

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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NAME	JEads	RBouling	DHood for LRaghavan
DATE	09/03/03	09/04/03	09/04/03

ADAMS Accession No. ML032410047 (Meeting Summary)

ADAMS Accession No. ML032450188 (Attachment 2)

ADAMS Accession No. ML032450193 (Attachment 3)

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AMalliakos

ANotafrancesco

JReese

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>
J. Eads	Lead Project Manager	NRC/NRR/DLPM
G. Cranston	Reactor Systems Engineer	NRC/NRR/DSSA/SPLB
S. Weerakkody	Section Chief	NRC/NRR/DSSA/SPLB
M. Johnson	Deputy Director	NRC/NRR/DSSA
S. Black	Director	NRC/NRR/DSSA
R. Palla	Reactor Systems Engineer	NRC/NRR/DSSA/SPSB
J. Pulsipher	Reactor Systems Engineer	NRC/NRR/DSSA/SPSB
A. Drozd	Reactor Systems Engineer	NRC/NRR/DSSA/SPSB
D. Solorio	Section Chief	NRC/NRR/DSSA/SPLB
S. West	Section Chief	NRC/NRR/DRIP/RPRP
D. Skeen	Section Chief	NRC/NRR/DRIP/RPRP
S. Schneider	Sr. Project Manager	NRC/NRR/DRIP/RPRP
R. Franovich	Senior Materials Engineer	NRC/NRR/DRIP/RLEP
G. Wunder	Cost Analyst	NRC/NRR/DRIP
L. Raghavan	Section Chief	NRC/NRR/DLPM
M. Chernoff	Project Manager	NRC/NRR/DLPM
J. Wilson	Project Manager	NRC/NRR/DLPM
S. Uttal	Sr. Attorney	NRC/OGC
S. Burnell	Public Affairs Office	NRC/OPA
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A. Notafrancesco	-	NRC/RES
J. Reese	Resident Inspector	NRC/RII
J. Butler	Sr. Proj. Mgr.	Nuclear Energy Institute
R. Gill	-	Duke Energy
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D. Hafer	Assistant Director	AEP
W. Mims	PRA Specialist	TVA
J. Peterson	Sr. Regulatory Analyst	AmerGen
R. Byrd	Sr. Staff Engineer Licensing	Entergy
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ATTACHMENT 1

<u>NAME</u>	<u>TITLE</u>	<u>ORGANIZATION</u>
P. Gunter	–	National Info. Resource Services
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