

EDO Principal Correspondence Control

FROM: DUE: 10/02/08

EDO CONTROL: G20080609  
DOC DT: 08/19/08  
FINAL REPLY:

Robert Brown  
GE Hitachi Nuclear Energy

TO:

Commission

FOR SIGNATURE OF :

\*\* GRN \*\*

CRC NO: 08-0471

Johnson, NRO

DESC:

Regulatory Framework for Advanced Reactors and  
Fuel Cycle Facilities (EDATS: SECY-2008-0521)

ROUTING:

Borchardt  
Virgilio  
Mallett  
Ash  
Ordaz  
Cyr/Burns  
Weber, NMSS  
Sheron, RES

DATE: 09/11/08

ASSIGNED TO:

NRO

CONTACT:

Johnson

SPECIAL INSTRUCTIONS OR REMARKS:

Coordinate with NMSS.

**EDATS Number:** SECY-2008-0521

**Source:** SECY

## General Information

**Assigned To:** NRO

**OEDO Due Date:** 10/2/2008 5:00 PM

**Other Assignees:**

**SECY Due Date:** NONE

**Subject:** Regulatory Framework for Advanced Reactors and Fuel Cycle Facilities

**Description:**

**CC Routing:** NMSS; RES

**ADAMS Accession Numbers - Incoming:** NONE

**Response/Package:** NONE

## Other Information

**Cross Reference Number:** G20080609, LTR-08-0471

**Staff Initiated:** NO

**Related Task:**

**Recurring Item:** NO

**File Routing:** EDATS

**Agency Lesson Learned:** NO

**Roadmap Item:** NO

## Process Information

**Action Type:** Letter

**Priority:** Medium

**Signature Level:** NRO

**Sensitivity:** None

**Urgency:** NO

**OEDO Concurrence:** NO

**OCM Concurrence:** NO

**OCA Concurrence:** NO

**Special Instructions:** Coordinate with RES.

## Document Information

**Originator Name:** Robert Brown

**Date of Incoming:** 8/19/2008

**Originating Organization:** GE Hitachi Nuclear Energy

**Document Received by SECY Date:** 9/10/2008

**Addressee:** U.S. Nuclear Regulatory Commission

**Date Response Requested by Originator:** NONE

**Incoming Task Received:** Letter





**HITACHI**

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MFN-08-608

August 19, 2008

U.S. Nuclear Regulatory Commission  
ATTN: Rulemaking and Adjudications Staff  
Washington, DC 20555-001

*Subject: Regulatory Framework for Advanced Reactors and Fuel Cycle Facilities*

GE-Hitachi (GEH) is currently participating in the U.S. Department of Energy's Global Nuclear Energy Partnership (GNEP) program and recognizes the importance of advanced fuel cycle facilities and a fast reactor program in the U.S. to address the back-end of the nuclear fuel cycle. With expected growth in the nuclear industry in both the U.S. and globally and as part of its anti-proliferation efforts, it is important that the U.S. develop a fast reactor program and it is imperative that the U.S. takes a leadership role in developing, licensing and building advanced fuel cycle systems.

GEH is aware that the NRC is performing a "gap" analysis against current regulations and considering rulemaking actions that may achieve efficiencies in conducting licensing reviews for advanced fuel cycle facilities and fast reactors.<sup>1</sup> While current license regulations provide a sound basis for beginning the regulation of advanced fuel cycle facilities and fast reactors, GEH agrees that certain rulemaking actions could improve the licensing process. For example, licensing an advanced fuel cycle reprocessing facility, which would currently be within the scope of 10 CFR Part 50, may more appropriately be modeled on 10 CFR Part 70 Integrated Safety Assessment risk-informed approach and one-step licensing process. Thus, rulemaking to modify Parts 50 and 70, or to create a new part, may be appropriate and a one-step licensing process is an important element of any new regulatory framework for regulatory certainty.

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<sup>1</sup> SECY-07-0198, "Performance and Coordination of the Regulatory Framework for the Global Nuclear Energy Partnership," Nov. 7, 2007.

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Regarding fast reactors, the regulations in 10 CFR Part 50 or Part 52 provide an existing framework that could be used to facilitate licensing an advanced reactor. However, some aspects of current regulations would not apply and may need to be modified. For instance, the loss of cooling accident as applied to pool reactors using metal fuel and coolant safety in the case of sodium would need to be addressed. As an alternative to Part 50 or Part 52 licensing, the NRC is working on a risk-informed, performance-based regulatory framework for the next generation of reactor designs, which could include fast reactors. Design certification/manufacturing licensing and a one-step licensing process for a selected site are important elements in any new regulatory framework for fast reactors.

Although GEH is not at this time stating an intent to submit an application, with the current increase in nuclear power and the need for recycling and fast reactors to burn actinides, the Commission will likely receive licensing actions in the foreseeable future. Therefore, the Commission should begin preparations for establishing regulations and guidance for the introduction of advanced fuel facilities and fast reactors. GEH supports the NRC activities under the Memorandum of Understanding with the Department of Energy with regard to GNEP, and encourages the Commission to include rulemaking activities in its future strategic planning for licensing of such facilities.

GEH looks forward to continued participation in the Commission's efforts involving rulemaking and licensing activities for advanced fuel cycle facilities and fast reactors. Please contact me if you have any questions.

Sincerely,



Robert Brown  
Sr. Vice President  
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