July 26, 2012

MEMORANDUM TO: David Terao, Chief
Component Integrity Branch
Division of Engineering
Office of New Reactors

FROM: Robert Davis, Sr. Materials Engineer **/RA/**
Component Integrity Branch
Division of Engineering
Office of New Reactors

SUBJECT: SUMMARY OF JUNE 25, 2012, MEETING WITH ELECTRIC POWER RESEARCH INSTITUTE TO DISCUSS THE POTENTIAL USE OF POWDER METALLURGY AND HOT ISOSTATIC PROCESSING TECHNOLOGIES

On June 25, 2012, the U.S. Nuclear Regulatory Commission (NRC) staff held a meeting with the Electric Power Research Institute (EPRI) to discuss the potential future manufacture of nuclear components using powder metallurgy (PM) and hot isostatic processing (HIP). Representatives from Rolls-Royce and Carpenter Powder Products also attended and made presentations in support of presentation made by EPRI.

A meeting notice was issued on June 13, 2012, and was posted on the NRC's external (public) web page (It is also available in the Agency-wide Documents Access and Management System (ADAMS) at Accession Number ML12165A308). The meeting notice included the meeting agenda. The meeting was a Category 1 meeting and was open to the public.

CONTACT: Robert Davis, NRO/DE
301-415-4028
robert.davis@nrc.gov

Agenda Item Discussion:

EPRI provided a general presentation on PM using HIP. Rolls-Royce representatives provided a presentation on current nuclear applications in the United Kingdom that use PM/HIP and a presentation on the use of PM/HIP components for pressure retaining pressurized water reactor (PWR) components. Carpenter Powder Products representatives provided a presentation on PM/HIP technology for current and future applications. After the presentations, the NRC staff engaged in open discussion with the presenters in order to clarify the information presented.

Public Participation

The meeting was open to the public. No members of the public attended this meeting.

Enclosures:
1. Agenda
2. Meeting Attendee List
3. Presentations

cc w/enclosure

Mr. David W. Gandy,
Program Manager, Technology Innovation,
Electric Power Research Institute
1300 West WT Harris Blvd.
Charlotte, NC 28262-8550
davgandy@epri.com

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cc w/encl:
Mr. David W. Gandy,
Program Manager, Technology Innovation,
Electric Power Research Institute
1300 West WT Harris Blvd.
Charlotte, NC 28262-8550
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Distribution:
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D. Alley, NRR/DE
M. Gavrilas, RES/CMB
G. Carpenter, RES/CMB
R. Tregoning, RES/DE

AGENDA FOR PUBLIC MEETING

Monday, June 25, 2012
9:00 A.M. – 12:00 P.M.

MEETING WITH ELECTRIC POWER RESEARCH INSTITUTE TO DISCUSS THE POTENTIAL USE OF POWDER METALLURGY AND HOT ISOSTATIC PROCESSING TECHNOLOGIES

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TIME	TOPIC
9:00 a.m. - 9:10 a.m.	Welcome/Introduction
9:10a.m. - 10:30 a.m.	EPRI presentation on powder metallurgy and hot isostatic processing technologies.
10:30 a.m. - 10:40 a.m.	Break
10:30 a.m. - 11:30 a.m.	Open discussion and questions from NRC staff
11:30 a.m. – 12:00 p.m.	Closing remarks and opportunity for public comments to NRC
12:00 p.m.	Adjourn

Enclosure 1

LIST OF ATTENDEES
OPEN MEETING
BETWEEN THE U. S. NUCLEAR REGULATORY COMMISSION
AND ELECTRIC POWER RESEARCH INSTITUTE
June 25, 2012

Attendees	Organization
R. Davis	NRC
D. Terao	NRC
S. Downey	NRC
T. Steingass	NRC
D. Tarantino	NRC
J. Honcharik	NRC
J. Jenkins	NRC
T. Scarbrough	NRC
R. Hardies	NRC
P. Klein	NRC
D. Alley	NRC
J. Wallace	NRC
A. Csontos	NRC
G. Makar	NRC
D. Gandy	Electric Power Research Institute
B. Burdett	Rolls-Royce
J. Sulley	Rolls-Royce
L. Lherbier	Carpenter Powder Products
D. Novotnak	Carpenter Powder Products

Enclosure 2

POTENTIAL USE OF POWDER METALLURGY AND HOT ISOSTATIC PROCESSING TECHNOLOGIES MEETING PRESENTATIONS

Summary of June 25, 2012, meeting with Electric Power Research Institute (ADAMS ML12201B282)

Electric Power Research Institute Presentation "Powder Metallurgy Methods for Producing Large Nuclear and Fossil Components," June 25, 2012 (ADAMS ML12200A350)

Rolls-Royce Presentation 1 "Rolls-Royce Nuclear Applications of Hot Isostatic Pressing (HIP)," June 25, 2012 (ADAMS ML12200A355)

Rolls-Royce Presentation 2 "Hot Isostatic Pressing of Metal Powders for Pressure Retaining PWR Components," June 25, 2012 (ADAMS ML12200A360)

Carpenter Powder Products Presentation "PM/HIP Technology Current and Potential Applications," June 25, 2012 (ADAMS ML12201B136)