

Nuclear Energy Consultants, Inc.



Session 3

ADVANCED REACTOR REGULATORY REGIMES

Global Nexus Initiative

Next Generation Nuclear Power: Value and Challenges of
Transitioning to Advanced Technologies

February 23, 2016



**Global Nexus
Initiative**

*Where Climate, Nuclear,
and Security Meet*

David B. Matthews, Senior Regulatory Consultant
Nuclear Energy Consultants, Inc. (NEC)
15713 Crabbs Branch Way
Rockville, MD 20855
Phone: 301-840-2964
Fax: 301-840-1162
Web: www.necenergy.com

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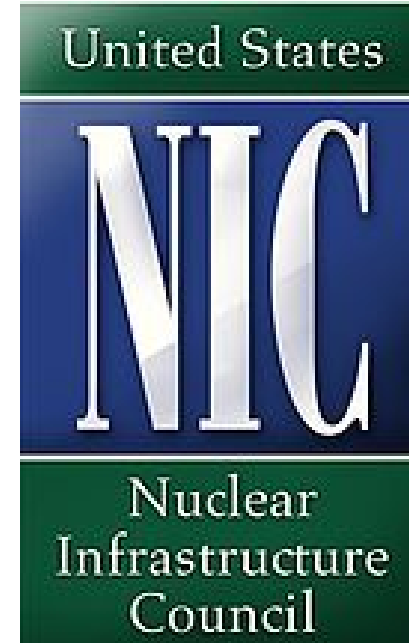
I. DOMESTIC (U.S.) INITIATIVES

II. INTERNATIONAL INITIATIVES

III. U.S. REGULATORY “POLICIES-PROCESSES-BUDGETS”

IV. LEGISLATIVE INITIATIVES

I. DOMESTIC INITIATIVES/PARTNERSHIPS



NUCLEAR ENERGY INSTITUTE



U.S. DEPARTMENT OF
ENERGY

II. INTERNATIONAL INITIATIVES/PARTNERSHIPS

**WORLD NUCLEAR
ASSOCIATION**
CORDEL



CNRA-WGRNR



*MULTINATIONAL
DESIGN EVALUATION
PROGRAMME (MDEP)*





III. U.S. REGULATORY “POLICIES- PROCESSES-BUDGETS”

Progress and Challenges

POLICY

“a high-level overall plan embracing the general goals and acceptable procedures especially of a governmental body”

U.S. NRC Policy Statement on the Regulation of Advanced Reactors

October 2008 (73 FR 60612)

NRC Commission Papers (SECYs) and Staff Requirements Memorandums (SRMs)

NRC Congressional Testimony

NRC Public Statements

EMERGENCY PLANNING POLICY

Future deployment in the U.S. of any advanced reactor may hinge on the result of the NRC's final position on the size of the plume exposure pathway EPZ, regardless of the acceptability of the safety of the design.

“The Commission has approved the staff’s recommendation to initiate a rulemaking **to revise regulations and guidance for emergency preparedness (EP) for small modular reactors (SMRs) and other new technologies, such as non-light-water reactors (non-LWRs)** and medical isotope production facilities...For any small modular reactor reviews conducted prior to the establishment of a rule, **the staff should be prepared to adapt an approach to emergency planning zones for SMRs under existing exemption processes, in parallel with its rulemaking efforts.**” (emphasis added)

Staff Requirements

*SECY-15-0077 - OPTIONS FOR EMERGENCY PREPAREDNESS
FOR SMALL MODULAR REACTORS
AND OTHER NEW TECHNOLOGIES*

August 4, 2015

PROCESS

“a series of actions or steps taken in order to achieve a particular end”

NRC Regulations

NRC Regulatory Guides

NRC Regulatory Information Summaries

“While the NRC’s current regulatory framework focuses on light water reactors, **we are confident we could license a non-light water reactor under the current framework.** However, because the NRC’s reactor licensing regulations and guidance documents were developed based primarily on light-water reactor technologies, we recognize the potential knowledge gaps for both the staff and prospective applicants. We are working to address those gaps with DOE through the GAIN initiative announced earlier today, and have committed to providing technical expertise and guidance to the DOE to assist prospective applicants in understanding the NRC’s regulatory processes.” (emphasis added)

*NRC Chairman Burns
White House Nuclear Energy Summit
November 6, 2016*

BUDGET

“an official statement from a government about how much it plans to spend during a particular period of time and how it will pay for the expenses”

NRC Proposed FY 2017 Budget to Congress

“In accordance with the provisions of the Omnibus Budget Reconciliation Act of 1990 (OBRA-90), as amended, the NRC’s FY 2017 budget provides for 90 percent fee recovery...As discussed in the “Proposed Fiscal Year 2017 Appropriations Legislation” chapter of this Congressional Budget Justification, the proposed FY 2017 legislative language makes clear that...\$5.0 million of the amount used for activities related to the development of regulatory infrastructure for advanced nuclear reactor technologies are excluded from OBRA-90’s fee recovery requirement.” (emphasis added)

NRC FY2017 Congressional Budget Justification

“The FY 2017 budget request includes \$5 million in non-fee billable activities related to developing the regulatory infrastructure for advanced nuclear reactor technologies. This funding would prepare the NRC to undertake effective and efficient licensing reviews of advanced reactor technologies consistent with the maturity and development pace of the technologies. The intended activities to be initiated in FY 2017 would fall into three categories: licensing infrastructure, technical preparation, and outreach.”
(emphasis added)

*NRC Chairman Burns
Written Budget Testimony
February 10, 2016*

IV. LEGISLATIVE INITIATIVES

Recent Legislative Proposals

(not yet passed and funding will need to be appropriated)

H.R. 4084

(Introduced November 19, 2015)

“A BILL [t]o enable civilian research and development of advanced nuclear energy technologies by private and public institutions....”

Advanced Reactor Amendment to [S. 2012 - The Energy Policy Modernization Act](#) (Amendment passed by vote of 87-4 in February 2016)

A FATE WE WANT ADVANCED REACTOR REGULATORY INITIATIVES TO AVOID:



BECAUSE THIS IS THE FATE WE WANT ALL ADVANCED REACTOR INNOVATORS TO AVOID:

