for the reactor vessel as a unitized
15 package is expected to be a Type B quantity meeting the low
16 specific activity material criteria. What is Type B?

17 MR. RANG: Dr. English, do you want to address the
18 Type B quantity?

19 MR. THONUS: My name is Lee Thonus. I am a
20 project manager with the NRC Headquarters.

21 In the shipping of radioactive material, there are
22 several quantities that are defined. One is the smaller
23 exempt quantity, the Type A quantity, and then a larger
24 quantity is a Type B quantity. It varies from isotope to
25 isotope as to what a Type A or Type B quantity is. But in

1 general a Type B quantity is a larger quantity for which we
2 require a package with a higher level of integrity.

3 MR. WINNELL: Is this related to low level
4 radioactive waste in Class A, B, C?

5 MR. THONUS: No. Unfortunately they use the same
6 letters. It follows the same sort of pattern, where the A
7 is the lowest level and B is more and C is more than that.

8 In the Code of Federal Regulations, there is a
9 table, and it will give you isotope by isotope, that so many
10 Curies of this isotope is a Type A and perhaps ten times
11 that much would be a Type B.

12 As kind of a quick overview, a Type A package
13 would be the kind of package that you could drop say four
14 feet and it would have to withstand that kind of a drop
15 without breaking open. The Type B, since there would be
16 more radioactive material, it typically has to withstand,
17 that type of packaging has to withstand a 30 foot drop. So
18 it is just a much stronger package, or it has to have other
19 safeguards in place so that it would have the equivalent
20 level of protection. The more radioactive it is, the more
21 hazard, a stronger package.

22 But other than telling you there is a table that
23 gives you isotope by isotope. I used to be able to rattle
24 them off for you but I can't anymore.

25 MR. WINNELL: So if the potential of the proposed

1 plan is to stuff a bunch of components inside the reactor as
2 sort of a place to put something that are greater than Class
3 C components, does this affect the integrity of a Type B
4 rating for this reactor?

5 MR. THONUS: You are talking about the plan to
6 ship a reactor vessel with components inside. There are two
7 -- you are discussing two sets of rules. One is the waste
8 classification. The package for the purposes of shipment
9 has to be -- has to undergo an engineering review to make
10 sure that that package is suitable for that shipment. The
11 burying of that material has to undergo a separate review to
12 make sure that it meets all the criteria for burial. It
13 would have to meet both.

14 If you could make the package strong enough and
15 meet all of our engineering acceptance criteria for shipment
16 as a package, and when it got to the burial site, it
17 wouldn't meet the burial criteria, you couldn't send it to
18 the burial site. When those things come into the NRC for
19 review, we look at both is the integrity of the package
20 adequate for the kind of transportation it is going to
21 undergo and the kind of material that is going to be inside,
22 and we would also do a review, is this material suitable.
23 If it is greater than Class C, it wouldn't be suitable for
24 routine burial.

25 MR. WINNELL: Would the reactor be a Class C or

1 greater than Class C?

2 MR. HARRIS: We don't know, Mike. The licensee
3 has not come to us for this yet.

4 MR. WINNELL: So then the question is, it says
5 here the method of disposal which would result in lowest
6 cost and lowest dose to workers is shipment within the
7 intact reactor vessel, provided that authorization to
8 average the radionuclear inventory throughout the metal mass
9 of the vessel and containers, such that the total package is
10 not GTTC. In other words, the parts that are in it are
11 GTTC, but the reactor, I guess, shield is less than -- is
12 presumed to be less than it.

13 MR. HARRIS: Right.

14 MR. WINNELL: So, in other words, I gather the
15 reactor, with all the really bad stuff that is inside, it
16 could be buried in a less secure spot than if you took the
17 components out and you would have two separate items to deal
18 with. This is the only reason I can see for this type of
19 language.

20 DR. ENGLISH: Bob English again.

21 We weren't intending to put stuff in like a
22 garbage can. These are things that are built into the
23 reactor, a portion of the reactor now. The internal
24 portions of the reactor itself are more highly radiated than
25 the vessel around the outside because they are closer to the

1 neutron field. In fact, they are surrounded by the fuel.
2 Therefore, what we are asking is the same as the Trojan
3 plant has asked for their burial, that that be allowed to be
4 a portion of the total reactor calculated into the total so
5 that you can calculate the classification based on what is
6 present in the total reactor.

7 Now this happens, when you do take things apart.
8 and you end up with greater than Class C in a small portion
9 of it, you can no longer average it once it is out. So we
10 want to be careful that we don't get ahead of ourselves,
11 take it out and then it is separated. If we cut it out, put
12 it aside, it would be greater than a Class C thing, and we
13 could never average it back in.

14 But for the purposes of the cost of being able to
15 do the cheapest thing for the monies of our ratepayers, and
16 to do the best thing in terms of dose for our workers, it is
17 much better not to handle it, pull it out, have to cut it
18 up, put it in another container, ship it separately, more
19 shipments on the highways and so forth, and more dose to
20 everybody, than to leave it intact, close it up in the
21 reactor and ship it. But we do need the NRC and the burial
22 people to agree. We can do it the other way. It is just
23 that our dose -- my dose analysis of the 425 personrem
24 accounts for being able to do that low dose technique.

25 The reason we brought that up especially is to

1 show that the 425 personrem probably would not apply if we
2 have to take the stuff out, cut it up, repackage it
3 separately, and make special shipments or store it for long
4 periods of time with the fuel, which we would have to do if
5 it is greater than Class C, because right now nobody is
6 taking greater than Class C. It gets stuck here on the site
7 forever. So obviously we would like to get rid of it for
8 everybody present.

9 MR. JOHNSON: Mr. Winnell, maybe you can discuss
10 this after. We have got other people.

11 DR. MASNIK: Mike Masnik, M-a-s-n-i-k.

12 He mentioned the Trojan plant. All plants that
13 have been decommissioned to date and where the vessel has
14 been removed have had the internals removed. The Trojan
15 plant is the first one that has requested that the vessel be
16 removed with the internals still in the vessel, and that
17 review is ongoing. It's been a year. It is going to be a
18 considerable time from now before the agency makes a
19 decision as to whether or not to allow this. The question
20 was raised as to whether or not burial sites can accept it,
21 and whether or not they can design the shipping package such
22 that it is strong enough to withstand any sort of calamity.
23 So it is a proposal.

24 MR. JOHNSON: Yes, ma'am.

25 MS. HACHHARCAR: My name is Cara, C-a-r-a,

1 Hachharcar, H-a-c-h-h-a-r-c-a-r, I live in Charlevoix, and I
2 am concerned about my friends here, Greg and Bill, who work
3 at the plant. If the SAFSTOR method of decommissioning is
4 deemed safer for the decommissioners, why do they all of a
5 sudden change to do it in this quick span of time? I also
6 have a question about the reliability of the casks that will
7 be used.

8 MR. JOHNSON: Who did you want to answer this?
9 Mr. Rang?

10 MS. HACHHARCAR: Whoever would like to.

11 MR. RANG: There are two options or three options
12 to decommission the plant. One is SAFSTOR, one is
13 entombment, and the third is the immediate decommissioning
14 and dismantlement. We chose to look at two of the three,
15 the SAFSTOR and the immediate decon. Both of those are
16 acceptable methods. While it is true that over the
17 long-run, if you have any long-term SAFSTOR period, that
18 there is less dose to the workers over that extended period.
19 However, there are trade-offs that need to be balanced.

20 First of all, while you may think initially that
21 there is a reduction in the volume of materials being
22 shipped, if you have -- there are short-lived and
23 longer-lived isotopes, radioisotopes. As long as you have
24 an isotope that exceeds the limits, even though the rest
25 have decayed off, it still needs to be shipped to a burial

1 site. So it turns out there is very little volume
2 reduction. So the cost is still there to ship the material
3 even after the, as we looked at the 27 years, there is very
4 little cost reduction in shipping the materials to the site
5 over that delayed period.

6 We also looked at the possibility: Will a site be
7 open in 25-30 years down the road to ship the materials to?
8 That question -- that answer is unknown. The repositories
9 to ship the materials to are available and open at this
10 time. So it seems to us to take advantage of that
11 opportunity to ship the materials over the next five year
12 period.

13 Plus there is another trade-off and that is the
14 cost. If you put the plant into SAFSTOR, you have the
15 maintenance, the annual maintenance of the plant, and the
16 cost. It is more expensive going into the SAFSTOR mode of
17 operation. You still have to dismantle the plant after a
18 period of time. So you still have not only the
19 dismantlement cost but the maintenance cost.

20 There is also the opportunity to take advantage of
21 the qualified people at the site who are trained to not only
22 operate the plant, but know the plant and can take the plant
23 apart. If you go into a SAFSTOR mode of operation, you lose
24 that talent because all you need is a custodial site, if you
25 will, a custodial staff, if you will, for an extended period

1 of time, and then you have to ratchet back up again with
2 resources that are available to dismantle the plant. That
3 is more expensive.

4 We have to weigh the balance against additional
5 costs to our customers to dismantle the plant, and there is
6 probably, you know, another item would be, we feel we can
7 meet our obligation to reduce the nuclear liability, we have
8 an opportunity to do that, over a fairly short period of
9 time, and so we are taking advantage of that.

10 As we look at all of those, you know, it is a
11 balancing act. You need to look at the dose and also look
12 at the costs and look at the other activities that make up
13 part of that formula.

14 One thing I would also add. We have put on record
15 in our original decommissioning plan filing that our
16 estimate for the 27 year SAFSTOR and then dismantlement by
17 year 30, the dose estimate was about 180 personrem. The
18 dose to do the dismantlement in five years is about 425
19 personrem over the five years versus over the 30 years. In
20 considering, on a comparison basis, Big Rock, during its
21 last five cycles of operation, its last five years of
22 operation, the average personnel dose to the worker was
23 about 200 personrem per year.

24 You say, well, how does that compare with others
25 in the industry? We report those numbers, and they are

1 trended, to the Nuclear Regulatory Commission as well as to
2 NPO, Nuclear Power Operations, who monitors the trending,
3 and Big Rock's compare very favorably. In fact, Big Rock is
4 one of the lowest in the country in terms of exposure during
5 power operation.

6 If we look at the last five years with the
7 refueling outage in there, we are talking probably two years
8 of power operation versus five years of dismantling the
9 plant. That number was around 200 personrem average per
10 year during that power operation.

11 So we think we have looked at all of those and we
12 have balanced those. That is kind of a long-winded answer,
13 but that's how we have arrived at going forward with the
14 immediate dismantlement. Again, both options are options to
15 us. You know, they are within the bounds of the impact
16 statement and so those opportunities are available to us to
17 select either.

18 MR. JOHNSON: Yes, ma'am.

19 MS. CAREY: Corinne Carey, C-a-r-e-y.

20 Am I catching on to the idea that only questions
21 will be answered now but comments will not include answers
22 of questions?

23 MR. JOHNSON: That is correct.

24 MS. CAREY: Oh. Well, then I better talk now. I
25 have several questions.

1 Well, first of all, my apologizes for not being on
2 time. I notice this paper says 6:30, and it was my
3 understanding that the meeting started at 7:00. So it
4 started at 6:30?

5 MR. JOHNSON: No, it started at 7:00.

6 MS. CAREY: Well, even at that I couldn't find it.
7 So thank you.

8 Pertinent to what we are talking about, in
9 Sunday's newspaper, the Grand Rapids Press, where I am from,
10 it's a New York Times news service out of Washington,
11 "Measurement of radiation in bomb work is questioned", and
12 one of my questions would be is there really much difference
13 in measuring radiation exposure of workers between bomb work
14 and nuclear power plants.

15 Secondly, what this article and the study involved
16 points out is that the badges that were used did not measure
17 the inhalation and the ingestion of radioactivity, and that
18 any urine samples that were taken were not combined with the
19 badges. So that perhaps the whole basis of measuring
20 radioactive exposure for personnel is false, faulty. So
21 that's my question.

22 MR. HARRIS: Corinne, who would you like to answer
23 your question?

24 MS. CAREY: Whoever knows the answer.

25 MR. JORGENSEN: I would say a couple of things.

1 We know a lot more about how to measure radiation
2 than we did in the Fifties and Sixties when we were talking
3 about bomb fallout. Our regulations speak to, from an
4 occupational point of view, protecting people as
5 individuals, and this is part of an answer, I think, to this
6 question of manrem against manrem and so forth. Our
7 regulations are aimed at the workers being exposed to so
8 little radioactivity that their health will not be in
9 danger. So we will regulate on the basis that every worker
10 will get less than five rem exposure per year, and if
11 something happens that they get more than that, we would be
12 very interested in figuring out how it happened and making
13 sure it never happens again.

14 I use the term rem. It gets a little technical,
15 but the term rem was developed over the years to account for
16 internal and external and different types of radiation from
17 different kinds of isotopes to take into account the various
18 biological effects that could involve different organs or
19 different sources of radioactivity. So for 37 years, up
20 until certainly during 1997, we did inspections at Big Rock
21 to look at their compliance to our limits for exposure to
22 their workers. That includes for any workers that have the
23 potential to be exposed to inhaling or ingesting or getting
24 materials inside their body, assays for urine, and that sort
25 of thing. So we have good confidence that we know how much

1 exposure people are getting, that it is accurate, that it is
2 added up correctly from the different sources, and it is in
3 compliance with our limits.

4 MS. CAREY: Then another question I have. This
5 information -- well, I better go back. At the press
6 conference when the plant was closed, I was told that the
7 document justifying worker exposure on a fast track plan
8 would be sent to me. Afterwards I was told use the process,
9 the public has available the public document room, and I
10 asked, well, could I at least have the number of the
11 document, and at this point I am wondering if there is such
12 a document that justifies this exposure and puts it in some
13 kind of a numerical framework.

14 I tried the public document room and of course
15 couldn't find anything that was directly pertinent. I have
16 found several things since that are pertinent.

17 This is from the Public Citizen, which is the
18 group that Ralph Nader originated. And, in fact, they are
19 from Washington too. Aren't you Mr. Harris?

20 MR. HARRIS: Yes, I am.

21 MS. CAREY: Yes, we talked on the phone. Thank
22 you.

23 The characteristics of highly irradiated nuclear
24 waste must be fully understood. The first concept to grasp
25 is the dangerous nature of nuclear waste. Public Citizen

1 uses the term highly irradiated to describe this type of
2 waste because it is deadly, whereas the term usually used in
3 the industry is spent, which to me and to most people means
4 less, but if anything it is up to 100 million times more
5 irradiated according to the PR man, Mark Savik, at the
6 Palisades plant.

7 A person standing one yard away from an unshielded
8 ten year old fuel assembly would receive a lethal dose of
9 radiation, 500 rem, in less than three minutes. A three
10 second exposure, 100 rem, at the same distance would
11 significantly increase the risk of cancer or genetic damage.
12 And then there is a chart that at the age of one year the
13 radiation characteristics of an irradiated assembly is
14 2,500,000 Curies per assembly. That's called the activity.
15 The surface dose rate, rems per hour, is 234,000 Curies, and
16 this particular one happens to go five year span, ten year,
17 50 year, and the 50 year --

18 MR. JOHNSON: Excuse me. Do you have a question
19 or are you doing your comments now?

20 MS. CAREY: Yes. I would like first of all to
21 know what kind of document you have used to justify early
22 worker exposure by immediate dismantling, and secondly, yes,
23 I would like a copy of it, please, and thirdly, how was this
24 presented to the advisory board, which I assume discussed
25 all this? I mean I am hearing a lot of rationale as to why

1 it was put on a fast track, both in dismantling and in the
2 two and a half years before the plan time and according to
3 the original decommission plan that I assume was discussed
4 thoroughly by the advisory board. Now did they also get a
5 chance to discuss and make recommendations and be aware of
6 these other factors that you have just mentioned?

7 MR. RANG: Jim Rang responding.

8 What I would refer you to is the Final Generic
9 Environmental Impact Statement, FGEIS, which is New Reg
10 0586.

11 MS. CAREY: Is that this one?

12 MR. RANG: New Reg 0586.

13 MS. CAREY: This is an earlier version?

14 MR. HARRIS: Can you read the title?

15 MS. CAREY: Generic Environmental Impact Statement
16 in Support of Rule-Making on Radiological Criteria for
17 License Termination of NRC Licensed Nuclear Facility, New
18 Reg 1496, Volume 1. I got this in July. I don't know if
19 that is when it was printed.

20 DR. MASNIK: The correct new reg is the FGEIS on
21 Decommissioning of Nuclear Power Plants, and we will be
22 happy -- in fact, here it is. We will be happy to provide
23 you with a copy.

24 MS. CAREY: It is thicker than this one.

25 [Laughter.]

1 MS. CAREY: Does that have the documentation as to
2 justifying worker exposure?

3 DR. MASNIK: Yes. This discusses both decon and
4 SAFSTOR, and it is based on a number of other documents as
5 well, and we will provide you with a copy of this.

6 MS. CAREY: Good. Thank you.

7 DR. MASNIK: If you could just give your name to
8 Etoy in the back, and we will send you one next week.

9 MS. CAREY: Can I expect it within two weeks?

10 DR. MASNIK: We will put it in the mail next week.

11 MR. JOHNSON: Do we have any other questions?

12 Yes, sir.

13 MR. KAMPS: Yes. My question --

14 MR. JOHNSON: Could you state your name and spell
15 it, please?

16 MR. KAMPS: My name is Kevin Kamps, K-a-m-p-s.

17 My question is in regards to the casks that were
18 talked about. Would that be the VSC-24 casks?

19 MR. RANG: No, it would not be. We have secured a
20 contract with Westinghouse to provide what is called the dry
21 transportable canister system. That is licensed for both
22 the storage and shipping, and those casks are going through
23 the licensing process as we speak.

24 MR. KAMPS: I guess my question to the NRC is -- I
25 am from Kalamazoo, and my representative, Fred Upton, is the

1 sponsor of the Nuclear Waste Policy Act of 1997, and when I
2 have spoken to him a number of times about the safety of the
3 transportation casks that would be used to transport high
4 level waste on the highways and on the railways, he often
5 says that the NRC is the one who would ensure the safety of
6 the casks.

7 My concern is, with the explosion in Wisconsin and
8 with the unforeseen cracking of the casks at Palisades, my
9 concern is for entering into a process like this when the
10 integrity of the casks is in question. With the demand for
11 information that came out in October, it seems like the
12 decision by Consumers Energy to pursue this path should have
13 been tempered by bad experiences of Palisades. So what
14 response would the NRC or Consumers have to this?

15 MR. HARRIS: The licensing process for the casks
16 that Consumers Energy is proposing started recently, and the
17 NRC staff, which, by the way, is a large staff that reviews
18 all these license applications for dry cask systems,
19 rejected the initial proposal by the vendor based upon a
20 number of determinations by the staff that their proposal
21 was inadequate. The proposal was sent back to the vendor
22 and the vendor is again going to resubmit.

23 Based upon that initial rejection, the NRC staff
24 will receive a second submittal and conduct a rigorous
25 technical review of it. This review will take anywhere from

1 one year to two years long. A number of design
2 considerations are going to be taken into effect. The
3 regulations, Part 72 of our 10 CFR, stipulates design
4 controls, engineer controls, quality assurance, sabotage in
5 transportation, just to name a few. All those
6 considerations are going to be looked at.

7 You also mentioned this explosion at Point Beach.
8 That is true, that licensee did have an event involving
9 hydrogen gas ignition during the welding process on the
10 cask. The NRC did an extensive team assessment of that
11 event and looked at it and saw a number of generic issues
12 that came out of it. Out of those generic issues the NRC
13 took some actions to improve their inspection procedures and
14 sent out some requests for information. We got some lessons
15 learned from the industry, and tailored their inspection,
16 review and approval processes to ensure that type of
17 situation doesn't occur again.

18 Bruce, do you have anything else you want to add?

19 MR. JORGENSEN: I don't think so.

20 MR. KAMPS: I guess the lesson that I see in it is
21 the danger of rushing forward into something without fully
22 considering all aspects to it, like the use of the VSC-24s
23 at Palisades and at Point Beach, and I see a parallel in the
24 rushing forward to decommission Big Rock.

25 MR. HARRIS: Well, I can assure you here that the

1 NRC staff is not going to be rushing forward. There is a
2 specific review process associated with this. The licensee
3 still hasn't provided their submittal to us.

4 Mike, do you want to help me out here?

5 DR. MASNIK: Mike Masnik.

6 I think your points are well-taken, and I think
7 the industry was basically knocked to their knees on these
8 two events, and there is a lot of activity at NRC
9 headquarters, and right now the licensing process in a
10 number of these applications quite frankly is going poorly
11 for the vendor. They are not making a convincing argument.
12 So it will be reviewed, and I can assure you, we are not
13 going to license a cask that would be capable of being
14 shipped on the highways unless we are absolutely certain
15 that it will comply with the regulations, both the
16 Department of Transportation and the NRC regulations. I
17 can't say much more than that.

18 MR. KAMPS: I just see a lot of rushing forward.
19 My Congressman, in his bill, it is another rushing forward
20 with casks that haven't been designed or tested. That's my
21 concern.

22 DR. MASNIK: The casks cannot transport fuel
23 unless they are licensed, and until the vendor demonstrates
24 to our satisfaction that they can survive the kind of
25 accidents that are predicted for these kind of casks, they

1 will not travel the roadways or the railroads of this
2 country.

3 MR. JOHNSON: Do we have any other questions?

4 MR. WINNELL: Yes. Mike Winnell.

5 I am surmising now that the intact reactor method
6 of removing the reactor is the preferred option, and that
7 that will begin in the first quarter of 1999, but the spent
8 fuel pool will not be emptied until some time in 2000, early
9 2001. My question is how are you going to get this reactor
10 out of containment without cutting a hole in the vessel?
11 And if you do, how will you patch the hole up? What happens
12 during the time it is open? And what kind of assurances are
13 there going to be that you don't drop it in the spent fuel
14 pool?

15 MR. RANG: The process that we use -- as we begin
16 to dismantle Big Rock, we develop decommissioning work
17 packages, DWTs as we refer to them. Those have a very
18 rigorous analysis that's done, Part 50.59 analysis, and in
19 working through that analysis, we have to be assured that
20 there are no unreviewed safety questions, no issues that go
21 unaddressed, and that's the process that we will be working
22 through in the next year or two as to how we are going to be
23 removing, you know, the components, and those have not yet
24 been developed.

25 Our schedule as we have laid out, we think it is a

1 schedule that can be accomplished, but if the analysis is
2 not ready, then the components won't be removed until the
3 analysis supports that, yes, it can be removed, and it will
4 work through that process.

5 MR. WINNELL: So you really don't know how you are
6 going to get it out before you get the spent fuel out of the
7 pool?

8 MR. RANG: We have several ideas that we are
9 looking at, but until we work through the process, I can't
10 tell you which one we are going to utilize.

11 MR. WINNELL: So will those plans all be reviewed
12 by NRC and will there be an inspector on site when all this
13 transpires? Because I hear the inspector is going to be
14 gone after one year, and all this stuff is going out after
15 he is gone.

16 DR. MASNIK: I was just going to say the two
17 things that we are really concerned about, safe storage of
18 the irradiated fuel and off-site releases in excess of the
19 limits, and whenever there is an activity on the part of the
20 licensee that can influence either of those, the NRC will
21 conduct a review, and we will be involved particularly in
22 any major activity like removing a large component. We will
23 have people to look at the cranes. We will have people that
24 look at the health physics aspects. We will certainly be
25 concerned about anything that has the potential for

1 impacting the spent fuel in the spent fuel pool.

2 MR. JORGENSEN: I think from a practical point of
3 view, as far as the inspection activity, as Mike hit the
4 nail on the head, the activity has got to stay in the pool
5 so you have got to protect the fuel at all times, and as
6 part of that activity, you are looking not just to protect
7 the fuel, but if something does go wrong, ensure that there
8 is no off-site release. We are not going to do the design
9 for anybody, we are not going to tell them the details of
10 how it has to be done, but we already have in place rules
11 that address heavy loads and moving heavy components near
12 spent fuel pools. If it's going to be done, it has got to
13 be a single failure-proof crane, and we have got a
14 substantial document that lays out the requirements that
15 have to be met to move loads near the fuel pool. The
16 containment for keeping activity inside should there be a
17 release. So all those criteria would have to be met by
18 whatever option is chosen and laid out in detail. And so
19 those are the kind of criteria we would be making our
20 judgments against. Exactly the kind of questions you have
21 talked about, we have thought of all those questions: What
22 is the path, what is the load, what are the possible things
23 that can go wrong?

24 MR. WEISS: Sy Weiss, NRC. Maybe you would be
25 interested in seeing some pictures we have of the

1 decommissioning activities that took place at Trojan.

2 At Trojan the equipment access hatch was very
3 close to the spent fuel pool, within five-ten feet, so it
4 was not prudent to take heavy equipment out to that hatch.
5 So what the people did at Trojan was to make a hole in
6 containment, and this is the activity that is going on here.
7 And then once they have completed this, then they were going
8 to take components out through that.

9 Let me skim through what I have here. That is an
10 upside down picture of again the Trojan facility, and this
11 shows them removing a steam generator out of the containment
12 through the hole they made in the concrete with a new crane
13 system that they had installed outside, then lifted it up
14 inside, laid it flat, and moved it out and then they took it
15 further out, and then they laid it down on a transporter.

16 MR. JORGENSEN: This is something actually
17 Consumers Power has some experience with, having replaced
18 the steam generators at Palisades. They made a large hole
19 in the containment there, moved out two components at
20 something over 100 tons a piece, brought in new ones and
21 repositioned them. In the case of Palisades, though, the
22 fuel pool is not inside the containment.

23 MR. WEISS: In this picture, this is inside
24 containment, again at Trojan, and this shows them lifting up
25 one of the steam generators to get it ready to put it on its

1 side and then move it outside through the hole in the
2 containment.

3 One last picture that may be of interest. Again
4 this is a Trojan picture, and this shows the steam generator
5 on a transporter, the transporter has been put on a barge,
6 and they are getting ready to ship it to the disposal site
7 along the Columbia River.

8 I have other pictures of Yankee-Rowe showing them
9 shipping the steam generators on rail cars but it is pretty
10 much the same.

11 MR. POWERS: My name is Ken Powers. I am the site
12 director and resident manager of Charlevoix at Big Rock.

13 To give you another idea, the reason Jim mentioned
14 we haven't decided yet, we have got seven of the world's
15 largest construction companies now giving us bids, and we
16 won't select one of them until next February as to who is
17 going to do that work for us. So we are very concerned
18 ourselves. My office is 100 yards from there, I live there
19 every single day, so I care very, very much about what goes
20 on in addition to what the NRC will do. So we are going to
21 go through a very extensive, careful process.

22 This whole plant was designed and built in two
23 years. We are going through a very methodical five year
24 process, and I take exception if anybody thinks -- we are
25 not rushing anything. I myself and the staff that's here

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1 with me, we live on this site, many of us live in this area,
2 so we are personally invested in addition to what the
3 Nuclear Regulatory Commission is going to do.

4 We are going through a very methodical process
5 with the best engineering process we can, and we are not
6 going to go forward with anything unless we feel very
7 comfortable with it.

8 As far as the vessel question that you asked
9 specifically, it looks to us like there are several very
10 safe technical approaches similar to what Mr. Weiss has
11 showed you that have been at other plants. I have
12 personally been involved in the construction of five nuclear
13 plants and moving all this type of equipment into them. So
14 I haven't yet, except some Navy experience I had 30 years
15 ago, been involved in taking them out, but it looks to me
16 that it is about the same kind of process in reverse.

17 I can tell you I am going to make sure myself that
18 this is done the right way just for my own personal
19 confidence, and I invite the public and anyone else to stay
20 with us because I think it is going to be interesting.
21 Those pictures Mr. Weiss showed you are very interesting,
22 large construction-type projects. So please stay tuned with
23 us, and we would be very happy to show you that process as
24 we go forward. We are not ready tonight to show that to you
25 because we are just not at that stage yet, and we haven't

1 selected who is going to do this work for us.

2 MR. JOHNSON: One more.

3 MR. WINNELL: So then I will just state from my
4 own perspective then, the Big Rock Point Plant request for
5 emergency planning exemptions is to go into effect, I
6 gather, this month or soon thereafter. It seems like, with
7 that level of activity going on, that there should not be an
8 exemption for an emergency plan, that the public should be
9 informed, the proper public officials and whatnot should be
10 in charge, and that nothing should change. Really nothing
11 should change until the fuel goes out of here. But I surely
12 object to this taking effect, you know, relatively soon, 68
13 days after shutdown.

14 MR. HARRIS: What Mike is referring to is the
15 September 19th licensee's submittal to modify or exempt
16 themselves from certain regulatory requirements. That
17 exemption is still under NRC review. Our staff is still
18 carefully looking and evaluating their requested exemption.
19 We have not yet reached any conclusion on any of their
20 requested exemptions. Let me finish, please.

21 The way it stands right now is that the licensee
22 is required to meet their current regulations in their
23 current emergency plan until we tell them otherwise. We
24 have extensive discussions with FEMA, and we are also having
25 discussions with the State Emergency Planning. It would be

1 premature right now to give any conclusion on that.
2 However, I accept your comment that we need to be careful in
3 our review of these exemptions.

4 MS. BEEMON: As a matter of fact, there was a memo
5 from the NRC asking Consumers Power Company --

6 MR. JOHNSON: Could you give your name for the
7 record again?

8 MS. BEEMON: JoAnne Beemon again. But there is a
9 memo from the NRC asking for further clarification. I
10 believe fuel handling is one of the things that is
11 questioned, releases of radioactivity in the event of fuel
12 handling, and that has to be answered within a few days, I
13 believe, but it just reminded me, when we did our spent fuel
14 pool intervention, one of the things that -- two of the
15 things. One, the load limits over the pool were 24 tons,
16 and also we had the unique privilege of being awarded a high
17 impact absorption device in the event that certain loads
18 were carried over the pool, which basically we referred to
19 as a crash pad, but because of the configuration of the pool
20 being up inside the containment, the concern, of course, is
21 that you can't sheer the concrete of the pool that is
22 suspended, and if you do sheer the concrete of the pool,
23 then you can run into difficulties with, you know,
24 compromising your cladding and you can have a criticality
25 accident from what -- not what Greg said -- but from what

1 other experts have told me. Greg has told me that is not
2 possible. It just is interesting.

3 MR. JOHNSON: I don't think there was a question,
4 it was just a comment.

5 Are there any more questions?

6 MS. CAREY: Corinne Carey. I am wondering, does
7 an exemption mean that there will not be full-time continual
8 monitoring on site and that information available to the
9 people on site?

10 MR. HARRIS: I am not sure I understand your
11 question.

12 MS. CAREY: During the decommissioning, just as
13 with transporting various radioactive materials, I
14 understand it is important that there be continual
15 monitoring and it available on site to the people who are
16 actually doing it, not to get a report back a month later or
17 six weeks later or whatever. So will there be monitoring on
18 site continuously and it available to the personnel there on
19 site?

20 MR. HARRIS: Monitoring of the spent fuel pool?

21 MS. CAREY: Of radioactivity.

22 MR. RANG: There will be continuous monitoring,
23 radiation monitoring. Mr. Pallagi has a pretty sizeable
24 staff to do just that as we progress through our
25 decommissioning activities.

1 MS. CAREY: So exemption will not include that?

2 MR. RANG: The exemption that we submitted dealt
3 with the site emergency plan for off-site dose calculations.
4 It has nothing to do with the radiation monitoring at the
5 site. We will continue to maintain monitoring until the
6 license is terminated.

7 MR. JOHNSON: Are there any more questions?

8 Yes, ma'am.

9 MS. SCHALLER: I am going to direct this question.
10 My name is Doris Schaller from Don't Waste Michigan,
11 Northern Chapter. Don't Waste Michigan has other chapters
12 besides ours. My box number is 445, Petoskey, Michigan,
13 49770. And, yes, if I don't get the answers now, maybe you
14 could send them to me.

15 Mr. Powers, the NRC on October 21st sent you a
16 letter spelling out requirements and asking for additional
17 information and amendments of the facility operating
18 license, and a lot of technical questions. This was at
19 least two pages. And my question is have the requirements
20 of that letter been satisfactorily met, and does the plant
21 now have the license to start decommissioning? It said they
22 had to give the answer within 30 days.

23 MR. POWERS: Ken Powers.

24 First of all, we submitted to the NRC some, if you
25 looked at all the documents, I mean well over 500 pages of

1 things for them to look at. The normal process is they will
2 send letters back to us, and Mike will have to refresh me
3 what the October 21st letter was. They will send letters
4 back to me requesting additional information for their
5 review. As I said, it is a very extensive process, that
6 they ask us questions and we will respond. I am not privy
7 to know, I know we responded back within all the
8 requirements, so I am assuming, is that the one we just
9 recently sent?

10 MR. BOURASSA: Yes. As a matter of fact, it was
11 due in 30 days, it was due November 21st, and actually we
12 signed it yesterday, Doris, so we actually beat the 30 day
13 deadline.

14 MR. POWERS: It is probably in the mail. The NRC
15 doesn't probably have it yet. But none of that has any --
16 those questions have nothing to do with the license to
17 proceed. The word "license" doesn't make sense in this
18 context. We have a process that is in place now where we
19 are doing some minor preparation items. As Jim mentioned,
20 we are moving asbestos insulation from piping, et cetera.
21 The document you are referring to has to do with some
22 ongoing things we won't be doing even for a couple of years.

23 I think, as Jim mentioned, I am expecting NRC
24 approval of those submittals probably within the first or
25 second quarter of next year. We are going to be going

1 through weeks and months of back and forth reviews. So
2 those of you that are interested will want to keep tuned to
3 the Federal Register because I am sure that won't be the
4 last letter I receive from Mr. Harris for additional
5 information. That is the process, and we have complied with
6 any requests we have had thus far and will continue to do
7 that.

8 MS. SCHALLER: In other words, they will be issued
9 a license before all these specifications and questions have
10 been answered, is that right?

11 MR. HARRIS: Well --

12 MS. SCHALLER: Will they have the license without
13 all that?

14 MR. HARRIS: Actually their current license
15 remains in effect for this period we are in right now. The
16 request for information that you are referring to was
17 requesting the licensee to provide us additional information
18 regarding their September 19th submittal that Mike Winnell
19 has. The licensee needs to follow their technical
20 specifications and license as it is written right now for
21 any activity they perform on site. They need to, if they
22 conduct any initial decommissioning activities, such as
23 asbestos removal, like Ken Powers mentioned, they can do
24 that using their current programs and procedures that they
25 have in place that are required to be implemented under

1 their current operating license.

2 MR. JOHNSON: Are there any other questions?

3 Okay. I think we are going into public comment,
4 and Mrs. Schaller, I think you are right on top of the list.
5 You have five minutes a piece and we will monitor them. If
6 they go over, you can bring your written comments up and we
7 will go through them.

8 MS. SCHALLER: In this magazine or this paper,
9 from the Charlevoix Courier, I read the headlines, and it
10 said "Radiation Isn't the Danger at Big Rock". It depends
11 on the method, I would say, for decommissioning whether this
12 is true.

13 Originally the SAFSTOR method was planned for
14 decommissioning Big Rock nuclear plant. Then, in publicity
15 11-5-97 in the Petoskey News Review, we learned that
16 Consumers were planning the decon method. That's immediate
17 dismantlement. This is allowed by the NRC providing, you
18 know, certain requirements are met. So this letter to
19 Kenneth Powers from the NRC was trying to get at that, which
20 I assume it hasn't been done yet or hasn't been accepted.

21 Our organization, Don't Waste Michigan, favors the
22 SAFSTOR method of decommissioning for good reason. This
23 method delays dismantling for 30 years during which the
24 reduction of radiation takes place. NRC's own studies found
25 that employing SAFSTOR reduces exposure to workers from 544

1 manrems to 14. Repeat, 544 manrems to 14. Also, it reduces
2 the volume of contaminated waste from 18,548 cubic yards to
3 1,830 cubic yards.

4 Now we are hopeful that this meeting will result
5 in retaining the original plan using the SAFSTOR method.
6 Contrary to the headlines in the Charlevoix Courier,
7 radiation is the danger at Big Rock.

8 The direction as to which method should be used
9 needs to come from the NRC. The reported incident from
10 Monroe, Michigan, which Mike told us about, who is from
11 Monroe, Michigan, this was the Fermi plant, and it was
12 reported that 35 of the workers developed cancer or were
13 dying from cancer. Out of those 39 workers, 35 were either
14 dying of cancer or had cancer, and I think this needs
15 investigation by the NRC before this project of
16 decommissioning is set in stone.

17 I thank you.

18 Radiation is a danger at Big Rock.

19 MR. JOHNSON: Michael Keegan, K-e-e-g-a-n.

20 MR. KEEGAN: Michael Keegan from Monroe, Michigan.

21 I am with Don't Waste Michigan and Coalition for a
22 Nuclear-Free Great Lakes.

23 I have been reviewing documents for 17 years. I
24 would like to state that this is not a public hearing, this
25 is a public meeting, and in my opinion the NRC has

1 deregulated decommissioning by default. You are not
2 allowing a public hearing process by where there can be
3 cross examination to make sure that everything that
4 everybody is saying is factual. We can't get at the facts,
5 and I am here today asking for a public hearing.

6 At Palisades we attempted to get a public hearing.
7 We went to the Supreme Court of the United States. The NRC
8 blocked us. We attempted to get an environmental assessment
9 and public hearings. We attempted to get an injunction to
10 prevent the loading of the casks at Palisades, and we were
11 denied an injunction in federal court by Judge Bell. We
12 were denied the injunction because the utility and the NRC
13 in my opinion perjured themselves to federal courts, and
14 told them if there is a problem, we can always unload these
15 things. Well, lo and behold, there is a problem, and you
16 don't have any unloading procedures, and you have not been
17 able to do that at Palisades. Now here it comes again.

18 I am told trust us one more time, we have a
19 different system of storage, we are going with Westinghouse.
20 Is this again to be a generic ruling process by which the
21 public doesn't have any public hearing process or
22 environmental assessments, environmental impact statements?
23 It is a charade, and I for one don't wish to participate.

24 As I stated earlier, I am from Monroe, Michigan.
25 We had a Fermi I plant there which had a core meltdown in

1 1966. It began disassembly in '73 through '75, very much on
2 the fast track. It was shut in '72, very much on the same
3 fast track. Of a particular work force that took that plant
4 apart, of 39 men, 35 of them are now dead of cancer. Now
5 you better think about that when you are considering worker
6 exposure. Go look into it. Word out to all workers who
7 have potentially decommissioned that plant at Big Rock, a
8 plant that ran for 35 years, similar in size to the Fermi I.
9 Fermi I ran for a total of 342 hours. Those risks are real.

10 I am asking for independent monitoring of that
11 plant that is verifiable to the public and to the citizens
12 of Charlevoix. Basically it boils down to trust. We do not
13 trust Consumers Power, we do not trust the NRC, and we want
14 independent verifiable monitoring of that plant.

15 We need the resident inspector to remain on site
16 and not to be removed after one year. We need a watchdog
17 there. I would like to know what is the full inventory of
18 radioactivity at the Big Rock plant. How irradiated is that
19 vessel? That concludes my comments.

20 MR. JOHNSON: Thank you.

21 JoAnne Beemon.

22 MS. BEEMON: So that you don't have to crane your
23 neck.

24 I am JoAnne Beemon, and the real difficult thing
25 about this whole problem, and we do have kind of a problem

1 here, it is a challenge or whatever, is that there are no
2 easy answers. Someone, a reporter said to me, "Well, what
3 do you want?" Here is JoAnne Beemon, who has been critical
4 of this industry for over 20 years.

5 We intervened in the spent fuel pool storage
6 expansion. We spent \$10,000, you guys spent three million
7 dollars, and we made a lot of nuclear lawyers rich. But
8 somebody said, "What do you want? If you are so concerned
9 about nuclear waste, what do you want? Why are you being
10 critical now?"

11 There are no easy answers. Nuclear waste is toxic
12 for hundreds and thousands of years. We are talking about
13 ice ages. We are talking about 10,000 generations of
14 children whose legacy from us will be nuclear waste. How
15 can we be responsible?

16 It is interesting to me that a utility who
17 produced this waste, telling us all the time that this is
18 not a problem and we can take care of it, now can't afford
19 20 years out of 250,000 years to SAFSTOR it until we can
20 perfect a technology of casks.

21 I say this very, very carefully and with a great
22 deal of respect. I hate sensationalism, although I am kind
23 of sensational sometimes. But we had a terrible accident in
24 Charlevoix, and it was about fireworks, and there were
25 people killed and people injured, and everyone said, "Who is

1 minding the store?" And we have a potential for several
2 Hiroshimas, for several Chernobyls, and it is on the Big
3 Rock site and it is on that site now, and the Big Rock
4 Consumers Energy does not have enough faith in its own
5 technologies to know that that stuff can sit on that site
6 for 20 years and be safe.

7 What I beg of you guys, and I know I am not a
8 local, I have only been here 20 years. You have to be born
9 here. It doesn't count coming in from Beaver Island and
10 being born in the harbor either. You have to be born here.
11 But I care about this town, and the question is what is the
12 right thing to do, and it is a real problem.

13 I guess to proceed with caution, to proceed
14 carefully. Basically we have been wined and dined very
15 nicely by Consumers Power Company. I have my own mug, I
16 have a T-shirt and a hat, and I like them. I won't wear
17 them in public. But we are being wined and dined because
18 the company does not want to hang onto its liability, which
19 is the nuclear waste.

20 We are being asked to peep to the federal
21 government, to be given ourselves, so that we are given
22 possession of that waste. We will have to be responsible
23 for that.

24 In favor of Consumers Power Company and in their
25 defense, the Department of Energy said they would take this

1 waste by January 1, 1998, courtesy of NRC and Congress. So
2 that waste belongs to us, the people, but us, the people,
3 got nowhere to take it, and nobody wants it, and Consumers
4 Power Company, as long as that waste is on site, they are
5 liable for that. If they can get someone else to take
6 possession, it is all ours, and we are the people.

7 When you go out and when you say I believe in
8 Consumers Power Company, I believe in those casks, even
9 though they have failed time and time again, and look at
10 what is happening at Palisades. They can't unload those
11 things. They are too hot. If they are put in a fuel pool,
12 it flashes the steam and you have got radioactivity. It is
13 a problem. They do not know what they are doing, and they
14 are asking you to trust them now because they don't want the
15 waste on their property because they can't tolerate the
16 liability. Utah does not want it and Nevada does not want
17 it and the Indians don't want. Nobody wants it.

18 So you in Charlevoix, when you let them put that
19 nuclear waste in experimental casks, you just might be
20 living next door to that stuff for 20 or 40 or 100 years.
21 But that isn't even the question. The question is what is
22 right and what is moral, and kindergarten ethics say if you
23 make a mess, it is your responsibility to clean it up, and
24 the utilities and the NRC have never understood that. You
25 don't create something that is deadly for 150,000 years or

1 200,000 years or whatever and not be able to be responsible
2 for it. And don't give me the crap about technology will be
3 developed and it will be okay. Our kids will come up with
4 an answer. That is irresponsible.

5 But we are here now so what do we do with it? We
6 proceed with caution. To put the waste in casks is the
7 wrong thing to do. It is the wrong time to do it. We
8 should be proceeding with caution, and you know what, nobody
9 in Charlevoix is going to like that option. Nobody is going
10 to like me for saying, hey, the right thing for us to do is
11 keep it in our own kids' backyard for 20 years. I am going
12 to get a really worse reputation here than ever. But nobody
13 wants it. They don't want it in Utah or Nevada or anywhere.
14 Yucca Mountain is still as far away from being complete as
15 it was 20 years ago. More questions are coming up.

16 Also, the other thing that is very, very troubling
17 to me is that they are organizing in other states, and that
18 is one of the reasons why they want to move now, because
19 other states are organizing. They do not want it, they are
20 not going to get it across borders, and democracy will be
21 really tested because we can't even get Consumers Power
22 Company, who produced this stuff, to take responsibility.
23 How are we going to make Utah and Nevada take it?

24 It is a really, really, really complex, difficult
25 problem, and it is something I wish -- there ain't no good

1 guys and there ain't no bad guys. It is just you and I, you
2 know, and we have to figure out what the solution is or the
3 best solution. To jump into a technology that has not been
4 shown to be safe because we want to get it off site so we
5 can make condos, extend the Gold Coast or whatever we want
6 to do is immoral and it is irresponsible.

7 MR. JOHNSON: Thank you.

8 Kevin Kamps, K-a-m-p-s, do you have comments?

9 MR. KAMPS: Yes.

10 My name is Kevin Kamps. A lot of my concerns have
11 already been brought up by some of the earlier speakers just
12 now.

13 I have been to the Chernobyl region two times so
14 far. I work with a group called the Chernobyl Children's
15 Project, and I have met liquidators who were the people who
16 were sent in in large numbers, in the tens of thousands,
17 hundreds of thousands actually, in the Chernobyl region at
18 the plant, but in the whole surrounding area who were
19 responsible to try to deal with the catastrophe, to try to
20 supposedly liquidate the situation. Just the devastation,
21 to witness that firsthand just has given me a lot of passion
22 for the issues involved.

23 I am just -- I am concerned about so many things.
24 Some of the issues have already been brought up. But I am
25 concerned about the transport of the wastes on the roads. I

1 really am not confident in the cask technologies at this
2 point. The more I learn, the less confident I am at this
3 point.

4 I am concerned about the release of this land as a
5 green field. That really concerns me. Because I feel like
6 people -- I wonder if there will be markers on the site to
7 let people know that this is, you know, what this site is
8 about and what health hazards there might be associated with
9 it.

10 And I am concerned about that if this is the
11 supposed answer to these problems, I wonder about, like if
12 Congressman Upton from Kalamazoo gets his way and the waste
13 is transported to Yucca Mountain, Nevada, my concern is with
14 those people as well and the people in Barnwell, South
15 Carolina where all of this material is being rushed to in
16 the next few years.

17 There is such a number of low level, so called low
18 level waste sites around the country that are leaking, the
19 radioactivity is leaking. And Yucca Mountain would also be
20 a very poor choice for the high level repository with the
21 earthquake fault lines that run through that area and the
22 movement of water. It appears to be a desert, but there is
23 an underground aquifer that could come in contact with the
24 wastes. Rainwater passes through the fractured earth out
25 there.

1 So I don't feel that these are really solutions.
2 I feel like it is just shifting the problems. It is
3 shifting it onto the roadways and onto the railways. It is
4 dumping it on other places, and I do feel it is a rush,
5 because the perspective of time we are talking about is
6 pretty great. It is incomprehensive actually.

7 I am interested to stay involved in this issue so
8 that wise decisions can be made, and that is why I am here
9 tonight.

10 MR. JOHNSON: Thank you.

11 Corinne Carey.

12 MS. CAREY: I would like to use a table. I don't
13 talk off-the-cuff very well.

14 I did manage to make some extra copies of some of
15 the information that I am using tonight. So this is
16 available, a few copies, for anybody who is interested in
17 seeing it.

18 I had not planned on saying this part. However,
19 this is from a comment in a video by Mary Sinclair, and I
20 have copies of that too if you would like copies of that.
21 On June 13th of 1996 the chairman of the Nuclear Regulatory
22 Commission, Dr. Shirley Jackson, requested the Office of the
23 Inspector General, that is OIG, to evaluate NRC staff
24 actions in relation to the explosion at Point Beach that was
25 mentioned earlier this evening. The chairman also asked the

1 Inspector General to review the entire dry cask storage
2 program with emphasis on loading and unloading techniques,
3 the NRC's staff, scope and criteria for completing safety
4 evaluations, as well as other matters, and then it gives the
5 official number here.

6 Among the conclusions issued by the Inspector
7 General in a report on December 10th of that year, 1996, was
8 the following statement: "NRC staff told us they do not
9 formally approve or validate licensee loading and unloading
10 procedures because the agency does not have sufficient staff
11 or expertise to review each procedure," and again it cites
12 the source of this.

13 I am curious to know how that fits with the
14 discussion we have been having tonight.

15 Oh, Mr. Harris, one for you, and this is for the
16 panel. I don't know how you handle this.

17 My statement, to whom it may concern, public and
18 industry, government and citizen, regarding the Big Rock
19 nuclear plant decommissioning. That any business in a
20 democracy should require decommissioning of major
21 contaminants of ever-lasting, life-threatening components is
22 shocking.

23 That fast-track shortcuts be adopted outside the
24 NRC and Community Advisory Board approvals of original
25 company proposed plan trivializes the stated policy and

1 worker and public health and safety. Because in this blue
2 book that we already mentioned is the page that mentions
3 specifically, "The public should not only be fully informed
4 of the decommissioning actions at a particular site, but
5 also be able to effectively participate in site
6 decommissioning decisions," and it goes on. But when the
7 plan has been changed, is that effective public input?

8 Increasing evidence, and I have a packet of things
9 here, of nuclear hazard requires a moral nation to do the
10 right thing and apply the precautionary principle with proof
11 of no harm on the generator. The public trust requires that
12 sudden closing of Big Rock two and a half years early not
13 only demonstrates full and thorough preparations and
14 specific process -- it must demonstrate full and thorough
15 preparation and specific process, but fully inform the
16 public of various impacts.

17 No. 1. Restructuring or deregulation of the
18 electric industry, which was given at the press conference
19 as one of the major reasons for two and a half years early,
20 shifting of stranded costs to the ratepayers and/or
21 taxpayers.

22 No. 2. Real estate developments and connections,
23 including PR aspects on downstream/downwind areas, and
24 specific details on green fields.

25 No. 3. At least a fivefold increase in worker

1 exposure because of immediate dismantling of high level
2 components, and that is this kind of information that we
3 already referred to. Again, the stuff I have that I can
4 call documentation comes from various sources that I feel
5 are very credible, but I haven't been able to get a specific
6 documentation which -- could you do me a favor and even put
7 the page number where I will find this? I mean that book is
8 twice as thick as this book. All right?

9 No. 4. Official written consideration and
10 response to independent citizen-requested analysis by Dr.
11 Marvin Resnikoff, who was here a year-year and a half ago,
12 specifically on a necessary 50 year cool-off period for
13 worker and public and transport safety. And one of the
14 points he made was what is the rush to decommission it now
15 when it can't be transported anyway because the casks, if
16 they have been designed, have certainly not been built, and
17 certainly not been tested, and certainly do not have a
18 record of safety on which to rely? So where is the stuff
19 going to go, even though the place closes down early? Also,
20 clarification of full financing sources and process, and it
21 is my understanding that the two and a half years short also
22 cuts off the ratepayer input on the decommissioning finance
23 costs.

24 No. 5. Documentation for all of the above and on
25 continual on-site monitoring of radioactivity and releases.

1 To decommission this pioneer nuclear plant is
2 essential. To set a responsible and thoroughly accountable
3 precedence is both urgent and the right thing, and I have
4 signed it my name, and for my grandchildren, Mike, Paula,
5 Megan, Brandon, Linda, and my great-grandkids, Jory and
6 Gypsy.

7 MR. JOHNSON: Thank you.

8 Does anyone else at this time have any public
9 comment that they would like to make for the record? If you
10 have any written comments that you would like to have for
11 the record, you can place them up here on the desk and they
12 will be put into the record.

13 If there are no other comments, I think we will
14 adjourn this meeting and thank you all for coming. Drive
15 safely.

16 [Whereupon, at 9:35 p.m., the public meeting was
17 concluded.]

REPORTER'S CERTIFICATE

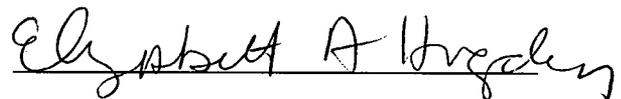
This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of:

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were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.



Elizabeth A. Higdon

Official Reporter

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