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Public Meeting: Afternoon Session

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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Before the Atomic Safety and Licensing Board

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DUANE ARNOLD ENERGY CENTER

Regarding the Renewal of Facility Operating
License for a 20-Year Period

WEDNESDAY

APRIL 22, 2009

+ + + + +

HIAWATHA CITY HALL

101 EMMONS STREET

HIAWATHA, IOWA

+ + + + +

The above-entitled matter commenced
pursuant to Notice before Maurice Heath, Project
Manager at 101 Emmons Street, Hiawatha, Iowa 52233,
on Wednesday, April 22, 2009, at 1:30 p.m.

PRESENT:

NRC STAFF:

Maurice Heath - Project Manager

Charles Eccleston

Scott Burnell

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1 Caroline Tilton

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

3 (1:30 P.M.)

4 MR. HEATH: Good afternoon everybody.
5 Welcome to the meeting. We're going to talk about
6 the Duane Arnold Energy Center license renewal
7 application. My name is Maurice Heath and I'm a
8 Project Manager at the U.S. Nuclear Regulatory
9 Commission, or NRC as you're going to hear us call
10 it today. And I'll be your facilitator as well, so
11 bear with me with that. And I will also be the
12 first presenter of the afternoon.

13 The purpose of today's meeting is to
14 provide you an opportunity to give your comments on
15 what the environmental issues that the NRC should
16 consider during its review of the Duane Arnold
17 Energy Center license renewal application. The
18 meeting will essentially have two parts. The first
19 we'll have a presentation from NRC staff on the
20 license renewal process and environmental review
21 process.

22 I'm not sure if everybody knows that on
23 the back table we have sign in sheets and we also
24 have a copy of today's presentation if you'd like a

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1 copy. Also in back we have a sign up for anybody
2 who wants to speak during the comment period at the
3 end. We ask that you put your name down, if you
4 didn't already, that's okay, you can still get on
5 and give comments, but please fill it out before you
6 leave just so we can get it on the transcript. We
7 want to make sure that we can accurately have your
8 correct spelling and make sure that everything is
9 all clean on the transcript.

10 So like I said, we have a court reporter
11 here. He will be transcribing the meeting, so when
12 you give a comment we'd ask that you please say your
13 name and spell it for the court reporter. And also,
14 if you have any affiliations, please name your
15 affiliation.

16 One of the items before we get started,
17 we do have NRC comment forms in the back, so if
18 you'd like to comment on how the meeting ran, we
19 would like you to fill that out and you can just
20 send it back to us. You don't have to have any
21 postage on it. You just fill it out and then send
22 it back and it will come actually directly to me,
23 and so we can receive that.

24 Just for your knowledge in case anybody

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1 doesn't know, the restrooms are out the back door
2 and to the left.

3 Now with that, we're just going to go
4 right into our presentation. First, I'd like to
5 introduce Mr. Charles Eccleston. He's a Project
6 Manager as well just like myself, but he's going to
7 talk about the environmental process, environmental
8 scoping.

9 Now, today's meeting will provide an
10 overview of the license renewal process, which
11 includes both the safety and environmental as I said
12 earlier. But the most important thing in the
13 meeting today is that we get the comments that you
14 have on the environmental review. So we'll also
15 give a chance for you to submit any written comments
16 and give it to us as well.

17 At the conclusion of today's
18 presentation, we'll be happy to answer any questions
19 that you have. However, I'm going to have to ask
20 you to limit your participation with questions only
21 at that time where we have another designated time
22 to receive your comments for the record. So once we
23 get all the questions asked, then we'll stop that
24 portion and go directly to the comments if you'd

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1 like to add your comments to the record.

2 Before I get into the process, I'd like
3 to take a minute to talk about NRC in terms of what
4 we do and what our mission is. The NRC is a federal
5 agency established in the Energy Reorganization Act
6 of 1974 and it regulates the civilian use of nuclear
7 material. The Atomic Energy Act of 1954 authorized
8 the NRC to grant a 40 year license. The 40 year
9 term is based on economic considerations and
10 antitrust factors, not on the safety or technical
11 limitations. The Atomic Energy Act also allows for
12 license renewal.

13 Now, the National Environmental Policy
14 Act of 1969, otherwise known as NEPA, established a
15 national policy that requires federal decision
16 makers to assess and consider impacts and
17 alternatives to a proposal before reaching a final
18 decision to pursue an action. As a matter of
19 policy, the NRC has determined that the reactor
20 license renewal constitutes a major federal action
21 in which we will prepare an Environmental Impact
22 Statement.

23 The NRC's regulations governing nuclear
24 safety, security and environmental protection are

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1 contained in Title 10 of the Code of Federal
2 Regulations, which are referred to as 10 CFR. An
3 exercise in the regulatory authority, the NRC's
4 mission is threefold: to insure adequate protection
5 of public health and safety; promote the common
6 defense and security; and to protect the
7 environment.

8 The NRC accomplishes its mission through
9 a combination of regulatory programs and processes
10 such as establishing rules and regulations,
11 conducting inspections, issuing enforcement actions,
12 assessing licensee performance, and evaluating
13 operating experience for nuclear plants in this
14 country and internationally.

15 The NRC also has resident inspectors at
16 all operating nuclear plants. The inspectors are
17 considered the eyes and ears of the NRC. They carry
18 out the safety mission on a daily basis and are on
19 the front lines to insuring acceptable safety
20 performance and compliance with regulatory
21 requirements.

22 Now, with Duane Arnold, their current
23 operating license expires February 21st, 2014 and
24 their license renewal was submitted to us on October

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1 1st, 2008. A license renewal application is
2 required to contain these elements: general
3 information such as applicant's name, address,
4 business and administrative information; technical
5 information which pertains to the aging management
6 and this is the focus of the safety review;
7 technical specifications which define the operating
8 parameters of the plant. The application indicates
9 what, if any, changes or additions to the technical
10 specifications are necessary to manage the effect of
11 the aging during the period of extended operation.

12 And last but not least in the
13 application is the Environmental Report, which is
14 the applicant's assessment of the environmental
15 impacts of continued operation. This information
16 serves as a starting point for the environmental
17 review.

18 The license renewal process involves two
19 parallel reviews as I mentioned, the safety aspect
20 and the environmental aspect. Now, the safety
21 review focuses on aging effects of passive and long
22 lived components and structures that the NRC deems
23 important to plant safety. The staff's main
24 objective is to determine whether the effects of

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1 aging will be adequately managed by the applicant.
2 The review also considers generic and site-specific
3 operating experience related to the effects of
4 aging. The results of the safety review are
5 documented in the Safety Evaluation Report, or as we
6 call it, SER.

7 For the environmental review, the NRC
8 evaluates environmental impacts of continued plant
9 operations for an additional 20 years. The NRC
10 prepares an Environmental Impact Statement,
11 otherwise known as the EIS, which is publicly
12 available and discloses these impacts.

13 The EIS also evaluates impacts of other
14 reasonable alternatives to license renewal. The
15 public is afforded an opportunity to provide
16 comments and input which help shape the scope of the
17 EIS analysis. The public is also afforded the
18 opportunity to comment on the accuracy of the draft
19 EIS. The goal is to provide the decision makers
20 with sufficient environmental information so they
21 can make a reasoned choice between the proposed
22 license renewal action and reasonable alternatives.

23 Now, I'd like to mention a few things
24 that come up in public meetings but they are usually

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1 outside the scope of license renewal. However,
2 these items are dealt with in an ongoing regulatory
3 oversight and they are emergency planning, security
4 and current safety performance as defined by the NRC
5 inspection findings, violations, general assessment
6 and planning. For specifically at Duane Arnold, the
7 link below, which is also in your handouts, is the
8 location where you can find the performance of the
9 Duane Arnold Energy Center.

10 Now, this diagram illustrates the safety
11 and the environmental review processes. It also
12 features two other considerations in the
13 commission's decision of whether or not to renew an
14 operating license. One of these considerations is
15 the independent review performed by the Advisory
16 Committee on Reactor Safeguards, or ACRS.
17 Statutorily mandated by the Atomic Energy Act of
18 1954, the ACRS is a group of scientists and nuclear
19 safety experts who serve as a consulting body to the
20 commission. The ACRS reviews the license renewal
21 application and the NRC status SER. And the ACRS
22 reports their findings and recommendations directly
23 to the commission.

24 Hearings may also be conducted.

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1 Interested stakeholders may submit concerns or
2 contentions and request a hearing. An adjudicatory
3 panel from the Atomic Safety and Licensing Board
4 will be established to review contentions for
5 admissibility. If a hearing is granted the
6 commission considers the outcome of the hearing
7 process in its decision making for whether or not to
8 issue a renewed operating license.

9 Now, I want to describe the license
10 renewal process in a little more detail. The
11 regulations governing license renewal are based on
12 two guiding principles. To effectively communicate
13 these principles I need to describe a concept used
14 by the NRC. The concept is licensing basis.

15 Now, licensing basis consists of a wide
16 range of design and operational requirements and
17 conditions that must be met for the plant to comply
18 with its operating license. It serves as the basis
19 upon which the NRC originally licensed the plant and
20 to continue to operate, the plant it must conform
21 with its licensing basis.

22 The first principle is that the current
23 regulatory process is adequate to insure that the
24 licensing basis for all operating plants provide and

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1 maintain an acceptable level of safety. The second
2 principle is that the current plant's extending
3 licensing basis must be maintained during the
4 renewal term in the same manner and to the same
5 extent as during the original license term. In
6 other words, the same rules apply that applied under
7 the current license will apply into the renewal
8 term.

9 In addition, a renewed license will
10 include conditions that must be met to insure the
11 aging of structures and components important to
12 safety are adequately managed so that the plant's
13 current licensing basis is maintained during the
14 period of extended operation.

15 The safety review is a very rigorous
16 review. The staff reviews the applicant's license
17 renewal application and supporting documentation.
18 Now, this review includes an evaluation of new and
19 existing programs and surveillance activities to
20 determine with reasonable assurance that the effects
21 of aging for certain plant structures and components
22 will be adequately managed or monitored.

23 The safety review also includes site
24 audits to verify the technical basis of the license

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1 renewal application and to confirm that the
2 applicant's aging management programs and activities
3 conform with how they are described in the
4 application. The staff documents the basis and
5 conclusions of its review in the SER which is
6 publicly available. In addition, a team of
7 specialized inspectors travels to the reactor site
8 to verify the aging management programs have been
9 implemented, modified or planned consistent with the
10 license renewal application.

11 Finally, I'll mention the ACRS performs
12 an independent review of the license renewal
13 application and SER and makes a recommendation to
14 the commission.

15 Next, I'll turn it over to Charles so he
16 can go over the environmental review and the scoping
17 process.

18 MR. ECCLESTON: Hello. I am the
19 Environmental Project Manager for this proposal and
20 we're now going to turn the lecture over to a review
21 of the environmental process that we're undertaking
22 for this particular project.

23 In 1969 the U.S. Congress passed what
24 has become a very historic and very important act.

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1 It was the National Environmental Policy Act of
2 1969. It's of such historical significance that now
3 over 100 nations around the world have basically
4 passed an act similar to our original NEPA.

5 NEPA is basically important for two
6 different aspects. First of all, it establishes the
7 basic national environmental policy or the national
8 environmental charter for the entire United States.

9 It was the first major environmental legislation to
10 ever pass -- legislation to ever pass in the United
11 States. Following NEPA, virtually every other law
12 and regulation that we have dealing with NEPA came
13 after the event in its footsteps and it is designed
14 to implement the policy that NEPA set up. So it's
15 important from that perspective, but probably even
16 more so under NEPA it requires that an Environmental
17 Impact Statement be prepared for all major federal
18 actions significantly affecting the quality of the
19 human environment.

20 Now, the NRC has come out and basically
21 said that license renewal projects are projects that
22 need an EIS, so that's why we're here today. I'd
23 like to also point out something, another interest
24 here. According to NEPA, you must follow an

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1 objective interdisciplinary and systematic process
2 in preparing the EIS.

3 Now, let's see why that's important. It
4 has to be an objective process. They have to be
5 able to stand up to scientific scrutiny. There is
6 no room for bias in this analysis. It has to be
7 interdisciplinary. NEPA touches virtually every
8 discipline that somebody could think of from
9 biology, geology, hydrology, economics, sociology.
10 It brings all these disciplines together and these
11 experts in these disciplines prepare the analysis
12 that goes into the EIS. And it's systematic. And
13 by that it means that the agency must follow a very
14 systematic structured process. It's not a wishy
15 washy process. It has to be a very well thought
16 out, very systematic, very structured process in
17 preparing the EIS. So it's important from that
18 standpoint.

19 Under NEPA the EIS must rigorously
20 investigate environmental impacts of the license
21 renewal project and its alternatives. The purpose
22 of the EIS is to inform federal decision makers and
23 to publicly disclose the impacts of the proposal and
24 the reasonable alternatives, including the

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1 alternative of taking no action at all, which in
2 this case would be not renewing the license for the
3 Duane Arnold Energy Center. Those have to be
4 evaluated.

5 Here is a simplified schematic of a
6 basic EIS process. It's actually in reality quite a
7 bit more complicated than this, but this shows the
8 basic most important aspects of preparing the EIS.
9 Note that the yellow blocks here is where the public
10 has the opportunity to become involved in the
11 process, provide comments, provide input, review the
12 documents and basically get engaged in the process.

13 NEPA is a very open process.

14 Now, the EIS process starts with
15 issuance of a Notice of Intent. That's an NOI.
16 That kicks the EIS process off. Once the NOI is
17 published in the Federal Register, we begin a public
18 scoping process, right here, and included in that
19 public scoping process is a public scoping meeting,
20 which is why we're here today. This is it.

21 The purpose of the scoping process is to
22 solicit public comments and public input in terms of
23 what the public views as important in terms of
24 shaping the scope of the EIS that will be prepared.

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1 So the public has, and that's what we're, like I
2 said, that's what we're here today to do. And then
3 until May 25th, that's what we're going to be doing
4 is interacting with the public, trying to find out
5 what the public thinks is important to put into this
6 EIS.

7 Once we determine the scope of the EIS,
8 then we move down and we prepare a draft
9 Supplemental Environmental Impact Statement, and
10 I'll explain what I mean by supplemental. Don't get
11 hung up on that right now. I'll explain that in a
12 couple of slides as to why they're saying it's a
13 supplemental EIS.

14 But we prepare the supplemental EIS and
15 then after we prepare it, we issue it to the public.

16 It's publicly issued. The public has the ability
17 to take a look at the EIS and provide comments and
18 feedback. If they don't agree with the conclusions
19 in the EIS or if they don't agree, or if they think
20 it's not adequate or didn't cover something, that's
21 the public's opportunity to provide input. That
22 input is addressed by the NRC and the input is used
23 to prepare the final EIS.

24 The final EIS is again sent back out.

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1 It's publicly issued. Again, the public has an
2 opportunity to review that final EIS and basically
3 see what it says. And then from that point the
4 agency, in this case the NRC, publishes a Record of
5 Decision, or ROD. That is where the agency using
6 the EIS and other factors that they believe is
7 important in reaching the decision, that is where
8 they document that in a publicly available ROD, so
9 the public can see what the decision is. And only
10 then can the agency do any action or anything in
11 terms of or related to the proposal to re-license
12 the Duane Arnold Energy Center.

13 I think the most important thing here
14 that I want to put out there is this is a very
15 systematic process. A lot of steps go through this
16 and no decision, no decision at all regarding the
17 proposal can be made until we reach this step at the
18 end of the process. And no action with respect to
19 re-issuing the license or denying the license, for
20 that matter, or any other alternative that the NRC
21 might choose to do, can be taken until we've gone
22 through this entire process.

23 The purpose of this meeting, and I think
24 this is really important because sometimes people

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1 get the wrong idea about the public scoping meeting,
2 the purpose of this meeting is not to make a
3 decision regarding the proposal for a prospective
4 license renewal. Instead, the purpose is to solicit
5 public input, public comment regarding the scope of
6 the EIS. And again, I want to emphasize that EIS
7 will then be used once it's done, gone through
8 public review, and making the final decision
9 regarding the renewal of license application.

10 So what we are particularly interested
11 in in this meeting and during the entire public
12 scoping process, which will run through May 25th, is
13 determining what the public believes is the scope of
14 actions they want to see in the EIS. What is the
15 scope of the basic impacts and issues they want to
16 see evaluated in the EIS, and what are the
17 particular alternative and mitigation measures that
18 they want to see in the EIS. This is basically what
19 we're trying to pan in on at today's meeting here.

20 I think it's important just to take a
21 moment and talk about this GEIS and this SEIS. Back
22 in 1998, the NRC was doing re-licensing projects and
23 they decided that what they wanted to do was look at
24 all the licensing projects that are worked on and

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1 try to get a common set of impacts that they could
2 make common conclusions about that would be
3 applicable to all re-licensing projects. They found
4 69 different impacts where they could make basically
5 general conclusions that would be applicable to any
6 kind of re-licensing project. The put it into this
7 GEIS, this Generic EIS.

8 What we are preparing for the Duane
9 Arnold is a Site-Specific Supplemental EIS, and we
10 say supplemental because it's supplementing the
11 conclusions that were printed to the Generic EIS.
12 And the NRC will basically be looking at evaluating
13 any new or significant information concerning the
14 general conclusions reached in the GEIS. So this is
15 how these two EIS's interface and interrelate with
16 one another.

17 Now, in addition to the scoping process
18 and the scoping meeting that we're having today, in
19 addition to that, to supplement that the NRC also
20 goes out and consults with federal, state and local
21 agencies. And examples of this would be like the
22 Fish and Wildlife Service, the National
23 Oceanographic and Atmospheric Administration, the
24 U.S. Environmental Protection Agency, as well native

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1 American tribes that could be potentially affected
2 by this project.

3 We go out and consult with them and then
4 along with, or the input we receive from these
5 consultations and scoping comments that we're
6 receiving, like from the meeting today, we take all
7 that stuff and that is used to determine the focus
8 of what's going to be going into that EIS.

9 In this case, it's been very common that
10 we're going to be looking at impacts to just a
11 diverse array of different kinds of impacts and
12 issues that affect people and the environment,
13 everything from fish and wildlife impacts to air and
14 water resource impacts, impacts to historical and
15 cultural resources, human health impacts, land use
16 impacts. And then there's also social economic
17 impacts, which are often very important to the local
18 citizens in a project like that.

19 And in terms of the social economic
20 impacts we're going to be looking at the impact on
21 taxes, community development, social impacts,
22 environmental justice impacts, and then a host of
23 other impacts or issues that we feel is important in
24 weighing the final decision as to which action we

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1 want to take.

2 So what we're basically asking here is
3 to get input. What are the common issues that you
4 believe the EIS should focus on? What are the local
5 environmental impacts or issues that should be
6 examined in the EIS? What reasonable alternatives
7 or mitigation measures are appropriate for this
8 area? That's the kind of input we're trying to
9 receive from this scoping meeting.

10 This basically is important because the
11 entire process is a decision making process. And
12 this shows how everything comes together to reach an
13 ultimate decision. Here we are, right up here at
14 the top, we're in this area right here. We're
15 trying to determine the scope of the EIS. Once we
16 determine the scope of the EIS, that will be the
17 entry to the preparation of the Supplemental
18 Environmental Impact Statement.

19 And once the Supplemental Environmental
20 Impact Statement is complete, the conclusions and
21 the information will be used by NRC in making a
22 decision about the license renewal. But that's not
23 the only things or factors that lead into the
24 decision. That's a key principle part of it, but in

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1 addition to that as Maurice was talking about,
2 there's going to be a very rigorous Safety
3 Evaluation Report. The information from that will
4 feed into the decision.

5 We have regional and planned
6 inspections. Information from that will feed into
7 the decision. The license renewal application that
8 was prepared by the applicant will provide
9 information that will lead into the final decision.

10 We also have an independent Advisory Committee on
11 Reactor Safeguards that will provide information,
12 possibly recommendations which again, feed into the
13 final decision. All this information is coming
14 together to help and assist the NRC in making the
15 wisest possible decision, the most informed decision
16 possible.

17 So in addition to receiving comments
18 here at the scoping meeting, there's three other
19 ways you can provide comments to us, and this is in
20 your handout. You can provide it by mail. The
21 address is in your handout. You can provide
22 comments by e-mail, this e-mail address there. If
23 you happen to be in the Washington, D.C. area
24 walking down the street, you can stop into the NRC

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1 office and hand deliver comments right there.
2 Comments should be submitted by May 25th of this
3 year.

4 This is a table, a matrix of some of the
5 key dates on the EIS schedule that you may or may
6 not find important or they might affect how you want
7 to interface into the process. I'm not going to
8 belabor on this table. It's in your packet, but
9 there are the dates if you have any questions about
10 the dates.

11 Finally, additional information. If you
12 want additional information you can contact Maurice
13 Heath at this number here. Again, it's in your
14 handout, or myself at this number. We have also put
15 pertinent files, pertinent manuals and documents on
16 file with the Hiawatha Public Library. You can go
17 there. And pertinent documents will also be put
18 onto the NRC's website. So there's an area if you
19 want to get more information about this proposal,
20 there's where you go.

21 And with that, I guess I'll turn it back
22 over to you, Maurice.

23 MR. HEATH: Thank you. Now, with that
24 I'd like to open it up. Does anybody have any

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1 questions they would like to ask?

2 (No response.)

3 One thing to note, if you do have
4 questions or maybe you come up with questions later,
5 we have this, what we call FAQ, Frequently Asked
6 Questions. It's on the side table. It will be to
7 your left over there.

8 There's a few copies. I'll describe
9 one. It's full of questions and answers that we
10 usually get, typically get at some of these scoping
11 meetings. So just grab one on your way out just for
12 reading material if you want. And if you run out,
13 please just let me know so I can get an address and
14 get you a copy of it.

15 Well, if we don't have any questions
16 then we'll move on to the comment period. We have
17 one speaker here registered to speak.

18 MR. BROWN: I'm the only one?

19 MR. HEATH: Yes, so far, and if anybody
20 else does, I still ask for you to sign the list and
21 after Mr. Brown is finished, actually can you speak
22 into the microphone? First just state your name and
23 spell it. And also for the scoping comment period,
24 we usually ask to just bear with no more than 10

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1 minutes for your comments just in case we do have
2 somebody else that changes their mind and wants to
3 speak. Thank you, go ahead.

4 MR. BROWN: Thanks. My name is Bennett
5 Brown, B-e-n-n-e-t-t, last name is Brown, like the
6 color. I live in Iowa City. I teach high school
7 physics in Solon. I studied physics at MIT. I've
8 worked in a reactor briefly, and I'm not afraid of
9 nuclear reactors but I don't feel that this
10 particular one should be renewed. I do acknowledge
11 it's got an excellent staff and I support your jobs,
12 and I think that the money spent at the reactor on
13 employment could be better spent with a better
14 source of energy and I'd like to mention what I'd
15 like to see the SEIS include in terms of impacts and
16 alternatives.

17 Specifically, the Department of Natural
18 Resources and the state of Iowa assessed the state's
19 wind resource and concluded that the state of Iowa
20 developing only class 4 jacobs sites. These are
21 currently developable at two and-a-half cents a
22 kilowatt hour, would produce six times as much
23 electricity as needed by the state of Iowa.

24 The Midwest Independent Systems

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1 Operators as well as other utility grid operators
2 have studied how much wind penetration the grid
3 could sustain given the variability of the wind and
4 concluded that we could provide 15 to 25 percent of
5 our electricity from wind without any alterations in
6 the existing grid. So the percentage of electricity
7 produced in the state of Iowa from Duane Arnold
8 could easily be replaced by wind turbines with
9 existing technology and existing market support.

10 The second thing that I'd like to see
11 that the SEIS addresses is the effect on employment
12 decommissioning. As I see it, this is not a
13 question of whether to extend the life of the plant
14 by 20 years but rather a question as to whether to
15 decommission it in 2014 or 2034. And so the
16 question is when would we rather have the jobs
17 provided necessary to decommission this plant and
18 construct a renewable source, or at least some other
19 source of electricity whether that's a new nuclear
20 plant or a new coal plant or wind plants. And the
21 Congress requires that the operators of this nuclear
22 plant provide \$359,000,000 in a trust fund by 2014.

23
24 That money spent beginning in 2014 to

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1 provide job decommissioning in this plant would be a
2 boon to the local economy and the 2.4 billion, and
3 there that's really a number off the top of my head
4 there just saying, well, 800 megawatts times three
5 per wind because of the name plate issue, I don't
6 know how familiar you are with wind, but an 800
7 megawatt nuclear plant takes 2400 megawatts of wind
8 to replace it. So that's roughly \$2.4 billion in
9 construction of wind turbines and the associated
10 jobs that come with that construction on top of some
11 300 full time jobs maintaining that wind energy.
12 That would be a significant boon to the state of
13 Iowa and I would encourage the NRC to look at the
14 economic impact on the state of replacing this
15 nuclear plant with wind as distributed around the
16 state.

17 The third point that I'd like to make
18 has to do with the environmental impact of a severe
19 accident. And I understand that you also have a
20 safety review portion of the process and I also
21 understand that the 9th Circuit Court has ruled that
22 your SEIS must include an analysis of accidents in
23 the jurisdiction of the 9th Circuit Court. So in
24 lack of ruling from this Circuit Court, I believe

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1 that that ruling has precedence and I would ask that
2 you include accidents and the impacts of accidents
3 in the SEIS --

4 Specifically on this point I would refer
5 to the Sandia Lab Study commissioned by the NRC in
6 1982 which calculated the impacts of a severe
7 accident with core damage estimating 3,000 peak
8 fatalities immediately after the accident within a
9 25 mile radius, and 12,000 radiation injuries in the
10 early aftermath of an accident within a 35 mile
11 radius. And calculate the plant operators,
12 calculate at any given time if all equipment is
13 operating correctly, that the core damage frequency
14 is one in 3,000,000 per reactor year. But sometimes
15 parts are out of operation and the possibility that
16 there's a severe accident under their calculations
17 go up.

18 I would ask for this SEIS that the NRC
19 address the likelihood of an accident taking into
20 account more than the plant operators include in
21 their calculation of the CDF, particularly their
22 probabilistic risk assessment assumes that all parts
23 operate as though they were new and have not been
24 subjected to problems of radiation exposure, heat

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1 exposure, fluctuation of temperature, pressure
2 exposure and embrittlement.

3 In this regard, I'd specifically point
4 out that the CDF excludes vessel failure. This is a
5 Mark 1 reactor. It's one of 18 Mark 1 reactors in
6 the country. A study published by the Union of
7 Concerned Scientists in 1995 looked at the vessel
8 internals aging in the 18 Mark 1 reactors in the
9 country as a result of discoveries of major fissures
10 and cracks in Mark 1 core shrouds and found that at
11 about 20 years of operation the exposure to
12 radiation and heat fluctuation caused moderate or
13 extensive cracking in seven out of the 18 Mark 1
14 reactors.

15 Duane Arnold at that time had no
16 cracking evident and I would encourage the NRC to
17 consider the possibility that a 40 year license that
18 was initially granted to this reactor has allowed
19 the investors to recoup their losses and that we are
20 lucky today that the aging of the parts has not
21 resulted in an accident. But a 20 year extension of
22 the license represents too great a risk to this site
23 specific plan for an accident.

24 If the core shroud detailed in the UCS

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1 report is one of just 21 vessel internal components
2 subject not only to the cracking that is described
3 in that report, but also to erosion, embrittlement,
4 fatigue, creep, as well as stress corrosion
5 cracking. So if these vessel internal parts were to
6 prevent an insertion of the control rods, then the
7 consequences of an accident could be quite severe.

8 In addition, the secondary containment
9 which is meant to control the impact and mitigate
10 the impact of such an accident in this particular
11 reactor, was discovered to be faulty in the early
12 days of operation of this reactor and the 17 other
13 reactors like it in the country.

14 In fact, in 1986 Harold Denton, at that
15 time a Chief Safety Officer with the NRC, in leading
16 a meeting of Mark 1 operators declared that the
17 taurus, as it is known, a million gallon tank of
18 water to suppress heat in the event that the reactor
19 was unable to be shut down and no where for the heat
20 to go because of a loss of connectivity to the grid
21 for instance, that there was a 90 percent
22 probability that that taurus would fail at a meeting
23 of Mark 1 operators.

24 And so as a result of that assessment,

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1 Mark 1 operators were instructed to install a bypass
2 system that instead of trying to contain the
3 pressure from the reactor using secondary
4 containment, would simply bypass secondary
5 containment and vent the taurus directly to the
6 atmosphere through a butterfly valve operated in the
7 control room. And Duane Arnold officials here today
8 verify that, in fact, that is the situation at Duane
9 Arnold, that it's not different than the other 17
10 Mark 1's.

11 And I think that I can understand why
12 you would let a plant live out its 40 year operating
13 license knowing that it had a design deficiency off
14 by a factor of 10 in the size of the secondary
15 containment in order to allow investors to recoup
16 their investment. But to extend the plant's life
17 for another 20 years when a viable alternative
18 exists that would be a boon to the state's economy,
19 I think is something that should be viewed with
20 skepticism.

21 Finally, I think that the NRC should
22 look at the history of scrams. Every scram at this
23 reactor significantly ages the components. It
24 subjects the components to significant changes in

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1 temperature, just like when you take a hot glass and
2 submerge it suddenly in cold water. It can shatter
3 parts inside a reactor every time you scram the
4 reactor or suddenly subject it from one pressure
5 extreme to another, from one temperature extreme to
6 another and this significantly ages parts.

7 If the reactor, for instance, had in the
8 non-radiation side, had a metal part break off at a
9 fillet weld simply because it had been cycled between
10 hot and cold, and that metal part found its way
11 through the system, scored open a number of tubes.
12 Finally, the problem was turned up because water
13 leaked first into one part and then overflowed into
14 another part of the plant, and it was only once the
15 plant was shut down and people investigated that
16 they found tubes slashed open and eventually found
17 the metal part that worked its way loose. That sort
18 of risk is simply unnecessary and there's a viable
19 alternative to the nuclear plant's continued
20 operation.

21 The final point that I'd like to make
22 concerning the reactor itself is this plant's
23 specific risk to a terrorist attack. The plant is
24 in proximity to the Rockwell Collins plant that used

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1 to be in the Soviet Union's top three list of
2 targets because of its role in our nation's nuclear
3 arsenal, missile guidance and intelligence. That
4 means that both an attack on Rockwell Collins would
5 have an impact on the plant, on its safety, on its
6 ability to evacuate and so on.

7 It also means that there could be an
8 indirect threat to the plant because a terrorist
9 attack might find the plant a useful target in order
10 to move military protection away from Rockwell
11 Collins or the further strategic air command in
12 Omaha in order to free up the vulnerability of SEC.

13 So the specific location of this plant represents a
14 hazard that needs to be looked at from the
15 perspective of a terrorist attack.

16 And in addition, the Mark 1 design has a
17 spent fuel pool that's on top of a building that is
18 essentially unprotected, that various studies have
19 concluded that a piece of weaponry that can be moved
20 around in the trunk of a car and launched from
21 somebody's shoulder, a howitzer, could penetrate
22 that building and create a fire in the spent fuel
23 pool. In addition, that spent fuel pool would be
24 committed to use for five years beyond

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1 decommissioning because if we were to decommission
2 the plant even today, then we would need to store
3 the spent fuel for a minimum of five years on that
4 local site.

5 So we're looking at a terrorist threat,
6 a target, an attractive target for five years beyond
7 decommission and I think it needs to be considered
8 whether in this day and age it's really necessary to
9 continue maintaining such an attractive target.

10 The final comment I'd like to make has
11 to do with transparency. I really do support all
12 your jobs. I think you all do a magnificent job at
13 Duane Arnold. I'm not afraid of nuclear power in
14 particular, I mean in general, nor do I think that
15 this plant in particular has a bad safety record.
16 But I do think that there are better alternatives
17 and I support your work to make this plant safe as
18 it continues to operate.

19 I hope that I don't cause any personal
20 tension with any of you in speaking, and similarly,
21 I think that the representatives here from the NRC
22 today have run a good meeting. I think that in
23 general they've made efforts to inform the public at
24 this meeting, and so in griping about the

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1 transparency I hope that it's not a personal
2 comment.

3 But I do notice that I'm the only
4 speaker registered and I do wonder why that might
5 be, and so for the record I'd like to state that
6 twice a week I've looked at the website that you
7 still have up here on your PowerPoint. In fact, I
8 just looked at it in this building's wireless and it
9 says that the date of this meeting is to be
10 determined. I can show you that after the meeting
11 if you like.

12 A friend of mine said hey, when is the
13 Duane Arnold thing coming up. Are you on top of
14 that? I said, yeah, I'm on top of it. I check
15 every two weeks. And he said well, I think it might
16 be coming up. I heard something about that and so I
17 looked on the NRC's website and found, sure enough,
18 it's yet to be determined. They haven't announced a
19 date for the SEIS scoping meeting. This was on
20 April 16th, by the way.

21 And I then, just to be darn sure, did a
22 search in the Adams document room to make sure that
23 there was not an announcement of an SEIS scoping
24 meeting and found much to my surprise an April 8th

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1 memo came up in the search from David Pelton to each
2 of the two of you, to Charles Eccleston and to
3 Maurice Heath, and that in order to register to
4 speak at this meeting I had to do so by April 16th.

5 Well, I look at my watch and it's 7:00 p.m. on
6 April 16th, so ostensibly I missed the deadline to
7 register to speak for this meeting.

8 I immediately e-mailed both of you
9 following the e-mail address that was given in that
10 April 8th memorandum and those e-mails both bounced
11 back to me. I'd be happy to show you those e-mails
12 after the meeting, as being undeliverable by the
13 NRC. I then left a phone message on both of your
14 phones and got no phone call back, though you did
15 acknowledge that you got my phone call at the
16 beginning of the meeting and welcomed me to the
17 meeting.

18 Obviously from April 16th to now was
19 sufficient time for me to prepare, more or less,
20 though I must say that one of the people I had hoped
21 to talk to before this meeting from the Union of
22 Concerned Scientists was out of the country and
23 unavailable. So as a result of the lack of
24 transparency I'm not as prepared as I would have

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1 liked to be and I can only guess who else might have
2 shown up had the meeting been better in
3 transparency.

4 And so I thank you for your attention
5 and look forward to working with you through the
6 process.

7 MR. ECCLESTON: Thank you.

8 MR. HEATH: All right, thank you for
9 your comment. Now, I have one other person
10 registered, Mr. Bruce Richardson, I believe. Is
11 that correct?

12 MR. RICHARDSON: No comments at this
13 time.

14 MR. HEATH: No comment, okay. Well,
15 like we said before, you can still submit your
16 comments other ways after the meeting up until May
17 25th.

18 Do we have anybody else that would like
19 to provide comments at this time?

20 (No response.)

21 Okay. Well, with that, thank you all
22 for coming to this meeting. We will adjourn this
23 meeting. We will be having another meeting between
24 7:00 and 10:00 upstairs in the community center

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1 room, so if you'd like to stick around or come back,
2 we'll be here this evening. Thank you for coming.

3 (Whereupon the above matter concluded
4 at 2:27 p.m.)
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