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U.S. Nuclear Regulatory Commission
ATTENTION: Document Control Desk
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Your ref: Project Number 740
Our ref: DCP/NRC2008

September 28, 2007

Subject: AP1000 COL Response to Request for Additional Information (TR 34)

In support of Combined License application pre-application activities, Westinghouse is submitting a response to the NRC requests for additional information (RAIs) on AP1000 Standard Combined License Technical Report 34, APP-GW-GLN-016, AP1000 Licensing Design Change Document for Generic Reactor Coolant Pump. This RAI response is submitted as part of the NuStart Bellefonte COL Project (NRC Project Number 740). The information included in the response is generic and is expected to apply to all COL applications referencing the AP1000 Design Certification.

A response is provided for RAI-TR34-CPN-01, transmitted in an email from Dave Jaffe to Sam Adams dated September 5, 2007. There are five remaining responses to be provided for Technical Report 34.

Pursuant to 10 CFR 50.30(b), the response to the request for additional information on Technical Report 34 is submitted as Enclosure 1 under the attached Oath of Affirmation.

Questions or requests for additional information related to the content and preparation of this response should be directed to Westinghouse. Please send copies of such questions or requests to the prospective applicants for combined licenses referencing the AP1000 Design Certification. A representative for each applicant is included on the cc: list of this letter.

Very truly yours,

A handwritten signature in black ink, appearing to read 'A. Sterdis', written over a horizontal line.

A. Sterdis, Manager
Licensing and Customer Interface
Regulatory Affairs and Standardization

DC63
D079
NR0

/Attachment

1. "Oath of Affirmation," dated September 28, 2007

/Enclosure

1. Response to Request for Additional Information on Technical Report No. 34

cc:	D. Jaffe	- U.S. NRC	1E	1A
	E. McKenna	- U.S. NRC	1E	1A
	G. Curtis	- TVA	1E	1A
	P. Hastings	- Duke Power	1E	1A
	C. Ionescu	- Progress Energy	1E	1A
	A. Monroe	- SCANA	1E	1A
	M. Moran	- Florida Power & Light	1E	1A
	C. Pierce	- Southern Company	1E	1A
	E. Schmiech	- Westinghouse	1E	1A
	G. Zinke	- NuStart/Entergy	1E	1A
	A. Preston	- Westinghouse	1E	1A

ATTACHMENT 1

“Oath of Affirmation”

ATTACHMENT 1

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of:)
NuStart Bellefonte COL Project)
NRC Project Number 740)

APPLICATION FOR REVIEW OF
"AP1000 GENERAL COMBINED LICENSE INFORMATION"
FOR COL APPLICATION PRE-APPLICATION REVIEW

W. E. Cummins, being duly sworn, states that he is Vice President, Regulatory Affairs & Standardization, for Westinghouse Electric Company; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission this document; that all statements made and matters set forth therein are true and correct to the best of his knowledge, information and belief.



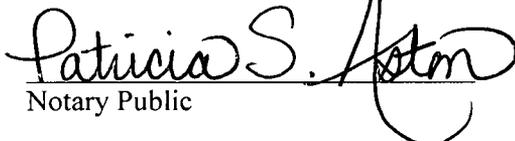
W. E. Cummins
Vice President
Regulatory Affairs & Standardization

Subscribed and sworn to
before me this 28th day
of September 2007.

COMMONWEALTH OF PENNSYLVANIA

Notarial Seal
Patricia S. Aston, Notary Public
Murrysville Boro, Westmoreland County
My Commission Expires July 11, 2011

Member, Pennsylvania Association of Notaries



Notary Public

ENCLOSURE 1

Response to Request for Additional Information on Technical Report No. 34

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR34-CPN-01
Revision: 0

Question:

Regarding the Flywheel design, please provide clarification as follows:

- a. What the term “bi-metallic” means.
- b. What the term “heavy metal alloy” means.
- c. Identify the materials of construction for all structural components of the bi-metallic flywheel?
- d. Provide a simplified sketch of the flywheel assembly showing various segments referenced in the DCD.

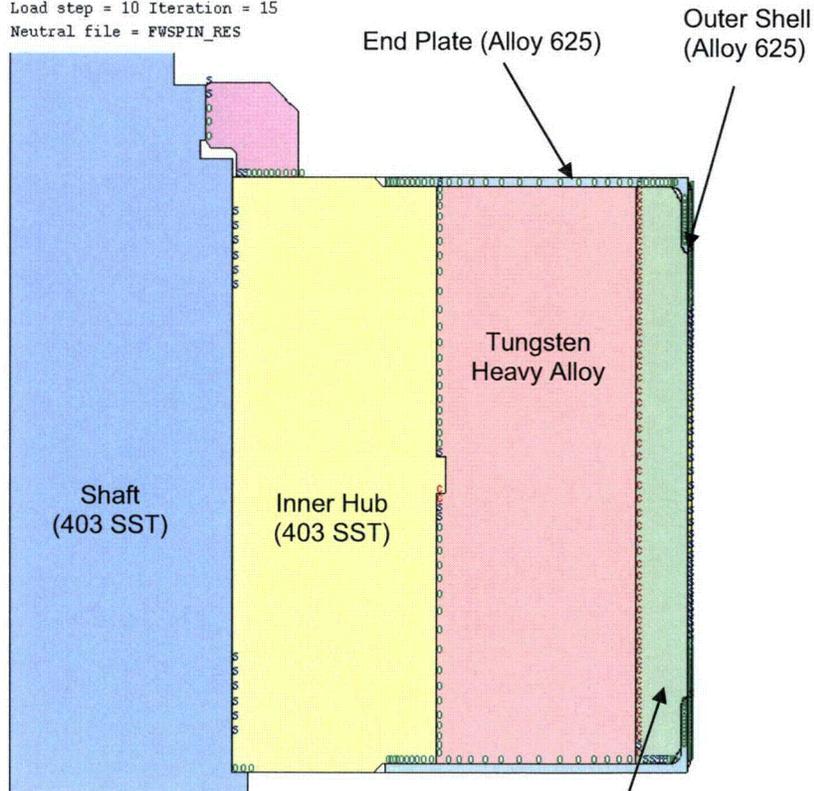
Westinghouse Response:

- a. The term bi-metallic refers to the 2 different structural materials that are used in the flywheel design. The flywheel design uses a central Type 403 stainless steel hub and an interference fit of an 18Ni maraging steel retainer cylinder placed over the outside of the assembly. The term bi-metallic does not refer to any type of special alloy or composite material.
- b. The term “heavy metal alloy” refers to Tungsten Heavy Alloy or WHA. The material will be per ASTM B-777, Class 4 and is produced by a mixture of loose metal powders consisting of 97% (weight) pure tungsten and 3% metallic powder binders such as copper, nickel or iron that are pressed and solidified by sintering.
- c. The inner most portion of a flywheel (Inner Hub) is a ring forging of Type 403 Stainless Steel (same material as the rotor shaft). Tungsten Heavy Alloy segments are placed on the outside diameter of the Inner Hub and held in place by a (Retainer Ring) ring forging of 18Ni maraging steel (AMS 6512: Composition – 18Ni – 7.8Co – 4.9Mo – 0.40Ti – 0.10Al with a 250ksi minimum Yield Strength) by means of a shrink fit. The Inner Hub and 18Ni maraging steel Retainer Ring are considered the structural materials of the flywheels. The flywheels are completed by assembling Alloy 625 End Plates and Outer Shell to prevent primary coolant from contacting the 18Ni maraging steel and Tungsten Heavy Alloy.
- d. See flywheel figures on the next page.

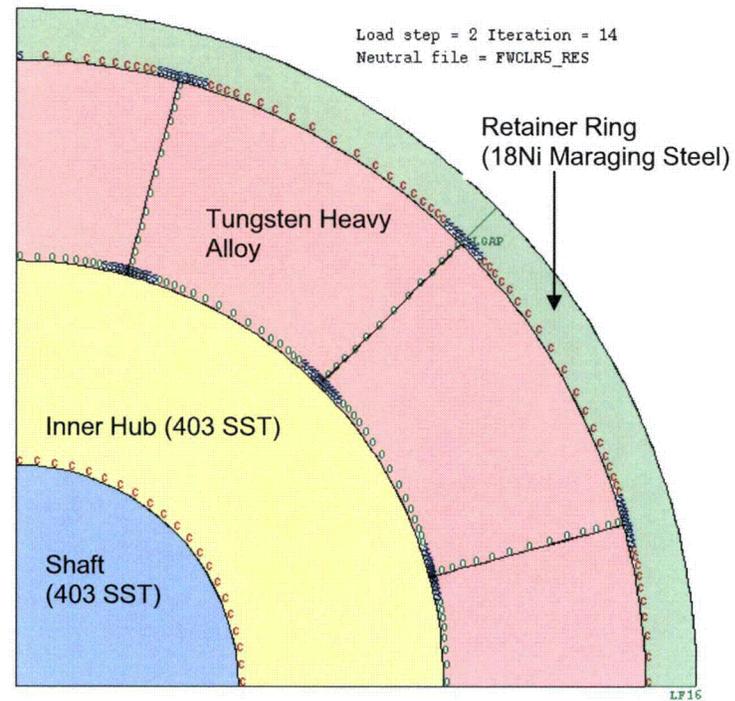
AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

Load step = 10 Iteration = 15
Neutral file = FWSPIN_RES



Load step = 2 Iteration = 14
Neutral file = FWCLR5_RES



Retainer Ring
(18Ni Maraging Steel)

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

None