

July 17, 2014

Dr. John E. Kelly
Deputy Assistant Secretary for
Nuclear Reactor Technologies (NE-7)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

SUBJECT: NEXT GENERATION NUCLEAR PLANT – ASSESSMENT OF KEY LICENSING
ISSUES

Dear Dr. Kelly:

As indicated in the U.S. Nuclear Regulatory Commission (NRC) letter dated February 15, 2012, our continued preclicensing interactions with the U.S. Department of Energy (DOE) and Idaho National Laboratory (INL) for DOE/INL's Next Generation Nuclear Plant (NGNP) project have focused on the further assessment of NGNP licensing issues in the following four key areas: licensing-basis event selection, source terms, functional containment performance, and emergency preparedness.

This letter transmits the NRC staff's feedback on key licensing issues in the form of two enclosures. The first enclosure consolidates and summarizes the NRC staff's feedback in response to selected requests in DOE/INL's letter of July 6, 2012. The second enclosure is a report describing the NRC staff's updated assessment of DOE/INL's white paper submittals on NGNP fuel qualification and mechanistic source terms.

Before approving the enclosures, I reviewed and seriously considered the differing views expressed by some NRC staff members and the responses developed by their management. The staff views and management responses will be made publicly available in the next few days. Some of our staff, including individuals with a great deal of knowledge and experience with advanced reactor concepts, believe that the current regulations and regulatory framework (including issues of licensing basis event selection, containment performance, and emergency preparedness) are too narrowly focused on light-water reactor technology to be fully appropriate for advanced reactor decision-making. While this view may be justified at some time in the future after appropriate research, analysis, and experience, the current regulatory framework which is formulated on the concept of defense-in-depth (addressing prevention and mitigation of potential core damage, containment performance and emergency preparedness) and complemented by risk-informed insights, is appropriate. The report does a reasonable job of building on traditional approaches while considering the NGNP concept and likely capabilities. Further progress on an appropriate regulatory approach for advanced reactors will likely require more fully-developed reactor designs, more fuel-related research, and further analysis of the value of emergency preparedness features.

J. Kelly

-2-

If you have any questions, please contact Donald Carlson of my staff. Dr. Carlson can be reached at 301-415-0109.

Sincerely,

/RA/ GHolahan for

Glenn M. Tracy, Director
Office of New Reactors

Project No. 0748

Enclosures:

1. Summary Feedback on Four Key
Licensing Issues
2. Assessment of White Paper Submittals
on FQ & MST

J. Kelly

-2-

If you have any questions, please contact Donald Carlson of my staff. Dr. Carlson can be reached at 301-415-0109.

Sincerely,

/RA/ GHolahan

Glenn M. Tracy, Director
Office of New Reactors

Project No. 0748

Enclosures:

1. Summary Feedback on Four Key Licensing Issues
2. Assessment of White Paper Submittals on FQ & MST

DISTRIBUTION: See next page

ADAMS Accession No: ML14174A626 * via e-mail

NRO-002

OFFICE	PM: NRO/DARR/SMRLB2*			PM: NRO/DARR/SMRLB2*		PM:NRO/DARR/SMRLB2*				LA: NRO/DARR	
NAME	JShea/JS			ACosta/AC		DCarlson/DC				MBrown	
	Non-Concur			Non-Concur	Concur	Concur	Non-Concur				
DATE	12/12/13	4/21/14	07/29/14	12/12/13	07/29/14	1/4/13	12/12/13	4/21/14	07/28/14	1/16/13	
OFFICE	BC: NRO/DARR/SMRLB2			D: NRO/DARR		D: NRO/DSRA*				D: NRO/DSEA*	
NAME	ABradford			MMayfield		CAder				SFlanders	
DATE	1/9/13	5/12/14		1/25/13	6/4/14	2/8/13		5/30/14		2/8/13	6/16/14
OFFICE	D: NRO/DE*			D: RES/DRA*		D: RES/DRA*				QTE*	
NAME	TBergman			DCoe	RCorreia	KGibson				CHsu	
DATE	2/8/13			2/8/13	6/16/14	2/8/13		6/6/14		1/29/13	
OFFICE	D:NSIR/DPR*			OGC/GCHEA*		D: NRO					
NAME	RLewis			MCarpentier		GTracy - GHolahan for					
DATE	2/8/13	6/18/14		8/21/13	6/18/14	7/17/14					

OFFICIAL RECORD COPY

Letter to Dr. John E. Kelly from Glenn M. Tracy dated: July 17, 2014

SUBJECT: NEXT GENERATION NUCLEAR PLANT – ASSESSMENT OF KEY LICENSING
ISSUES

DISTRIBUTION:

Public

GTracy, NRO

GHolahan, NRO

MMayfield, NRO

SCoffin, NRO

RidsNroOd Resource

RidsNroDarr Resource

RidsNroDe Resource

RidsNroDnrl Resource

RidsNroDsea Resource

RidsNroDsra Resource

NRO_Branch_Chiefs

RidsNsirOd Resource

RidsNsirDpa Resource

RidsOcgMailCenter Resource

RidsResOd Resource

RidsOpaMail Resource

RidsAcrsAcnw_MailCTR Resource