

August 5, 2013

MEMORANDUM TO: John Segala, Chief  
Licensing Branch 1  
Division of New Reactor Licensing  
Office of New Reactors

FROM: Sikhindra K. Mitra, Project Manager /RA/  
Licensing Branch 1  
Division of New Reactor Licensing

SUBJECT: SUMMARY OF JUNE 19, 2013, MEETING WITH THE U.S. EPR  
DESIGN CENTER WORKING GROUP

On June 19, 2013, a Category 2 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of U.S. EPR Design Center Working Group (DCWG) at NRC Headquarters, 11545 Rockville Pike, Rockville, MD. The purpose of the meeting was to discuss issues of common interest as they relate to the NRC staff's review of the U.S. EPR Design Certification (DC) application, and the Combined License Applications (COLA) for Calvert Cliffs Nuclear Power Plant, Unit 3 (CCNPP3) and the Bell Bend Nuclear Power Plant (BBNPP). The agenda was included as part of the meeting notice (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13164A209). A list of attendees is provided as Enclosure 1.

After introductions, the attendees also reviewed the action items list (presented in Enclosure 2) via overhead projection. The status of those items is as shown in the enclosure. Some of the previous action items that are now shown closed should be identified for future Design Center Working Group (DCWG) discussion, to provide the group with current status/update. The remainder of the agenda was addressed in the following order:

**DCWG Agenda Item: COL Information Items/License Condition Wording**

The NRC staff (Dave Jaffe) cited some examples of COL Information Items or license conditions (LCs) which were either worded incorrectly (such that the items could not be effectively closed in a timely manner) or were redundant with regulations or other requirements. COL Information Items that cannot be accomplished before COL issuance must be readdressed as an Inspection, Test, Analysis, and Acceptance Criteria (ITAAC) or LC. The NRC staff also noted that the COL Information Item and ITAAC wording modifications discussed with AREVA for the DC should be applied to the COLs. UniStar and PPL acknowledged that a review of thier COL Information Items (FSAR Table 1.8) and ITAAC wording and LC (COL Part 10) was being performed, to be consistent with the DC, and delete redundancies. This issue will be further discussed at the next DCWG meeting.

**DCWG Agenda Item: AREVA Final Response to Bulletin 2012-01**

AREVA previewed their final response to Request for Additional Information (RAI) 564, to be submitted on June 28, 2013, using the U.S. EPR Byron Bulletin Response presentation material (ML13172A108). The NRC staff acknowledged that the AREVA proposal appears now to be more consistent with current industry approach for resolving this issue. However, the NRC staff questioned AREVA's use of the term "conceptual design solution," as "conceptual design." In 10 CFR Part 52 implies something out of scope of the DC. AREVA infers that the conceptual design solution remains within the DC, but that the detailed design will be developed later. The NRC staff also indicated a technical concern remains that an auto-disconnect from offsite power was not included. AREVA will reconsider an auto-disconnect for a Safety Injection signal with their submittal.

UniStar followed with a discussion of the COLA response to Bulletin 2012-01 (ML13172A197 and ML13172A219).

**DCWG Agenda Item: EPR Key Technical Issues**

AREVA (Brian Vance) and NRC (Amy Snyder) provided an update of the U.S. EPR Key Technical Issues. Sixteen of these issues were first identified in a February 26, 2013, public meeting. Two more issues have been added, bringing the total to 18. Gary Holahan, Deputy Director, Office of New Reactors (NRO), NRC, summarized that 14 of the key technical items can effectively be categorized as "schedule issues," whereby AREVA is completing identified actions, and significant challenges exist to the established review schedule. Four present "technical problems" which necessitate focused attention for timely resolution. The four include civil/structural, Bulletin 2012-01 (compliance with General Design Criteria (GDC) under 10 CFR Part 52), Digital Instrumentation and Controls (I&C), and Fukushima timing concerns due to the pending station blackout (SBO) rule.

- Civil/structural – AREVA applied a new analysis methodology for the evaluation of critical sections, resulting in a reduction in loads of 40-80 percent. The NRC staff questioned this magnitude reduction, speculating that it may be due to a modeling issue, and indicated that new benchmarking may be required, and that review may revert to Phase 2.
- Bulletin 2012-01 – AREVA's concern with adding a trip to auto-disconnect from offsite power was acknowledged. The NRC staff suggested that AREVA consider a trip with a safety permissive to resolve the issue, in order to comply with GDC 17 requirements.
- Digital I&C – The NRC staff review was suspended on the specific issue of reliance on non-safety-related inputs to monitor and control safety-related functions. AREVA agreed to provide a solution that would allow the NRC staff to restart the review.
- Fukushima Issues – The NRC staff review of the Fukushima Technical Report is ongoing. A meeting with AREVA is scheduled for June 25, 2013, to discuss NRC staff issues

## **Other Topics**

### Seismic Margin Assessment

The NRC staff questioned how the issue of component fragility is being addressed. AREVA noted that component fragility is being addressed with the COL applicants. DCWG took an action to have a public telecom with the NRC (Tom Bergman) on the survivability of components for the Seismic Margin Analysis, in early July 2013.

### 10 CFR 50.44 Compliance (Hydrogen)

The NRC staff questioned the deferral of actions to the COL applicants for the Severe Accident Capability analysis (hydrogen generation). The staff requested that the DCWG define the COL equipment being evaluated for compliance with 10 CFR 50.44.

UniStar (Greg Gibson) noted that the last of the Reference Combined License Application (RCOLA) RAI responses is scheduled for submittal by July 31, 2013, at which point UniStar believes that its RCOLA technical input is complete and merely awaiting final NRC review. As resources may be reassigned away from RCOLA tasks with this milestone, the NRC staff was asked by Mr. Gibson what RCOLA technical issues might remain open post July 31, 2013, and what the NRC staff's internal schedule is for preparing the Phase 4 Safety Evaluation Report (SER) Chapters (without Open Items) through September 2014. With this information, UniStar could better plan and schedule its required resources.

Next DCWG Meeting – The proposed date for the next DCWG meeting is August 6, 2013. The subsequent DCWG was proposed for September 17, 2013.

The DCWG agreed to pre-convene the group (including NRC) with a preparatory telecom 2 weeks in advance of the next meeting, to finalize the agenda topics, desired outcomes of group discussions, and status previous action items progress.

The DCWG noted the rotation of the DCWG group chairmanship from UniStar (Wayne Massie) to PPL (Rocky Sgarro), beginning with the next scheduled meeting.

This concluded the public portion of the meeting. No member of public was attending in person or via telephone conference line.

Please direct any inquiries concerning this meeting to either Sikhindra K. Mitra, who can be contacted by e-mail at [sikhindra.mitra@nrc.gov](mailto:sikhindra.mitra@nrc.gov) or by telephone at 301-415-2783.

Docket Nos.: 50-016, 52-020, and 52-039

Enclosures: 1. List of Attendees  
2. Action Item List

cc: See next page

**Other Topics****Seismic Margin Assessment**

The NRC staff questioned how the issue of component fragility is being addressed. AREVA noted that component fragility is being addressed with the COL applicants. DCWG took an action to have a public telecom with the NRC (Tom Bergman) on the survivability of components for the Seismic Margin Analysis, in early July 2013.

**10 CFR 50.44 Compliance (Hydrogen)**

The NRC staff questioned the deferral of actions to the COL applicants for the Severe Accident Capability analysis (hydrogen generation). The staff requested that the DCWG define the COL equipment being evaluated for compliance with 10 CFR 50.44.

UniStar (Greg Gibson) noted that the last of the Reference Combined License Application (RCOLA) RAI responses is scheduled for submittal by July 31, 2013, at which point UniStar believes that its RCOLA technical input is complete and merely awaiting final NRC review. As resources may be reassigned away from RCOLA tasks with this milestone, the NRC staff was asked by Mr. Gibson what RCOLA technical issues might remain open post July 31, 2013, and what the NRC staff's internal schedule is for preparing the Phase 4 Safety Evaluation Report (SER) Chapters (without Open Items) through September 2014. With this information, UniStar could better plan and schedule its required resources.

Next DCWG Meeting – The proposed date for the next DCWG meeting is August 6, 2013. The subsequent DCWG was proposed for September 17, 2013.

The DCWG agreed to pre-convene the group (including NRC) with a preparatory telecom 2 weeks in advance of the next meeting, to finalize the agenda topics, desired outcomes of group discussions, and status previous action items progress.

The DCWG noted the rotation of the DCWG group chairmanship from UniStar (Wayne Massie) to PPL (Rocky Sgarro), beginning with the next scheduled meeting.

This concluded the public portion of the meeting. No member of public was attending in person or via telephone conference line.

Please direct any inquiries concerning this meeting to either Sikhindra K. Mitra, who can be contacted by e-mail at [sikhindra.mitra@nrc.gov](mailto:sikhindra.mitra@nrc.gov) or by telephone at 301-415-2783

Docket Nos.: 50-016, 52-020, and 52-039

Enclosures: 1. List of Attendees  
2. Action Item List

cc: See next page

**DISTRIBUTION:**

PUBLIC

LB1 R/F

JSegala, NRO

JMcLellan NRO

MCanova, NRO

SMitra, NRO

RidsNroDnrlLb1

RidsAcraAcnwMailCenter

RidsOgcMailCenter

**ADAMS Accession No.: ML13197A405**

\*via email

NRC-002

<b>OFFICE</b>	DNRL/LB1:PM	DNRL/LB1:LA*	DNRL/LB1:BC
<b>NAME</b>	SMitra	JMcLellan	JSegala
<b>DATE</b>	07/19/2013	07/18/2013	08/05/2013

**OFFICIAL RECORD COPY**

**JUNE 19, 2013, MEETING WITH THE  
U.S. EPR DESIGN CENTER WORKING GROUP  
Attendance List**

	<b><u>Name</u></b>	<b><u>Affiliation</u></b>
1	Dale Roth	PPL Bell Bend LLC
2	Mike Caverly	PPL Bell Bend LLC
3	Rocky Sgarro	PPL Bell Bend LLC
4	Greg Gibson	UniStar Nuclear
5	Wayne Massie	UniStar Nuclear
6	Mark Finley	UniStar Nuclear
7	Paul Infanger	UniStar Nuclear
8	Shelby Small	AREVA NP
9	George Pannell	AREVA NP
10	Brandon Meier	AREVA NP
11	Martin Owens	AREVA NP
12	Mike Canova	NRC/NRO/DNRL
13	Surinder Arora	NRC/NRO/DNRL
14	Amy Snyder	NRC/NRO/DNRL
15	John Segala	NRC/NRO/DNRL
16	Sikhindra (S.K.) Mitra	NRC/NRO/DNRL
17	Perry Buckberg	NRC/NRO/DNRL
18	Gary Holahan	NRC/NRO/DD
19	Frank Akstulewicz	NRC/NRO/DNRL
20	Peter Kang	NRR/DE/EEEB
21	Tom Bergman	NRO/DE/DD
22	Mohammed Shuaibi	NRO/DE/DDD
23	Y.C. (Renee) LI	NRO/DE/EMB
24	Charles Ader	NRO/DSRA/DD
25	John McKirgan	NRO/DSRA/SCVB
26	Pat Highland	NRR/DE/DD
27	Vijay Goel	NRR/DE/EEEB
28	Manny Comar	NRC/NRO/DNRL

	<b><u>Name</u></b>	<b><u>Affiliation</u></b>
27	Vijay Goel	NRR/DE/EEEE
28	Manny Comar	NRC/NRO/DNRL
29	Eileen McKenna	NRO/DSRA/BPTS
30	Joe Donoghue	NRO/DSRA/SRSB
31	Steven Downey	NRO/DE/CIB
32	Phyllis Clark	NRO/DNRL/LB1
33	Dave Jaffe	NRO/DNRL/LB1
34	Pete Hearn	NRO/DNRL/LB1
35	Brian Wittick	NRC/OEDO
36	Mike McCoppin	NRO/DSEA/RPAC
37	Edward Stutzcage	NRO/DSEA/RPAC
38	Craig Harbuck	NRO/DSRA/BPTS
39	Mark Caruso	NRO/DSRA/SPRA

### Review of Actions – Joint DCWG/NRC Public Meeting, June 19, 2013

Revised Actions are marked with redline strikeout/green addition. New actions were added marked below as “New.” Items completed are shown ‘shaded out’.

DCWG – NRC Action Items					
Number	Description	Action Taken	Responsible	Due Date	
12-2-1	NRC identified a number of current COL items with legal wording problems that will not allow closure as written (see U.S. EPR RAI 533) – a call needs to be scheduled to resolve after NRC refines the impacted list with the staff	AREVA submitted RAI 533 response with corrected COL Item. NRC to issue a follow-up RAI for other COL item concerns.	NRC	Complete RAI 547 issued	
12-2-4	NRC will issue an RAI on the Before Fuel Load License Condition for the SFCTF to COLA applicants concerning this issue to provide a path for the proposed response submittal to NRC	Next action for NRC to issue RAI to COLA so the RAI response can be processed to close this issue (RAI CC3 347, BB 118) – no longer needed will be included in next COLA revisions	NRC	Complete CC3 RAI 347 and BB RAI 118 issued	
12-5-1	Action for NRC to have follow-up call with DCWG once the direction of Fukushima steering committee recommendation 4.2 is known.	NRC is assembling recommended actions. Once compiled, will share with AREVA by briefing or other means.	NRC	Complete AREVA has received and provided an advance response to RAI 563 for NTTF 4.2	
12-5-2	AREVA will determine schedule date for providing NRC Chapter 4 ‘Fuel’ pilot Tier 2* FSAR mark-up.		AREVA	Complete 6/01/2012	
12-9-1	COL Applicants will include revised response to COL Item on Spent Fuel cask Transfer facility in next COLA revisions		UniStar/PPL	Complete COLA Updates 3/31/2013-CC3 4/15/2013-BB	

DCWG – NRC Action Items					
Number	Description	Action Taken	Responsible	Due Date	
12-11-2	New: NRC will issue a follow-up RAI to DC RAI 410, requesting more specificity in the proposed ITAAC on CIV placement.	NRC follow-up RAI issued 12/11/12	NRC	Closed DC RAI 568	
12-11-3	New: NRC will accelerate the compiling of reviewer comments on DC RAI 547 for forwarding to AREVA	Activity ongoing. NRC to have comments compiled by 1/18/13	NRC	Closed RAI 547 issued	
12-11-4	New: Follow-up meeting to review impact on the SARs (DC and COLAs) of the Fukushima resolution items and COL License Conditions	Issue discussed at 1/15/13 DCWG	AREVA/JUNE/ PPL	Closed	
12-11-5	New: Submit presentation slides for the AREVA November 8, 2012 Go-To-Meeting. NRC to schedule a follow-up public meeting	NRC compiling Go-To comments, will transmit conclusion to AREVA	AREVA/NRC	Closed	
12-11-6	New: Address post cutoff COL item incorporation	Issue discussed at 1/15/13 DCWG	UNE	Closed	
12-11-7	New: Fukushima 7.1 – DCWG and NRC will review requirement for COLA response to indicate issue resolution progress		NRC	Closed CC3 RAI 347/388 and BB RAI 118	
12-11-8	Fukushima 8 – NRC will review timing and content of RAI addressing NTTF 8	NRC to issue proposed rule 7/14, final rule 3/16. Given schedule, NRC considering how US EPR Design Center to address NTTF 8.	NRC	Closed Given extended rule schedule, application reviews to continue as submitted. NTTF rule to be addressed when available.	
12-11-9	Fukushima 4.1 – NRC considering modifying 10CFR50.63, Station Blackout (SBO) Mitigation Capability	NRC deliberation continuing	NRC	Closed Draft SBO Rulemaking issued 4/10/13	



DCWG – NRC Action Items					
Number	Description	Action Taken	Responsible	Due Date	
12-11-10	Fukushima 4.2 – NRC is receptive to using License Conditions for 4.2, but will clarify upcoming RAI to request more specificity on how license conditions would be implemented	Have final RAI for CC3 and BB.	NRC	Closed CC3 RAI 379/388 and BB RAI 121/126	
12-11-11	Flex Capability – AREVA to reconsider its position that US EPR addresses ASCE 07-05 vs ASCE 07-10	AREVA to address ASCE 07-10 for new Flex mitigation equipment	AREVA	Closed AREVA Fukushima Technical Report	
13-01-1	AREVA Reading Room Accessibility - NRC will confirm access of their subcontractors.		NRC	Closed	
13-01-2	ITAAC Review Issues - NRC took an action to schedule a public meeting to provide feedback on ITAAC inspectability and technical acceptability.	NRC reviewer compiling comments.	NRC	Closed 4/4-4/5	
13-01-3	Fukushima 4.2 – NRC took an action to internally discuss the acceptability of a proposed license condition for NTTF 4.2.	NRC requested to issue site-specific RAIs to CCNPP Unit 3 and BB.	NRC	Closed CCNPP3 Closed BB	
13-01-4	DC Load Shedding – Battery Life - AREVA took an action to propose the applicable testing requirements to demonstrate the 6.5 hour battery capability.	NRC action to convey what is required for Fukushima testing (acceptance criteria)	AREVA/NRC	AREVA Closed NRC Closed 4/3/2013 Meeting	
13-01-5	Fukushima Technical Report - AREVA took an action to propose whether additional public meetings would be necessary before submittal of the Fukushima technical report.		AREVA	Closed with NRC Interactions presentation 3/5	
13-01-6	Review of Fukushima Technical Report - NRC will determine the need for an audit following submittal and review of the AREVA technical report in April 2013.		NRC	Closed NRC provided proposed audit schedule and will update in future DCWG meetings	

**DCWG – NRC Action Items**

<b>Number</b>	<b>Description</b>	<b>Action Taken</b>	<b>Responsible</b>	<b>Due Date</b>
13-03-1	DC Tier 2* Review	NRC will issue new RAIs to AREVA capturing reviewer Tier 2* comments	NRC	Closed June 11, 2013
13-03-2	Testing Program	NRC requested additional public meeting to discuss AREVA testing for other disciplines, i.e., mechanical equipment, valves, pumps, etc.	AREVA	Closed April 3, 2013
13-03-3	Venting Strategy	NRC requested additional public meeting to discuss AREVA venting strategy	AREVA	Closed April 3, 2013
13-03-4	GOTHIC Interface Requirements	NRC requested that AREVA clarify any interface requirements from this analysis (COL Items or actual interface reqts).	AREVA	Complete AREVA provided Tech. Report 5/4/13 and advanced response to RAI 563 Q19-356. COLA responsibilities in EPR FSAR Table 19.2-6
13-03-5	GOTHIC Analysis ERR Posting	NRC requested that the GOTHIC analysis be made available on the AREVA electronic reading room.	AREVA	Complete
13-04-1	Executive DCWG Meeting	UniStar requested and will propose an agenda for an Executive DCWG or Drop-In Meeting to be held on June 11, 2013	UniStar	Complete Exec DCWG held June 12, 2013
13-04-2	Design Specification Audit Plan	NRC agreed to finalize the Design Specification Audit Plan and decide on the official audit schedule.	NRC	Complete NRC provided proposed audit schedule and will update in future DCWG meetings

**DCWG – NRC Action Items**

<b>Number</b>	<b>Description</b>	<b>Action Taken</b>	<b>Responsible</b>	<b>Due Date</b>
13-04-3	Bulletin 2012-01 Response	NRC will document their RAI 564 advanced response comments and forward to AREVA.	NRC	Complete NRC provided reviewer comments via email 4/24/2013
13-04-4	Seismic Margin Assessment	AREVA and DCWG will assess the reviewer comments on the proposed DC FSAR markup, and readdress the Seismic Margin Assessment issue in upcoming NRC interactions.	AREVA/DCWG	Complete AREVA provided advance response to RAI 455 Q19-341 on May 30, 2013. FSAR Section 19.1 reflects reviewer comments.
13-04-5	Fukushima ITAAC	NRC asked that AREVA articulate the need for ITAAC in their Fukushima Technical Report submittal.	AREVA	Complete
13-04-6	SBO Rulemaking	Comments will be compiled by AREVA and submitted to the staff.	AREVA	Complete DCWG comments submitted 5/28/13
13-06-1	Parking Lot Items for Recurring Status/Discussion	DCWG agreed to generate a subset list of the Action Items (AI) for continued group discussion/status post AI closure.	DCWG	Open August 6, 2013
13-06-2	COL Items/ITAAC/License Condition Review	RCOLA agreed to a review of the COL Items (Table 1.8) and ITAAC wording, and License Conditions (Part 10) to be consistent with the Design Certification, and delete redundancies, and compliance with GDC 17.	UniStar	Open August 6, 2013

**DCWG – NRC Action Items**

<b>Number</b>	<b>Description</b>	<b>Action Taken</b>	<b>Responsible</b>	<b>Due Date</b>
13-06-3	Seismic Margin Assessment Component Fragility	DCWG agreed to have a public telecom with the NRC (Tom Bergman) on the survivability of components for the Seismic Margin Analysis	DCWG	Open Week of July 8, 2013
13-06-4	10 CFR 50.44 Compliance (Hydrogen)	The COL applicants were requested to define the COL equipment being evaluated for 10 CFR 50.44 compliance.	UniStar/PPL	Open August 6, 2013
				Open July 3, 2013

Email

alau@washdc.whitecase.com (Albie Lau)  
APH@NEI.org (Adrian Heymer)  
awc@nei.org (Anne W. Cottingham)  
CumminWE@Westinghouse.com (Edward W. Cummins)  
cwaltman@roe.com (C. Waltman)  
david.lewis@pillsburylaw.com (David Lewis)  
gzinke@entergy.com (George Alan Zinke)  
jerald.head@ge.com (Jerald G. Head)  
Joseph\_Hegner@dom.com (Joseph Hegner)  
KSutton@morganlewis.com (Kathryn M. Sutton)  
kscopelliti@pplweb.com (Karen Scopelliti)  
kwaugh@impact-net.org (Kenneth O. Waugh)  
lchandler@morganlewis.com (Lawrence J. Chandler)  
maria.webb@pillsburylaw.com (Maria Webb)  
mark.beaumont@wsms.com (Mark Beaumont)  
mark.t.hunter@unistarnuclear.com (Mark Hunter)  
matias.travieso-diaz@pillsburylaw.com (Matias Travieso-Diaz)  
mbowling@numarkassoc.com (Marty Bowling)  
media@nei.org (Scott Peterson)  
mjcaverly@pplweb.com (Michael J. Caverly)  
MSF@nei.org (Marvin Fertel)  
nirsnet@nirs.org (Michael Mariotte)  
Nuclaw@mindspring.com (Robert Temple)  
patriciaL.campbell@ge.com (Patricia L. Campbell)  
Paul.Infanger@constellation.com (Paul Infanger)  
Paul@beyondnuclear.org (Paul Gunter)  
pbessette@morganlewis.com (Paul Bessette)  
pshastings@generationmpower.com (Peter Hastings)  
Rebecca.Smith-Kevern@nuclear.energy.gov (Rebecca Smith-Kevern)  
RJB@NEI.org (Russell Bell)  
rrsgarro@pplweb.com (Rocco Sgarro)  
sabinski@suddenlink.net (Steve A. Bennett)  
sfrantz@morganlewis.com (Stephen P. Frantz)  
stephan.moen@ge.com (Stephan Moen)  
strambgb@westinghouse.com (George Stramback)  
tom.ryan@areva.com (Tom Ryan)  
Tony.Robinson@areva.com (Tony Robinson)  
trsmith@winston.com (Tyson Smith)  
Vanessa.quinn@dhs.gov (Vanessa Quinn)  
vincent.sorel@unistarnuclear.com (Vincent Sorel)  
Wanda.K.Marshall@dom.com (Wanda K. Marshall)  
wayne.marquino@ge.com (Wayne Marquino)  
wayne.massie@unistarnuclear.com (Wayne Massie)