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# NUCLEAR REGULATORY COMMISSION

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Plant License Renewal Subcommittee

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

(ACRS)

PLANT LICENSE RENEWAL SUBCOMMITTEE

KEWAUNEE POWER STATION

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WEDNESDAY,

AUGUST 18, 2010

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ROCKVILLE, MARYLAND

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

SUBCOMMITTEE MEMBERS:

MARIO V. BONACA, Chairman

J. SAM ARMIJO, Member

CHARLES H. BROWN, Member

WILLIAM J. SHACK, Member

JOHN W. STETKAR, Member

DESIGNATED FEDERAL OFFICIAL:

GIRIJA S. SHUKLA

CONSULTANT:

JOHN J. BARTON

NRC STAFF:

BRIAN HOLIAN, NRR

JOHN DAILY, NRR

DAVID PELTON, NRR

BILL ROGERS

CAROLINE TILTON, Region III

DOMINION ENERGY KEWAUNEE:

PAUL AITKEN

PHIL BUKES

MIKE HALE

MARK HOTCHKISS

JIM RUSCH

BEN RODILL

STEVE SCASE

CHARLIE SORRELL

BILL WEBSTER

MICHAEL WILSON

DAVID WOOTEN

STEW YUEN

C-O-N-T-E-N-T-S

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

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

MR. AITKEN: Next slide.

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

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

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

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

This has nothing to do with the topic of what you are talking about here as far as primary water stress corrosion cracking, but at least the steam generators - and I was going to ask you later anyway so I might as well do it now. What were they? Where did they come from? And do you have a loose parts monitoring system?

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

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

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

MR. HANNA: That is correct.

MEMBER STETKAR: Okay.

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

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

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

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

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

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

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

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

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

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

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

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

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

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