

Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: Advisory Committee on Reactor Safeguards
Plant License Renewal Subcommittee

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

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1 UNITED STATES OF AMERICA

2 NUCLEAR REGULATORY COMMISSION

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4 ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

5 (ACRS)

6 PLANT LICENSE RENEWAL SUBCOMMITTEE

7 KEWAUNEE POWER STATION

8 + + + + +

9 WEDNESDAY,

10 AUGUST 18, 2010

11 + + + + +

12 ROCKVILLE, MARYLAND

13 + + + + +

14 The Subcommittee met at the Nuclear
15 Regulatory Commission, Two White Flint North, Room
16 T2B1, 11545 Rockville Pike, at 8:30 a.m., Mario
17 Bonanca, Chairman, presiding.

18 SUBCOMMITTEE MEMBERS:

19 MARIO V. BONACA, Chairman

20 J. SAM ARMIJO, Member

21 CHARLES H. BROWN, Member

22 WILLIAM J. SHACK, Member

23 JOHN W. STETKAR, Member

24

25

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1 DESIGNATED FEDERAL OFFICIAL:

2 GIRIJA S. SHUKLA

3 CONSULTANT:

4 JOHN J. BARTON

5 NRC STAFF:

6 BRIAN HOLIAN, NRR

7 JOHN DAILY, NRR

8 DAVID PELTON, NRR

9 BILL ROGERS

10 CAROLINE TILTON, Region III

11 DOMINION ENERGY KEWAUNEE:

12 PAUL AITKEN

13 PHIL BUKES

14 MIKE HALE

15 MARK HOTCHKISS

16 JIM RUSCH

17 BEN RODILL

18 STEVE SCASE

19 CHARLIE SORRELL

20 BILL WEBSTER

21 MICHAEL WILSON

22 DAVID WOOTEN

23 STEW YUEN

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1 MR. SCACE: But I think what Paul
2 indicated is, we are using that experience and
3 demonstrating the opportunistic if you would views.
4 And those are conditioned based on experience as you'd
5 expect over 40 years. So some inspection frequencies
6 we do more often, and will continue to do that. They
7 will now be documented under this new program, but we
8 are not going to start at ground zero because we have
9 a new program. So a major part of this other than
10 those we determine we haven't had sufficient
11 opportunistic opportunities, that program and that
12 experience will continue with our inspection.

13 MEMBER STETKAR: Okay, thanks, that helps
14 a little bit, thanks.

15 MR. AITKEN: Next slide.

16 So the third open item relates to steam
17 generator divider plate cracking. On this item the
18 staff requested additional information from Kewaunee
19 related to the materials of construction of the steam
20 generator divider blade, and the weather cracks in the
21 alloy 600 divider plate could propagate into the base
22 material of the channel head or into the tube sheet
23 platen.

24 If we determined that this condition was
25 likely then the staff requested that the details of an

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1 inspection be provided for review. As Brian mentioned
2 the request was based in part on I believe French OE
3 with the divider plate cracking.

4 MEMBER STETKAR: Paul, before you go back
5 to the other slide, the last bullet on there, it says
6 recent - oh recent foreign operating experience. I'll
7 ask you now before you get into the materials things
8 that I don't understand anything about, you replaced
9 the steam generators in 2001. In 2006 apparently you
10 discovered a number of foreign objects in both your
11 steam generators. All I know is what I read in the
12 reports. Five foreign objects in steam generator A
13 and nine foreign objects in steam generator B.

14 This has nothing to do with the topic of
15 what you are talking about here as far as primary
16 water stress corrosion cracking, but at least the
17 steam generators - and I was going to ask you later
18 anyway so I might as well do it now. What were they?

19 Where did they come from? And do you have a loose
20 parts monitoring system?

21 MR. HANNA: Tim Hanna for the applicant.
22 We do have a loose parts monitoring system. All of
23 the parts that you are referring to were on the
24 secondary side of the steam generators, and they were
25 very small remnants for manufacturing such as weld VBs

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1 or very small machine turnings. And they were either
2 removed from the steam generators or evaluated as
3 acceptable for continued service, due to the very
4 small volume of the material.

5 MEMBER STETKAR: So they were - you
6 actually determined that they had been in there since
7 the original installation?

8 MR. HANNA: That is correct.

9 MEMBER STETKAR: Okay.

10 CONSULTANT BARTON: Do they have a loose
11 parts monitoring system?

12 MEMBER STETKAR: It's not really a part.
13 Loose parts monitoring typically picks up more stuff
14 on the primary site. It's pretty messy out on the
15 secondary side.

16 MR. AITKEN: Okay, so this issue remains
17 under review by the various experts and technical
18 groups in the industry along with the NRC staff. A
19 meeting was conducted just last week between the NRC
20 and the industry where several people were trying to
21 understand the concern and ascertain what is the best
22 path to resolve this item not only for Kewaunee, but
23 for the other affected plants in the United States.

24 Dominion remains active in these forums,
25 and if there are any new requirements promulgated to

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1 the industry, then Dominion will evaluate the industry
2 recommendation like the other affected plants and do
3 the right thing.

4 In response to this open item we concluded
5 that the condition described by the staff is unlikely
6 for Kewaunee for the following reasons. First, the
7 steam generators are relatively new, they're not quite
8 10 years old as Stew had mentioned. They are not
9 likely to experience cracking with this limited
10 service life.

11 Next, although the divider plates are
12 alloy 600, the divided plate assembly welds are made
13 from alloy 52/152 weld metal which is inherently
14 resistant to cracking caused by PWSCC.

15 Also we believe there is sufficient data
16 from the industry resource to support the conclusion
17 that PWSCC cracking stops when nonsusceptible
18 materials are encountered.

19 There is no U.S. or international OEs that
20 Dominion, EPRI or Westinghouse is aware of indicated
21 that cracking of the divider plates has ever
22 propagated into adjacent tube sheets of channel heads.

23 So based on the above Kewaunee concluded
24 in its response to this open item that an inspection
25 program is not warranted at this time. And that

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1 response has been provided to the staff as of July
2 22nd, 2010, and is currently under review.

3 And our last open item, relates to the
4 ongoing issue related to buried piping and underground
5 components. First the staff requested that Kewaunee
6 identify systems with components that are in a buried
7 or an underground environment. The staff also
8 requested that we provide any updates related to
9 operating experience with the buried piping that was
10 not included in our application submittal.

11 First I'd like to address the equipment
12 located in an underground environment, which could be
13 within vaults or chases, and exposed to air on the
14 external surfaces. Kewaunee has very limited
15 equipment in this category, just a few feet of fuel
16 oil transfer piping for our diesel fuel oil system,
17 and a couple of fuel oil transfer pumps. This
18 equipment is managed for the effects of aging by the
19 visual inspections performed in accordance with the
20 external surfaces monitoring program on a period
21 frequency.

22 The remaining components that are in a
23 soil environment are managed for the effects of aging
24 by the buried piping and tank inspection program which
25 I will discuss here in the next few slides.

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