

March 7, 2013

MEMORANDUM TO: Edwin M. Hackett, Executive Director  
Advisory Committee on Reactor Safeguards

FROM: Michael E. Mayfield, Director /RA/  
Division of Advanced Reactors and Rulemaking  
Office of New Reactors

SUBJECT: NEXT GENERATION NUCLEAR PLANT - PREAPPLICATION  
ASSESSMENT OF KEY LICENSING ISSUES

The U.S. Department of Energy (DOE) and its Idaho National Laboratory (INL) (hereafter referred to collectively as DOE/INL) established the Next Generation Nuclear Plant (NGNP) Project as required by Congress in Subtitle C of Title VI of the Energy Policy Act of 2005 (EPAct). The mission of the NGNP Project is to develop, license, build, and operate a prototype high-temperature gas-cooled reactor (HTGR) plant that generates high-temperature process heat for use in hydrogen production and other energy-intensive industries while also generating electricity at the same time.

As stipulated by the EPAct, DOE/INL and the U.S. Nuclear Regulatory Commission (NRC) have been engaged in prelicensing interactions on technical and policy issues that could affect the design and licensing of the NGNP prototype. These interactions have focused increasingly on issues in four key areas previously highlighted in the NGNP Licensing Strategy Report that NRC and DOE jointly issued to Congress in 2008. The four key issue areas are:

- (1) Licensing basis event selection
- (2) Source terms
- (3) Containment functional performance
- (4) Emergency preparedness

The NRC staff has recently completed three documents presenting its assessment of DOE/INL's proposed approaches to issues in these four areas. The first document (Agencywide Documents Access and Management System (ADAMS) Accession Number ML13002A157) consolidates and summarizes the staff's views on issues in each area in response to specific requests from DOE/INL. More detailed staff comments on these issues are then provided in the second and third documents (ADAMS Accession Numbers ML13002A168 and ML13002A162), which are reports describing the NRC staff's updated assessment of NGNP white paper submittals on several related subtopics.

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E. Hackett

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This staff is providing these three documents to the Advisory Committee on Reactor Safeguards (ACRS) to support a meeting of the subcommittee of the ACRS scheduled for April 9, 2013. The ACRS Full Committee meeting will be held after the subcommittee meeting. These documents do not contain any information exempt from public disclosure.

Project No.: 0748

cc: COL - NGNP Mailing List

E. Hackett

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**ADAMS Accession No.: ML13060A102**

**NRO-002**

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(Revised 03/07/2013)

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