



**KHNP**

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March 9, 2018  
Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Attention: Mr. William Ward  
Division of New Reactor Licensing

Docket No. 52-046  
MKD/NW-18-0036L

**Subject: Submittal of Revised Technical Reports on Seismic and NI Basemat Design**

**References:**

- 1. KHNP Letter MKD/NW-17-0071L, Submittal of Revised Technical Reports for APR1400, dated March 17, 2014**
- 2. KHNP Letter MKD/NW-17-0196L, Submittal of Revised Technical Reports on Stability Check for APR1400 NI Common Basemat**

The purpose of this letter is to transmit six sets of revised technical reports regarding seismic design and foundation basemat design for APR1400 Design Certification. The prior versions of them had been submitted under the References 1 and 2. All the related responses to RAIs, officially transmitted before December 31, 2017, have been incorporated into these revised reports.

Enclosure 1 contains a copy of the associated affidavit. Enclosures 2 to 13 provide electronic copies of either proprietary or non-proprietary version of each set of the revised technical reports.

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

Sincerely,

Han-gon Kim  
Project Manager  
Advanced Reactors Development Laboratory  
Korea Hydro and Nuclear Power Co., Ltd

D101  
NRD



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

Enclosures:

1. Affidavit KAW-18-0036
2. Seismic Design Bases (Proprietary) (APR1400-E-S-NR-14001-P, Rev.2)
3. Seismic Design Bases (Non-Proprietary) (APR1400-E-S-NR-14001-NP, Rev.2)
4. Finite Element Seismic Models for SSI Analysis of the NI Buildings (Proprietary) (APR1400-E-S-NR-14002-P, Rev.2)
5. Finite Element Seismic Models for SSI Analysis of the NI Buildings (Non-Proprietary) (APR1400-E-S-NR-14002-NP, Rev.2)
6. SSI Analysis Methodology and Results of NI Buildings (Proprietary) (APR1400-E-S-NR-14003-P, Rev.2)
7. SSI Analysis Methodology and Results of NI Buildings (Non-Proprietary) (APR1400-E-S-NR-14003-NP, Rev.2)
8. Evaluation of Effects of HRHF Response Spectra on SSCs (Proprietary) (APR1400-E-S-NR-14004-P, Rev.3)
9. Evaluation of Effects of HRHF Response Spectra on SSCs (Non-Proprietary) (APR1400-E-S-NR-14004-NP, Rev.3)
10. Evaluation of Structure-Soil-Structure Interaction(SSSI) Effects (Proprietary) (APR1400-E-S-NR-14005-P, Rev.2)
11. Evaluation of Structure-Soil-Structure Interaction(SSSI) Effects (Non-Proprietary) (APR 1400-E-S-NR-14001-NP, Rev.2)
12. Stability Check for NI Common Basemat (Proprietary) (APR1400-E-S-NR-14006-P, Rev.4)
13. Stability Check for NI Common Basemat (Non-Proprietary) (APR1400-E-S-NR-14006-NP, Rev.4)

## Enclosure 1

### Affidavit KAW-18-0036

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-S-NR-14001-P, APR1400-E-S-NR-14002-P, APR1400-E-S-NR-14003-P, APR1400-E-S-NR-14004-P, APR1400-E-S-NR-14005-P, and APR1400-E-S-NR-14006-P, 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 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 9, 2018

A handwritten signature in black ink, appearing to be the initials "YH" or a similar stylized representation of the name Yun-ho Kim.

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



**Enclosure 3**

APR1400-E-S-NR-14001-NP, Rev.2

Seismic Design Bases

(Non-proprietary)



**Enclosure 5**

APR1400-E-S-NR-14002-NP, Rev.2

Finite Element Seismic Models for SSI Analyses of the NI Buildings

(Non-proprietary)



**Enclosure 7**

APR1400-E-S-NR-14003-NP, Rev.2

SSI Analysis Methodology and Results of NI Buildings

(Non-proprietary)



**Enclosure 9**

APR1400-E-S-NR-14004-NP, Rev.3

Evaluation of Effects of HRHF Response Spectra on SSCs

(Non-Proprietary)





**Enclosure 11**

APR1400-E-S-NR-14004-NP, Rev.2

Evaluation of Structure-Soil-Structure Interaction (SSSI) Effects

(Non-Proprietary)



**Enclosure 13**

APR1400-E-S-NR-14006-NP, Rev.4

Stability Check for NI Common Basemat

(Non-Proprietary)



**Enclosure 2**

APR1400-E-S-NR-14001-P, Rev.2

Seismic Design Bases

(Proprietary)



**Enclosure 4**

APR1400-E-S-NR-14002-P, Rev.2

Finite Element Seismic Models for SSI Analyses of the NI Buildings

(Proprietary)



**Enclosure 6**

APR1400-E-S-NR-14003-P, Rev.2

SSI Analysis Methodology and Results of NI Buildings

(Proprietary)



**Enclosure 8**

APR1400-E-S-NR-14004-P, Rev.3

Evaluation of Effects of HRHF Response Spectra on SSCs

(Proprietary)



**Enclosure 10**

APR1400-E-S-NR-14005-P, Rev.2

Evaluation of Structure-Soil-Structure Interaction (SSSI) Effects

(Proprietary)



**Enclosure 12**

APR1400-E-S-NR-14006-P, Rev.4

Stability Check for NI Common Basemat

(Proprietary)