

September 30, 2015

MEMORANDUM TO: Lawrence J. Burkhart, Chief
Licensing Branch 4 (LB4)
Division of New Reactor Licensing
Office of New Reactors

FROM: Jordan Hoellman, Project Manager */RA/*
Licensing Branch 4 (LB4)
Division of New Reactor Licensing
Office of New Reactors

SUBJECT: SUMMARY OF A PUBLIC TELECONFERENCE ON AUGUST 27,
2015, WITH MEMBERS OF THE AP1000 DESIGN CENTER TO
DISCUSS AP1000 LICENSING AND TECHNICAL ISSUES

The U.S. Nuclear Regulatory Commission (NRC) staff held a Category 2 public teleconference with Duke Energy Florida (DEF) and members of the AP1000 design center on August 27, 2015. The purpose of the meeting was to discuss AP1000 combined license (COL) issues associated with the safety review for the Levy Nuclear Plant (LNP) Units 1 and 2 COL application.

The meeting notice can be found in the Agencywide Documents Access and Management System (ADAMS) under Accession Number ML15126A111. The meeting notice is also posted on the NRC's public website. Enclosures 1 and 2 are the meeting agenda and attendance list for the meeting, respectively. The NRC staff questions and discussion topics expected to be addressed during the meeting are documented in ADAMS under Accession Numbers ML15234A005 and ML15239A655.

Summary of Meeting:

On August 27, 2015, the NRC staff conducted a public teleconference with representatives from DEF and members of the AP1000 design center to discuss issues to support the safety review for the LNP Units 1 and 2 COL application. Specifically, the meeting discussed an update to the DEF and responses to staff questions/concerns related to the main control room (MCR) heat load analysis and recent preliminary findings of safe shutdown analysis of condensate return passive residual heat removal (PRHR) long term closed loop cooling capability.

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For the MCR heat load analysis, the NRC staff and DEF representatives, including personnel from Westinghouse Electric Company (WEC) discussed MCR temperature and humidity levels of breathable air in MCR Emergency Habitability System (VES) operation and how it relates to acceptance criteria for equipment qualification (EQ) and human performance. The NRC staff asked questions concerning assumptions in the current analysis, including diurnal fluctuations and realistic outdoor temperatures (rather than ambient temperatures of 115°F and 101°F). The participants agreed that future interactions (e.g., public teleconferences or requests for additional information) may be necessary to address (i) qualification of instrumentation and control and electrical equipment as a result of increased MCR temperature, (ii) the nuclear island nonradioactive ventilation system (VBS) ancillary fan output cited in the calculations, (iii) the moisture content in the MCR VES compressed air, and (iv) the qualification of safety-related visual display units for temperatures up to 115°F post 72 hours. The staff noted that surveillance requirements for rooms above 85°F should also be considered in plant surveillance.

For the condensate return PRHR long term operation analysis, the participants discussed using LOFTRAN and RELAP to achieve safe shutdown duration performance goals. WEC discussed that preliminary evaluations using RELAP indicated safe shutdown temperature of 420°F may not be maintained beyond 2-4 days. It was noted that RELAP indicated that a reactor coolant system (RCS) temperature 420°F would be achieved within 36 hours, but within 2-4 days, the temperature would rise to about 460-480°F. The model indicates that the PRHR mass flow decreases as RCS pressure decreases and two-phase flow occurs in the hot leg and PRHR heat exchanger piping. WEC had been using RELAP for sensitivity studies to more accurately consider ambient heat loss (heat loss from RCS components to containment). WEC is continuing to validate the results using RELAP model, and if confirmed, changes to the LNP Units 1 and 2 COL application final safety analysis report will be required. The staff asked if WEC/DEF could provide a schedule for when the studies would be complete and supporting calculations would be developed. WEC and DEF noted that they needed to validate the results prior to discussing a schedule.

At the end of the meeting, there was an opportunity for the public to provide comments and ask questions. All comments and questions were addressed before ending the meeting.

Docket Nos.: 052-029, 052-018, 052-040
052-030, 052-019, 052-041

Enclosures:
As stated

cc w/encls: See next page

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ADAMS Accession No.: ML15254A261

NRC-001

OFFICE	PM: DNRL/LB4	LPM: DNRL/LB4	LA: DNRL/LB4	PM: DNRL/LB4
NAME	JHoellman (c)	DHabib (c)	RButler	JHoellman (s)
DATE	9/29/15	9/30/15	9/29/15	9/30/15

OFFICIAL RECORD COPY

SUBJECT: SUMMARY OF A PUBLIC TELECONFERENCE ON AUGUST 27, 2015, WITH MEMBERS OF THE AP1000 DESIGN CENTER TO DISCUSS AP1000 LICENSING AND TECHNICAL ISSUES DATED SEPTEMBER 30, 2015

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AGENDA FOR PUBLIC MEETING

U.S. NUCLEAR REGULATORY COMMISSION (NRC)

Thursday, August 27, 2015

2:00 p.m. – 4:30 p.m.

PURPOSE: To discuss AP1000 combined license (COL) issues associated with the safety review for Duke Energy Florida's (DEF) Levy Nuclear Plant (LNP), Units 1 and 2 COL application.

OPEN

<u>Time</u>	<u>Topic</u>	<u>Led By</u>
2:00 p.m.	Opening Remarks	NRC
2:05 p.m.	Discussion on MRC Heat-up (WEC and Duke responses to Staff concerns on MCR Temperature issue)	NRC/DEF/WEC
3:00 p.m.	Opportunity for Public Comment	PUBLIC
3:10 p.m.	Discussion on the status of recent preliminary findings of Duke and WEC on AP1000 condensate return analysis for safe shutdown temperature	DEF/WEC
3:55 p.m.	Discussion of DEF/WEC updated approach and schedule	NRC/DEF/WEC
4:00 p.m.	Opportunity for Public Comment	PUBLIC
4:10 p.m.	Meeting Adjourns	

**PUBLIC MEETING
 UNITED STATES NUCLEAR REGULATORY COMMISSION
 Public Meeting Teleconference with AP1000 Design Center
 Thursday, August 27, 2015
 2:00 p.m. – 4:30 p.m.**

List of Attendees

Purpose: To discuss AP1000 combined license review issues

Name	Organization
Representing the Nuclear Regulatory Commission	
Don Habib	NRO/DNRL/LB4
Jordan Hoellman	NRO/DNRL/LB4
Devendra Pimpale	NRO/DNRL/LB4
John Segala	NRO/DSRA/SCVB
John McKirgan	NRO/DSRA/SRSB
Chris VanWert	NRO/DSRA/SRSB
Boyce Travis	NRO/DSRA/SCVB
Pieringer Paul	NRO/DCIP/COLB
Zhao Jack	NRO/DE/ICE
Sheila Ray	NRR/DE/EEEB
Tanya Smith	NRO/DNRL
Terry Jackson	NRO/DE/ICE
Clint Ashley	NRO/DSRA/SCVB
Nan Chien	NRO/DSRA/SCVB
Peter Hearn	NRO/DNRL/LB4
Representing Industry	
Bob Kitchen	Duke Energy
Bob Gamberg	Duke Energy
Jim Thornton	Duke Energy
Kelvin Montague	Duke Energy
Ken Pigg	Duke Energy
Larry Taylor	Duke Energy
Ray Mans	Westinghouse Electric Company
Jimmy Hennen	Westinghouse Electric Company
Jon Durfee	Westinghouse Electric Company
Andy Pfister	Westinghouse Electric Company

Name	Organization
Jen Meneely	Westinghouse Electric Company
Paul Russ	Westinghouse Electric Company
Alan MacDonald	Westinghouse Electric Company
Steve Franzone	Florida Power and Light
Wes Sparkman	Southern Nuclear Company
Eddie Grant	Southern Nuclear Company
Kelli Roberts	Southern Nuclear Company
Tom McCallum	Southern Nuclear Company
Brad Chamberlain	Southern Nuclear Company
Chuck Herbst	Southern Nuclear Company
Representing Public	
Ruth Thomas	Environmentalists, Inc

COL - Duke Energy - Lee Mailing List

(Revised 09/22/2015)

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COL - Duke Energy - Levy County Mailing List

Revised (08/24/2015)

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(Revised 08/24/2015)

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