

August 20, 2009

MEMORANDUM TO: Michael Tschiltz, Deputy Director
Fuel Facility Licensing Directorate
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

THRU: Brian W. Smith, Chief **/RA/**
Uranium Enrichment Branch
Fuel Facility Licensing Directorate
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

FROM: Timothy C. Johnson, Project Manager **/RA/**
Uranium Enrichment Branch
Fuel Facility Licensing Directorate
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

SUBJECT: AUGUST 12, 2009, TELEPHONE SUMMARY: GENERAL
ELECTRIC-HITACHI ELECTRIC AND INSTRUMENTATION
ACCEPTANCE REVIEW

On August 12, 2009, the U.S. Nuclear Regulatory Commission (NRC) staff held a telephone conference call with staff from General Electric-Hitachi (GEH) to discuss electrical and instrumentation information needed for the review of the GEH application for a laser-based uranium enrichment facility. These information needs were identified in the license application acceptance letter from Timothy C. Johnson to GEH, dated August 6, 2009.

CONTACT: Timothy C. Johnson, NMSS/FCSS
(301) 492-3121

I am attaching the telephone summary for your use. No proprietary or classified information was discussed.

Docket No.: 70-7016

Enclosure: GEH Telephone Summary

cc: William Szymanski/DOE
Patricia Campbell/GEH
Robert Brown/GEH
Tammy Orr/GEH
Mike Giles/CFC
Tom Clements/FOTE
David Springer/CFRW
Stephen Rynas/NCDENR
Jennifer Braswell/New Hanover County
Christopher O'Keefe/New Hanover County
Lafayette Atkinson/NCOSH
Bruce Shell/New Hanover County
Marty Lawing/Brunswick County
George Brown/Pender County
Bill Saffo/Wilmington
Malissa Talbert/Wilmington
Wanda Lagoe/NCOSH
Cameron Weaver/NCDENR
Emily Hughes/USACE
Lee Cox/NCDENR
David Weaver/New Hanover County

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	Robert Brown/GEH	George Brown/Pender County
	Tammy Orr/GEH	Bill Saffo/Wilmington
	Mike Giles/CFC	Malissa Talbert/Wilmington
	Tom Clements/FOTE	Wanda Lagoe/NCOSH
	David Springer/CFRW	Cameron Weaver/NCDENR
	Stephen Rynas/NCDENR	Emily Hughes/USACE
	Jennifer Braswell/New Hanover County	Lee Cox/NCDENR
	Christopher O'Keefe/New Hanover County	David Weaver/New Hanover County
	Lafayette Atkinson/NCOSH	

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NAME	TJohnson:	THristopoulos	DRahn	BSmith
DATE	08/14/09	08/14/09	08/17/09	08/20/09

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Telephone Conference Call Summary

Electrical and Instrumentation Information Needs for General Electric-Hitachi Uranium Enrichment Facility License Application Review

Date and Time: August 12, 2009; 1:00 PM

Call Participants:

D. Rahn/NRC	T. Johnson/NRC	R. Gille/GEH
J. Olivier/GEH	D. Norris/Omega	L. Betancourt/NRC
D. Ezell/ Omega	S. Painter/NSA	K. Givens/GEH
T. Owens/GEH		

On August 12, 2009, a conference call between the U.S. Nuclear Regulatory Commission (NRC) and General Electric-Hitachi (GEH) staffs was held to discuss electrical and instrumentation information needs for review of GEH's license application for a laser-based uranium enrichment facility. This information need was identified in the NRC's acceptance review letter to GEH, dated August 6, 2009.

Discussion:

GEH requested the NRC staff to clarify its needs regarding the additional electrical and instrumentation information sought for the license application review. The NRC staff stated that the application should have contained sufficient information descriptive enough to allow the NRC staff to prepare a safety evaluation report that describes how the staff was able to make a licensing determination.

To make such a licensing determination in the area of electrical design, there should be sufficient information provided in the application and supplemental documents describing how the power supply system achieves the performance objectives for the facility. The application should identify the design codes and standards that will be applied to the facility design to ensure that any systems or components requiring electrical power or emergency electrical power to fulfill its required safety objectives will indeed be available and reliable to function as intended. Any individual system or component that requires emergency electrical power to achieve the facility performance objectives should be identified in the application, as well as the design of the power supply system that will enable that system or component to function. If there are no systems or components that rely on electrical power to achieve the facility performance objectives, then there should be a definitive statement to that effect. If uninterruptible power supplies are relied upon to provide electrical energy for devices needed to meet the facility performance objectives, a description should be provided to outline the proposed design, the design criteria, and the applicable industry codes and standards that will be applied to the normal and emergency sources of power, including the distribution system and breakers and the controls for these breakers, which provide this power when needed. Finally, the NRC staff provided examples of statements and sketches made in the version of GEH's submitted application where it was unclear whether it was GEH's objective in its design to require the application of emergency power to bring the facility to a safe condition in the event of or loss of normal power.

Enclosure

In the area of Instrumentation and Controls, the NRC staff stated that the description in the application should explain the functions of instrumentation and controls used as items relied on for safety (IROFS), industry codes and standards to be used, and applicable management measures applicable to those IROFS to demonstrate how they will be available and reliable when needed. The management measures should address in general terms the types of calibration and testing that will be used from process sensor through final actuation device. When two or more IROFS are utilized to prevent or mitigate an accident sequence, the description should state how independence will be maintained for each IROFS such that the event sequence will be prevented or mitigated to achieve the facility performance objectives of 10 *Code of Federal Regulations* 70.61. For example, the description of the event sequence and IROFS design should describe how the principles of redundancy, diversity, single-failure, minimization of common cause contribution to failure, (e.g., due to environmental, radiological, electromagnetic effects, or physical effects, etc.) will be applied to ensure that the event sequence is limited in a manner that meets the facility performance objectives. If any IROFS require electrical power to perform their required safety actions, a description should be provided that demonstrates how that power will be available when needed. If IROFS are designed to “fail-safe”, a description should be provided that discusses how the implemented failure mode for that device was chosen from among the many possible failure modes for that IROFS or set of IROFS to be the one which causes the event sequence to be terminated, and how it was determined that the identified failure mode for that IROFS will be the only mode during the life of the facility.