

September 4, 2003

MEMORANDUM TO: L. Raghavan, Chief, Section 1  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

FROM: Johnny H. Eads, Project Manager, Section 1 /RA/  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF JUNE 18, 2003, MEETING BETWEEN THE NUCLEAR  
REGULATORY COMMISSION STAFF AND STAKEHOLDERS  
CONCERNING GENERIC SAFETY ISSUE 189, "SUSCEPTIBILITY OF  
ICE CONDENSER AND MARK III CONTAINMENTS TO EARLY  
FAILURE FROM HYDROGEN COMBUSTION DURING A SEVERE  
ACCIDENT"

On June 18, 2003, the Nuclear Regulatory Commission (NRC) staff met with the Nuclear Energy Institute (NEI), utility groups, and other stakeholders at NRC headquarters concerning Generic Safety Issue 189 (GSI-189), "Susceptibility of Ice Condenser and Mark III Containments to Early Failure From Hydrogen Combustion During a Severe Accident." Attachment 1 lists the meeting attendees. The purpose of the meeting was (1) to provide information regarding GSI-189, (2) to provide the NRC's bases for considering the full range of alternatives to resolving GSI-189, including rulemaking, and (3) to obtain comments from applicable licensees, the general public, and other stakeholders regarding the need to add backup power for combustible gas igniters installed in plants with ice condenser and Mark III containments.

A public meeting notice was issued on May 21, 2003, and was posted on the NRC's external (public) web page (ADAMS Accession No. ML031350068). The notice included the meeting agenda, which was also available as a handout at the meeting. The discussions included (1) an NRC presentation of the GSI-189 background, safety and regulatory bases, and possible regulatory approaches, (2) utility and industry group comments related to the proposed resolution of GSI-189, and (3) public comments related to GSI-189. The following is a brief summary of the discussions:

#### NRC Presentation

In opening remarks, Suzanne C. Black, Director, Division of Systems Safety and Analysis, provided an overview of the NRC mission to protect the public health and safety, and explained that as part of the NRC's efforts to improve communication with the public on safety issues, this meeting was being conducted to provide information and receive stakeholder comments regarding GSI-189 and the need to add backup power for combustible gas igniters installed in ice condenser and Mark III containments. Attachment 2 is the NRC presentation slides.

Next, Gregory V. Cranston, the GSI-189 Technical Lead, continued the NRC presentation with a discussion of the background of GSI-189. Mr. Cranston noted that current plans for resolving GSI-189 could require the addition of backup power supplies to combustible gas igniters for pressurized-water reactors with ice condenser containments (McGuire Units 1 and 2, Catawba Units 1 and 2, D. C. Cook Units 1 and 2, Sequoyah Units 1 and 2, and Watts Bar) and for boiling-water reactors with Mark III containments (Grand Gulf, River Bend, Clinton, and Perry). Mr. Cranston provided details of the NRC-conducted technical assessment and cost benefit analyses. Mr. Cranston discussed in detail the safety basis for the proposed resolution of GSI-189, noting the substantial increase in overall protection and safety as a result of the addition of a backup power supply for the combustible gas igniters. Mr. Cranston then discussed the regulatory basis for requiring the addition of a backup power supply and the regulatory actions considered for resolution of this issue, including possible generic communications, orders, or rulemaking. In summary, Mr. Cranston stated that GSI-189 was not an immediate safety concern, but that the addition of backup power supplies to the combustible gas igniters would be a significant safety enhancement when considering defense-in-depth, NRC risk guidelines, and NRC safety goals.

#### Utility and Industry Group Comments

Following the NRC presentation, industry comments were received from representatives of each of the impacted plants and from the Nuclear Energy Institute. Attachment 3 is the industry handout briefly highlighting the points of discussion. In general, industry comments focused on the need to publish a schedule for NRC resolution of GSI-189 and to better define the criteria and scope for an acceptable approach. In addition, certain licensees also discussed alternative approaches to resolve GSI-189. These alternatives included focusing utility resources on plant-specific changes which would reduce the probability of severe core damage following station blackout events in lieu of using those resources for the addition of backup power supplies to the combustible gas igniters. Industry comments were also received related to the inability to rely on severe accident management guidelines for addressing GSI-189 due to time constraints to power the igniters prior to significant hydrogen generation. The need for a second public meeting to discuss the proposed resolution of GSI-189 further was also identified.

#### Public Comments

Public comments were received from Paul Gunter of National Informational Resource Services and Diane Curran representing the Blue Ridge Environmental Defense League. Comments included a discussion of inputs to the cost benefit analysis, with specific questions related to the need for fans to support the igniter system. In addition, questions were received related to static discharge as a random ignition source for hydrogen combustion. In general, public comments were favorable in support of rulemaking for resolution of GSI-189.

- Attachments:
1. Meeting Attendees
  2. NRC Slide Presentation "Generic Safety Issue 189 - Susceptibility of Ice Condenser and Mark III Containments to Early Failure From Hydrogen Combustion During a Severe Accident"
  3. Industry Handout "Discussion Points - NRC Public Meeting on GSI-189"

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## LIST OF ATTENDEES

### MEETING REGARDING GENERIC SAFETY ISSUE 189, "SUSCEPTIBILITY OF ICE CONDENSER AND MARK III CONTAINMENTS TO EARLY FAILURE FROM HYDROGEN COMBUSTION DURING A SEVERE ACCIDENT"

JUNE 18, 2003

<u>NAME</u>	<u>TITLE</u>	<u>ORGANIZATION</u>
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S. Black	Director	NRC/NRR/DSSA
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J. Wilson	Project Manager	NRC/NRR/DLPM
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A. Malliakos	Project Manager	NRC/RES
A. Notafrancesco	-	NRC/RES
J. Reese	Resident Inspector	NRC/RII
J. Butler	Sr. Proj. Mgr.	Nuclear Energy Institute
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A. Cottingham	Attorney	Winston and Strawn/ Duke Energy
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J. Jansen	PRA Supervisor	AEP
D. Hafer	Assistant Director	AEP
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D. Curran	Attorney	Blue Ridge Envir. Defense League
F. Adorjan	Engineer	Hungarian Atomic Energy Authority
T. Janosi	Engineer	Hungarian Atomic Energy Authority

NRR = Office of Nuclear Reactor Regulation  
DLPM = Division of Licensing Project Management  
DSSA = Division of Systems Safety and Analysis  
SPLB = Plant Systems Branch  
SPSB = Probabilistic Safety Assessment Branch  
DRIP = Division of Regulatory Improvement Programs  
RPRP = Policy and Rulemaking  
RLEP = License Renewal and Environmental Impacts  
DIPM = Division of Inspection Program Management  
OGC = Office of the General Counsel  
OPA = Office of Public Affairs  
RES = Office of Nuclear Regulatory Research  
RII = Region II  
FENOC = First Energy Nuclear Operating Company  
AEP = American Electric Power  
TVA = Tennessee Valley Authority  
BWROG = Boiling Water Reactor Owners Group