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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

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2 NUCLEAR REGULATORY COMMISSION

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4 ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

5 (ACRS)

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7 THERMAL-HYDRAULIC PHENOMENA SUBCOMMITTEE

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9 OPEN SESSION

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11 MONDAY, JULY 20, 2020

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13 The Subcommittee met via Video
14 Teleconference, at 2:00 p.m. EDT, Jose March-Leuba,
15 Chairman, presiding.

16 COMMITTEE MEMBERS:

17 JOSE MARCH-LEUBA, Chairman

18 RONALD G. BALLINGER, Member

19 DENNIS BLEY, Member

20 CHARLES H. BROWN, JR., Member

21 WALTER L. KIRCHNER, Member

22 DAVID A. PETTI, Member

23 PETER RICCARDELLA, Member

24 JOY REMPE, Member

25 MATTHEW SUNSERI, Member

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WASHINGTON, D.C. 20005-3701

1 DESIGNATED FEDERAL OFFICIAL:

2 ZENA ABDULLAHI

3

4 ALSO PRESENT:

5 ANNA BRADFORD, NRR

6 MICHELLE CATTS, GE Hitachi

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CONTENTS

ACRS Chairman Introductory Remarks	4
NRC Staff Introductory Remarks	6
GEH Staff Introductory Remarks	7

P R O C E E D I N G S

2:00 p.m.

CHAIR MARCH-LEUBA: The meeting will now come to order. This is a meeting of the ACRS Accident Analysis and Thermal Hydraulics Subcommittee.

I am Jose March-Leuba, the chairman. Because of COVID-19 concerns this meeting is being conducted remotely. Instead of having a roll call I will tell you the members I see logged in on the web panel. And if somebody is missing please let me know.

So I see Ron Ballinger is present, Dennis Bley is present, Walter Kirchner is present, David Petti is present, Joy Rempe is present, and Matt Sunseri is present. So we're missing a couple of people. Maybe they'll join later.

So, let me continue with the introduction. Today's topic is topical report NEDC-33910P by General Electric Hitachi entitled BWRX-300 Reactor Pressure Vessel Isolation and Overpressure Protection.

Portions of our meeting will be closed to the public to protect proprietary information. We will have an opportunity for public comment before we start the closed session of the meeting.

The ACRS was established by statute and is governed by the Federal Advisory Committee Act, FACA.

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1 As such, the committee can only speak through its
2 published letter reports.

3 The ACRS section of the U.S. NRC public
4 website provides our charter, bylaws, agendas, letter
5 reports, and full transcripts for the open portions of
6 all full and subcommittee meetings including the
7 slides presented here.

8 The designated federal official today is
9 Zena Abdullahi. A transcript of the meeting is being
10 kept. Therefore speak into the microphones clearly
11 and state your name for the benefit of the court
12 recorder.

13 Please keep the microphone on mute when
14 not in use and don't use video feed to minimize
15 bandwidth problems. Note that we were expecting to
16 have a full committee meeting later this week and
17 possibly write a letter then. For scheduling reasons
18 this meeting has been moved to our next full committee
19 week in September. I apologize for the inconvenience.

20 At this point in the interest of time I
21 would like to request the staff to make some of the
22 introductory remarks. I believe Anna Bradford is
23 going to be the person in charge.

24 MS. BRADFORD: Yes, thank you. Can you
25 confirm that you can hear me?

1 CHAIR MARCH-LEUBA: I can hear you.

2 MS. BRADFORD: Great, thank you. So good
3 afternoon. As mentioned my name is Anna Bradford.
4 I'm the director of the Division of New and Renewed
5 Licenses at the NRC.

6 I'd like to thank Scott Moore, the ACRS
7 executive director, and the ACRS staff along with the
8 members of today's subcommittee for setting up today's
9 meetings.

10 I'd also like to thank our technical and
11 project staff who have been working on this first
12 topical report for the BWRX-300 reactor pressure
13 vessel isolation and overpressure protection features.

14 GEH has designed a BWRX-300 small modular
15 reactor with several design aspects of the economic
16 simplified boiling water reactor, or ESBWR design,
17 which was certified by the NRC previously.

18 GEH is preparing topical reports to help
19 streamline the licensing process for potential future
20 nuclear power plant applicants for the BWRX-300 Small
21 Modular Reactor under 10 CFR Part 50 or Part 52.

22 In December of 2019 GEH submitted this
23 first of many topical reports to the NRC for review
24 and approval, and the staff formally accepted the
25 topical report in February 2020.

1 The staff has now completed its safety
2 evaluation for this topical report and that's what
3 we'll be discussing with you today.

4 Based on the staff's review we have
5 concluded that the information provided in the topical
6 provides an acceptable description of the design
7 requirements, acceptance criteria, and regulatory
8 bases for the design functions of the RPV isolation
9 and overpressure protection for the BWRX-300 small
10 modular reactor.

11 The staff notes that the detailed design
12 of the BWRX-300 is not yet complete. Therefore the
13 staff will review the specific compliance of the
14 reactor pressure vessel and overpressure protection
15 features of the BWRX-300 small modular reactor with
16 the applicable regulatory requirements during the
17 future licensing activities for BWRX-300 applications.

18 So thank you for your attention and I look
19 forward to today's discussions.

20 CHAIR MARCH-LEUBA: Well, thank you for
21 being on time. So now I believe it's time for General
22 Electric Hitachi to make introductory remarks. I
23 believe Michelle Catts is in charge of that.

24 MS. CATTS: Hello. This is Michelle
25 Catts. Can you hear me?

1 CHAIR MARCH-LEUBA: Yes, we can.

2 MS. CATTS: Okay. So I am the senior vice
3 president of nuclear programs at GE Hitachi. And on
4 behalf of our entire team we'd like to thank the
5 subcommittee for the invitation and to introduce our
6 small modular reactor, the BWRX-300, and our first
7 licensing topical report for this reactor which is the
8 reactor pressure vessel isolation and overpressure
9 protection.

10 Presenting with me today are BWRX-300
11 licensing manager George Wadkins, and one of the
12 principal designers, David Hinds.

13 GE has been in the nuclear industry from
14 the onset and we've been developing new nuclear
15 technology for decades. And although we focused on
16 large light water reactors, we believe small modular
17 reactors have an important role in our future energy
18 landscape.

19 With the BWRX-300 we have established a
20 rigorous design-to-cost approach with a simple and
21 safe design. The BWRX-300 is a tenth generation of
22 boiling water reactor. That's what the X stands for.
23 And we have scaled it down from the ESBWR which is
24 licensed by the NRC.

25 So in summary, the mission of the BWRX-300

1 is to develop a simplified reactor design with world-
2 class safety, that's cost-competitive in the current
3 energy environment and be operational by 2027.

4 NRC approval of our design is critical to
5 achieving our mission and the ACRS participation in
6 this process is an important aspect of that approval.
7 Our licensing strategy includes substantial pre-
8 application engagement with the NRC staff, including
9 submittal of a number of licensing topical reports the
10 first of which is in front of you today. This will be
11 followed by a Part 50 construction permit and
12 operating license by utility.

13 During the closed portion of this meeting
14 we'll go into detail on the BWRX-300 design and the
15 LTR specifics. We look forward to the discussion and
16 we thank you for your time. That's all I have.

17 CHAIR MARCH-LEUBA: Well, thanks,
18 Michelle. That was nice. I was not expecting we
19 would finish on time.

20 So at this point this is going to close
21 all the information we have in the open session of the
22 meeting because to protect data that is proprietary to
23 GEH, we are going to go into closed session.

24 Everybody that belongs there knows the
25 link or the phone number to call in. So, Thomas,

1 could you open the phone line? We're going to request
2 input from members of the public.

3 OPERATOR: The phone line is open for
4 public comment.

5 CHAIR MARCH-LEUBA: Anybody from the
6 public who would want to make a comment please state
7 your name and state your comment. We've been doing
8 this for two or three months so I'm going to give you
9 five more seconds to find the mouse and unmute the
10 microphone. Okay. Apparently there is nobody.
11 Thomas, you can close the line.

12 OPERATOR: The bridge line is now closed.

13 CHAIR MARCH-LEUBA: Thank you. So, since
14 we have extra time I'm going to request a favor from
15 General Electric and the staff for future reference.
16 I understand proprietary nature of most of the
17 information and how it provides a competitive
18 advantage and intellectual property is the name of the
19 game these days.

20 But whenever we issue reports we tend to
21 -- we have access to them because we're reviewing them
22 and we tend to see them all the time. On the page
23 there are two phrases, the time between brackets are
24 proprietary and 25 other pages that are not
25 proprietary and that could be shared with the public.

1 One of the missions of ACRS is to
2 represent the public and to inform the public about
3 what's going on. And we don't want to give the
4 impression that we are making deals behind closed
5 doors with the excuse of the proprietary nature.

6 So whenever possible. I realize it's hard
7 to work. If we could add some of the technical
8 information that is not proprietary in open session I
9 think it would help the public understand what we're
10 doing. It would be better for everybody involved.
11 There would be more buy-in.

12 The appearance of impropriety, of hiding
13 always behind a closed session in my opinion it might
14 not be a good appearance. So any time we can
15 segregate at least a few slides for future topical
16 reports to the open session it would help with the
17 public image of this review.

18 This moment I assume the members don't
19 have any comments, but anybody that wants to have a
20 comment please open your mike. So let's close.

21 MEMBER KIRCHNER: Jose, this is Walt. I
22 just second your request. This is Walt Kirchner, a
23 member of the committee. And I second your request
24 for future topical reports.

25 CHAIR MARCH-LEUBA: I think that as much

1 visibility we can give to -- appearance we can give
2 visibility. I understand competitive advantage. I
3 understand intellectual property. But the more
4 visibility we can get the more buy-in we get with the
5 public that we're doing a thorough and complete and
6 honest job. Which we are. It's just, it's the
7 visibility of it.

8 So with this I'm going to close the open
9 session of the meeting. Court reporting, we are off
10 the record.

11 (Whereupon, the above-entitled matter went
12 off the record at 2:11 p.m.)
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Attendees**Presenters:**

Zena Abdullahi (ACRS Staff)

Michelle Catts (GEH)

Makeeka Compton (ACRS Staff)

Thomas Dashell (ACRS Staff)

Michael Dudek (NRC)

Rani Franovich (NRC)

David Hinds (GEH)

Christiana Lui (ACRS Staff)

Jose March-Leuba (ACRS Member, Chairman of NEDEC---XXXX)

Quynh Nguyen (ACRS Staff)

George Wadkins (GEH)

Weidong Wang (ACRS Staff)

Attendees

Phone attendees: (Guests)

(240) XXX-XXXX

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Attendees

Alex Young

Dennis Bley (ACRS, member)

Anne Bradford (NRC)

Charles Brown (ACRS Member)

Charlie Morrison (Transcriber)

Greg Cranston (NRC)

Christer Dahlgren
David Petti (ACRS Member)
Joseph Donoghue (NRC)
Anne-Marie Grady (NRC)
Charles, Heck (GNF; GEH)
Jason Huang (ACRS Staff)
Kelvin Montague (Guest)
Walter Kirchner (ACRS Members)
Louis Lanese (GEH)
Yueh-Li Li (NRC)
Joel P Melito (GEH)
Scott Moore (ACRS Director)
Demetrius Murray (NRC)
Ryan Nolan (NRC)
Martin Owens (GEH)
Rebecca Patton (NRC)
Andrew Proffitt (NRC)
Ray Schiele (???)
Joy Rempe (ACRS Member)
Roger Scott (TVA)
Ron Ballinger (ACRS Member)
Hideaki Sadamatsu (????)
Thomas Scarbrough (NRC)
Steven Schultz (ACRS Consultant)
Steven Hilmes (???)
Angelo Stubbs (NRC)
Mathew Sunseri (ACRS Chairman)
Frostie White (GEH)
Brian Wittick (NRC)

George Wunder (NRC)

Yutaka Yoshie (???)