

**KHNP****KOREA HYDRO & NUCLEAR POWER CO., LTD**

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March 24, 2016

Document Control Desk

U.S. Nuclear Regulatory Commission

Washington, DC 20555-0001

Attention: Mr. Jeff Ciocco  
 Division of New Reactor Licensing

Docket No. 52-046  
 MKD/NW-16-0263L

**Subject: Submittal of Presentation Materials for the April 20-21 Open and Closed ACRS Meeting of APR1400 Design**

The purpose of this letter is to transmit the presentation materials associated with open and closed ACRS meeting of APR1400 design scheduled in April 20-21, 2016.

Enclosure 1 contains a copy of the associated affidavit, and presentation materials being submitted are as follows:

Enclosure #	Title	P/ NP	Document #
Enclosure 2	Overview of APR1400 DC project	NP	APR1400-K-X-EC-16003-NP
Enclosure 3	APR1400 system design (Nuclear steam supply system)	NP	APR1400-Z-M-EC-16002-NP
Enclosure 4	APR1400 system design (Fuel design)	NP	APR1400-F-M-EC-16002-NP
Enclosure 5	APR1400 system design (Containment system)	NP	APR1400-E-N-EC-16001-NP
Enclosure 6	Seismic design analysis	P	APR1400-E-C-EC-16001-P
Enclosure 7	Seismic design analysis	NP	APR1400-E-C-EC-16001-NP
Enclosure 8	Structural analysis for reactor coolant system	P	APR1400-Z-M-EC-16001-P
Enclosure 9	Structural analysis for reactor coolant system	NP	APR1400-Z-M-EC-16001-NP
Enclosure 10	Piping design (Piping stress analysis)	P	APR1400-E-B-EC-16001-P
Enclosure 11	Piping design (Piping stress analysis)	NP	APR1400-E-B-EC-16001-NP
Enclosure 12	Piping design (Hazard analysis)	P	APR1400-E-N-EC-16003-P
Enclosure 13	Piping design (Hazard analysis)	NP	APR1400-E-N-EC-16003-NP
Enclosure 14	Radioactive waste management and radiation protection	P	APR1400-E-N-EC-16002-P
Enclosure 15	Radioactive waste management and radiation protection	NP	APR1400-E-N-EC-16002-NP
Enclosure 16	Electrical system design	P	APR1400-E-E-EC-16001-P



Enclosure #	Title	P/ NP	Document #
Enclosure 17	Electrical system design	NP	APR1400-E-E-EC-16001-NP
Enclosure 18	Instrumentation & control system	P	APR1400-Z-J-EC-16001-P
Enclosure 19	Instrumentation & control system	NP	APR1400-Z-J-EC-16001-NP
Enclosure 20	Man-machine interface system	P	APR1400-K-I-EC-16001-P
Enclosure 21	Man-machine interface system	NP	APR1400-K-I-EC-16001-NP
Enclosure 22	Plant security design (Physical security)	P	APR1400-K-X-EC-16001-P
Enclosure 23	Plant security design (Physical security)	NP	APR1400-K-X-EC-16001-NP
Enclosure 24	Plant security design (Aircraft impact analysis)	P	APR1400-E-N-EC-16004-P
Enclosure 25	Plant security design (Aircraft impact analysis)	NP	APR1400-E-N-EC-16004-NP
Enclosure 26	Plant security design (Loss of large area analysis)	P	APR1400-E-N-EC-16005-P
Enclosure 27	Plant security design (Loss of large area analysis)	NP	APR1400-E-N-EC-16005-NP
Enclosure 28	Safety analysis	P	APR1400-F-A-EC-16001-P
Enclosure 29	Safety analysis	NP	APR1400-F-A-EC-16001-NP
Enclosure 30	Probabilistic risk assessment	P	APR1400-E-P-EC-16001-P
Enclosure 31	Probabilistic risk assessment	NP	APR1400-E-P-EC-16001-NP
Enclosure 32	Mitigation strategies for beyond design basis event	P	APR1400-K-X-EC-16002-P
Enclosure 33	Mitigation strategies for beyond design basis event	NP	APR1400-K-X-EC-16002-NP

If additional information or clarification is required, please contact Daegeun Ahn, Director of KHNP Washington DC Center at [ahn.daeguen@khnp.co.kr](mailto:ahn.daeguen@khnp.co.kr) or 703-388-0592.

Sincerely,

Jae-yong Lee  
Project Manager  
Advanced Reactors Development Laboratory  
Korea Hydro and Nuclear Power Co., Ltd



Enclosures:

1. Affidavit KAW-16-0263
2. APR1400-K-X-EC-16003-NP (Non-Proprietary)
3. APR1400-Z-M-EC-16002-NP (Non-Proprietary)
4. APR1400-F-M-EC-16002-NP (Non-Proprietary)
5. APR1400-E-N-EC-16001-NP (Non-Proprietary)
6. APR1400-E-C-EC-16001-P (Proprietary)
7. APR1400-E-C-EC-16001-NP (Non-Proprietary)
8. APR1400-Z-M-EC-16001-P (Proprietary)
9. APR1400-Z-M-EC-16001-NP (Non-Proprietary)
10. APR1400-E-B-EC-16001-P (Proprietary)
11. APR1400-E-B-EC-16001-NP (Non-Proprietary)
12. APR1400-E-N-EC-16003-P (Proprietary)
13. APR1400-E-N-EC-16003-NP (Non-Proprietary)
14. APR1400-E-N-EC-16002-P (Proprietary)
15. APR1400-E-N-EC-16002-NP (Non-Proprietary)
16. APR1400-E-E-EC-16001-P (Proprietary)
17. APR1400-E-E-EC-16001-NP (Non-Proprietary)
18. APR1400-Z-J-EC-16001-P (Proprietary)
19. APR1400-Z-J-EC-16001-NP (Non-Proprietary)
20. APR1400-K-I-EC-16001-P (Proprietary)
21. APR1400-K-I-EC-16001-NP (Non-Proprietary)
22. APR1400-K-X-EC-16001-P (Proprietary)
23. APR1400-K-X-EC-16001-NP (Non-Proprietary)
24. APR1400-E-N-EC-16004-P (Proprietary)
25. APR1400-E-N-EC-16004-NP (Non-Proprietary)
26. APR1400-E-N-EC-16005-P (Proprietary)
27. APR1400-E-N-EC-16005-NP (Non-Proprietary)
28. APR1400-F-A-EC-16001-P (Proprietary)
29. APR1400-F-A-EC-16001-NP (Non-Proprietary)
30. APR1400-E-P-EC-16001-P (Proprietary)
31. APR1400-E-P-EC-16001-NP (Non-Proprietary)
32. APR1400-K-X-EC-16002-P (Proprietary)
33. APR1400-K-X-EC-16002-NP (Non-Proprietary)

## **Enclosure 1**

### **Affidavit KAW-16-0263**

I, Yun-ho Kim, state the following:

1. I am the General Manager of Korea Hydro & Nuclear Power Co., Ltd. (KHNP), and as such I am authorized to request withholding the information transmitted with this letter from public disclosure and to execute this affidavit.
2. I am familiar with the criteria applied by KHNP to determine whether certain information is proprietary, and with the policies established by KHNP to ensure the proper application of these criteria.
3. The information, APR1400-E-C-EC-16001-P (Proprietary), APR1400-Z-M-EC-16001-P (Proprietary), APR1400-E-B-EC-16001-P (Proprietary), APR1400-E-N-EC-16003-P (Proprietary), APR1400-E-N-EC-16002-P (Proprietary), APR1400-E-E-EC-16001-P (Proprietary), APR1400-Z-J-EC-16001-P (Proprietary), APR1400-K-I-EC-16001-P (Proprietary), APR1400-K-X-EC-16001-P (Proprietary), APR1400-E-N-EC-16004-P (Proprietary), APR1400-E-N-EC-16005-P (Proprietary), APR1400-F-A-EC-16001-P (Proprietary), APR1400-E-P-EC-16001-P (Proprietary), APR1400-K-X-EC-16002-P (Proprietary), transmitted with this letter has been classified by KHNP as proprietary in accordance with the policies for the control and protection of proprietary and confidential information. The information regarded as proprietary is identified and marked consistent with the requirements of 10 CFR 2.390, § (b)(1)(i). Accordingly, the proprietary information is enclosed within brackets and the right-hand bracket carries a notation of "TS" to indicate that the trade secret nature of the information claimed to be proprietary is the basis for proposing that the information so identified be withheld from public disclosure.
4. Pursuant to the considerations set forth in 10 CFR Section 2.390(a), KHNP considers the information classified as proprietary to be "trade secret" information since it is design, analysis, or test information that would be difficult for a competitor to reproduce and hence provides an economic and competitive advantage to KHNP.
5. The need for designating the information as proprietary has been raised within KHNP. The information is being treated proprietary and confidential and has not been disclosed by KHNP to the public.
6. Nondisclosure of the proprietary information transmitted with this letter is vital to the competitiveness held by KHNP and, hence, disclosure of the proprietary information transmitted in with this letter would have negative commercial impacts on the



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competitive position of KHNP in the U.S. nuclear market.

7. In accordance with KHNP policy, proprietary information contained in this document may be, or may have been, made available on a limited basis to regulatory bodies, customers, potential customers, and their agents, suppliers, and licensees, and others under suitable agreements providing for nondisclosure and limited use of the information.

I declare that the foregoing statements are true and correct to the best of my knowledge, information and belief.

Executed on March 24, 2016

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Yun-ho Kim  
General Manager  
APR1400 Licensing Team  
Central Research Institute  
Korea Hydro and Nuclear Power Co., Ltd

**Enclosure 2**

APR1400-K-X-EC-16003-NP

(Non-Proprietary)

March 24, 2016

**Enclosure 3**

APR1400-Z-M-EC-16002-NP

(Non-Proprietary)

March 24, 2016

**Enclosure 4**

APR1400-F-M-EC-16002-NP

(Non-Proprietary)

March 24, 2016



**Enclosure 5**

APR1400-E-N-EC-16001-NP

(Non-Proprietary)

March 24, 2016

**Enclosure 6**

APR1400-E-C-EC-16001-P

(Proprietary)

March 24, 2016

**Enclosure 7**

APR1400-E-C-EC-16001-NP

(Non-Proprietary)

March 24, 2016

**Enclosure 8**

APR1400-Z-M-EC-16001-P

(Proprietary)

March 24, 2016

**Enclosure 9**

APR1400-Z-M-EC-16001-NP

(Non-Proprietary)

March 24, 2016

**Enclosure 10**

APR1400-E-B-EC-16001-P

(Proprietary)

March 24, 2016

**Enclosure 11**

APR1400-E-B-EC-16001-NP

(Non-Proprietary)

March 24, 2016

**Enclosure 12**

APR1400-E-N-EC-16003-P

(Proprietary)

March 24, 2016



**Enclosure 13**

APR1400-E-N-EC-16003-NP

(Non-Proprietary)

March 24, 2016

**Enclosure 14**

APR1400-E-N-EC-16002-P

(Proprietary)

March 24, 2016

**Enclosure 15**

APR1400-E-N-EC-16002-NP

(Non-Proprietary)

March 24, 2016

**Enclosure 16**

APR1400-E-E-EC-16001-P

(Proprietary)

March 24, 2016

**Enclosure 17**

APR1400-E-E-EC-16001-NP

(Non-Proprietary)

March 24, 2016

**Enclosure 18**

APR1400-Z-J-EC-16001-P

(Proprietary)

March 24, 2016

**Enclosure 19**

APR1400-Z-J-EC-16001-NP

(Non-Proprietary)

March 24, 2016

**Enclosure 20**

APR1400-K-I-EC-16001-P

(Proprietary)

March 24, 2016



**Enclosure 21**

APR1400-K-I-EC-16001-NP

(Non-Proprietary)

March 24, 2016

**Enclosure 22**

APR1400-K-X-EC-16001-P

(Proprietary)

March 24, 2016

**Enclosure 23**

APR1400-K-X-EC-16001-NP

(Non-Proprietary)

March 24, 2016

**Enclosure 24**

APR1400-E-N-EC-16004-P

(Proprietary)

March 24, 2016

**Enclosure 25**

APR1400-E-N-EC-16004-NP

(Non-Proprietary)

March 24, 2016

**Enclosure 26**

APR1400-E-N-EC-16005-P

(Proprietary)

March 24, 2016

**Enclosure 27**

APR1400-E-N-EC-16005-NP

(Non-Proprietary)

March 24, 2016

**Enclosure 28**

APR1400-F-A-EC-16001-P

(Proprietary)

March 24, 2016



**Enclosure 29**

APR1400-F-A-EC-16001-NP

(Non-Proprietary)

March 24, 2016

**Enclosure 30**

APR1400-E-P-EC-16001-P

(Proprietary)

March 24, 2016

**Enclosure 31**

APR1400-E-P-EC-16001-NP

(Non-Proprietary)

March 24, 2016

**Enclosure 32**

APR1400-K-X-EC-16002-P

(Proprietary)

March 24, 2016

**Enclosure 33**

APR1400-K-X-EC-16002-NP

(Non-Proprietary)

March 24, 2016