

October 25, 2016

MEMORANDUM TO: Andrea Veil, Executive Director  
Advisory Committee on Reactor Safeguards

FROM: Frank Akstulewicz, Director /RA/  
Division of New Reactor Licensing  
Office of New Reactors

SUBJECT: ADVANCED POWER REACTOR 1400, ADVANCED TOPICAL REPORT  
SAFETY EVALUATIONS FOR THE "KCE-1 CRITICAL HEAT FLUX  
CORRELATION FOR PLUS7 THERMAL DESIGN" AND THE "FLUIDIC  
DEVICE DESIGN FOR THE APR1400"

On January 7, 2013, Korea Hydro & Nuclear Power Co., LTD (KHNP) submitted proprietary (ADAMS Accession No. ML13018A158) and nonproprietary (ADAMS Accession No. ML13018A147) versions of the "KCE-1 Critical Heat Flux Correlation for PLUS7 Thermal Design" and proprietary (ADAMS Accession No. ML13018A194) and nonproprietary (ADAMS Accession No. ML13107A008) versions of the "Fluidic Device Design for the APR1400," both of which support the design certification application for the Advanced Power Reactor 1400.

By letters dated June 27, 2013 (ADAMS Accession Nos. ML13175A400 and ML13175A402), the staff performed an acceptance review on the topical reports and found the material presented provided technical information in sufficient detail to complete a detailed technical review.

The staff is providing Advisory Committee Reactor Safeguards (ACRS) with its proprietary (ADAMS Accession No. ML16288A758) and nonproprietary (ADAMS Accession No. ML16288A754) Advanced Topical Report Safety Evaluation (TRSE) for the "KCE-1 Critical Heat Flux Correlation for PLUS7 Thermal Design" topical report, and the nonproprietary (ADAMS Accession No. ML16278A625) Advanced TRSE for the "Fluidic Device Design for the APR1400" topical report. The Advanced TRSEs are being provided to support a meeting on the subcommittee of the ACRS on December 14, 2016. The ACRS Full Committee meeting will be held after the subcommittee meeting.

CONTACT: John Vera, NRO/DNRL/LB2  
301-415-5790

Jessica Umana, NRO/DNRL/LB2  
301-415-5790

Docket No. 52-046

MEMORANDUM TO: Andrea Veil, Executive Director  
Advisory Committee on Reactor Safeguards

FROM: Frank Akstulewicz, Director  
Division of New Reactor Licensing  
Office of New Reactors

SUBJECT: ADVANCED POWER REACTOR 1400, ADVANCED TOPICAL  
REPORT SAFETY EVALUATIONS FOR THE "KCE-1 CRITICAL HEAT  
FLUX CORRELATION FOR PLUS7 THERMAL DESIGN" AND THE  
"FLUIDIC DEVICE DESIGN FOR THE APR1400"

On January 7, 2013, Korea Hydro & Nuclear Power Co., LTD (KHNP) submitted proprietary (ADAMS Accession No. ML13018A158) and nonproprietary (ADAMS Accession No. ML13018A147) versions of the "KCE-1 Critical Heat Flux Correlation for PLUS7 Thermal Design" and proprietary (ADAMS Accession No. ML13018A194) and nonproprietary (ADAMS Accession No. ML13107A008) versions of the "Fluidic Device Design for the APR1400," both of which support the design certification application for the Advanced Power Reactor 1400.

By letters dated June 27, 2013 (ADAMS Accession Nos. ML13175A400 and ML13175A402), the staff performed an acceptance review on the topical reports and found the material presented provided technical information in sufficient detail to complete a detailed technical review.

The staff is providing Advisory Committee Reactor Safeguards (ACRS) with its proprietary (ADAMS Accession No. ML16288A758) and nonproprietary (ADAMS Accession No. ML16288A754) Advanced Topical Report Safety Evaluation (TRSE) for the "KCE-1 Critical Heat Flux Correlation for PLUS7 Thermal Design" topical report, and the nonproprietary (ADAMS Accession No. ML16278A625) Advanced TRSE for the "Fluidic Device Design for the APR1400" topical report. The Advanced TRSEs are being provided to support a meeting on the subcommittee of the ACRS on December 14, 2016. The ACRS Full Committee meeting will be held after the subcommittee meeting.

CONTACT: John Vera, NRO/DNRL/LB2  
301-415-5790

Jessica Umana, NRO/DNRL/LB2  
301-415-5790

Docket No. 52-046

DISTRIBUTION:

PUBLIC	RidsOgcMailCenter	MThomas, NRO
LB2 R/F	RidsOpaMailCenter	RKaras, NRO
D101	RidsNroLACSmith	JKaizer, NRR
RidsNroDnrlLb2	RidsAcraAcnwMailCenter	RidsNroOd
MCarpentier, OGC	JDean, NRR	JCiocco, NRO
SLu, NRO	SHaider, NRO	

**ADAMS Accession Number: ML16230A224**

NRO-002

OFFICE	DNRL/LB2:PM	DNRL/LB2:PM	DNRL/LB2:LA	DNRL:LB2:BC	DNRL: D
NAME	JVera* **	JUmana*	CSmith*	JCiocco**	FAkstulewicz**
DATE	10/18/2016	10/18/2016	10/18/2016	10/25/2016	10/25/2016

\*Signed by email \*\*see previous concurrence **OFFICIAL RECORD COPY**

**KHNP Mailing List**

**9/22/2015**

Daegeun Tony Ahn  
Director  
KHNP Washington DC Center  
8100 Boone Blvd, Suite 620  
Vienna, VA 22182

## Email

leejaeyong@khnp.co.kr [Jae Yong Lee]  
hansang.kim@khnp.co.kr [Hansang Kim]  
dohwan.lee@khnp.co.kr [Do-Hwan Lee]  
hs.chang@khnp.co.kr; hyunseung.chang@gmail.com [Harry (Hyun Seung) Chang]  
junghokim@khnp.co.kr [Jung-Ho Kim]  
yunho.kim@khnp.co.kr; yshh8226@gmail.com [Yun Ho Kim]  
jiyong.oh@khnp.co.kr; jiyong.oh5@gmail.com  
[Jiyong Andy Oh]ahn.daegeun@khnp.co.kr  
daegeun.ahn@gmail.com [Daegeun Tony Ahn]  
limhs@kepco.co.kr [Hyun Seung Lim]  
beraka@kepco.co.kr [Seong Key Cho]  
puritys@kepco.co.kr [Byeong Soo Kwon]  
joys@kepco.co.kr [Young Sun Cho]