



**CERTIFIED MAIL  
RETURN RECEIPT REQUESTED**

RDM-05-010

August 26, 2005

Spent Fuel Project Office  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Attention: E. W. Brach, Director  
Spent Fuel Project Office

Subject: Request for Amendment of Certificate of Compliance No. 71-6581 for the Model No. 51032-1 Package

Reference: "Request for Amendment of Certificate of Compliance No. 71-6581 for the Model No. 51032-1 Package", Memo RDM-05-003 dated March 22, 2005.

Dear Mr. Brach:

Framatome ANP, Inc., an AREVA and Siemens Company, requests an amendment to Certificate of Compliance No. 71-6581 for the Model No. 51032-1 package to allow variations in the maximum pellet density and maximum enrichment for three selected fuel designs. A revised certificate is needed to support planned shipments later this year.

FANP proposes to allow maximum pellet densities for the 15x15, 17x17 and GEN1 fuel designs of 95.0 and 97.5 (%TD) with corresponding maximum enrichments (%U-235) of 5.0 and 4.87, respectively. As previously discussed in the above reference, the maximum enrichment (%U-235) and maximum pellet density (%TD) relationship preserves the U-235 density used in the criticality analysis. Therefore, the maximum  $k_{eff}$  values associated with the normal conditions of transport and the hypothetical accident conditions remain unchanged.

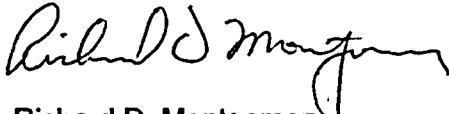
Attachment I, summarizes the proposed changes to the certificate of compliance to support the NRC review. A revision to section 5(b)(1)(i) is proposed to identify the corresponding changes to the maximum pellet density and maximum enrichments for the 15x15, 17x17 and GEN1 fuel designs.

FANP requests approval to support future shipments of fuel designs with increased pellet densities in addition to existing designs with lower pellet densities.

If you or your staff have any questions, require additional information, or wish to discuss this further, please contact me at 434-832-5172 or Charlie Holman at 434-832-5276. Please reference our unique document identification number in any correspondence concerning this letter.

Sincerely,

Framatome ANP, Inc., an AREVA and Siemens Company



Richard D. Montgomery  
Advisory Engineer

Cc:

Jess Umaña, Project Scientist  
Licensing Section  
Spent Fuel Project Office  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**Attachment I**

**Proposed changes to the Certificate of Compliance  
USA/6581/AF, Revision 34**

## 5.(b)(1) Type and Form of material

- (i) Unirradiated fuel rods consisting of uranium dioxide fuel pellets clad in zirconium alloy or stainless steel tubes. Fuel rods must be in one of the following configurations.

Type	15x15		17x17 <sup>1</sup>		GEN1 <sup>2</sup>		Rod Container <sup>3</sup>	T15x15 Square Array Assemblies <sup>4</sup>	T15x15 Cruciform Assemblies
Maximum Enrichment (%U-235)	4.87	<u>5.0</u>	4.87	<u>5.0</u>	4.87	<u>5.0</u>	5.0	5.0	2.8
Rods Per Assembly	204	204	264	264	any number	any number	any number	208	28
Nominal Rod Pitch (in.)	0.563	0.563	0.496	0.496	NA	NA	NA	0.527	0.556
Maximum Pellet Density (%TD)	97.5	<u>95</u>	97.5	<u>95</u>	97.5	<u>95</u>	95	95	95
Maximum Clad OD (in.)	0.430	0.430	0.380	0.380	0.500	0.500	0.500	0.400	0.500
Minimum Clad OD (in.)	0.410	0.410	0.355	0.355	0.260	0.260	0.260	0.364	0.260
Minimum sum of clad thickness and pellet-clad gap <sup>5</sup> (in.)	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.016	0.023
Assembly Cross Section (in.)	8.445	8.445	8.432	8.432	8.25	8.25	NA	7.91	8.25
Active Fuel Length (in.)	196	196	196	196	196	196	196	196	116
Fuel Rod Arrangement (Figure Number in Application)	11.1	11.1	11.2	11.2	NA	NA	NA	VII-1	VII-3

## Table Notes

- <sup>1</sup> Fuel assemblies consisting of a maximum 264 fuel rods in a 17x17 square array with any number of edge rods missing.
- <sup>2</sup> Fuel assemblies consisting of any number of fuel rods in a square array with a maximum assembly cross section of 8.25 inches square.
- <sup>3</sup> Any number of fuel rods positioned in a rod container. The rod container consists of a schedule 40 pipe with a maximum nominal diameter of 5 inches.
- <sup>4</sup> Fuel assemblies consisting of a maximum 208 fuel rods in a 15x15 square array, with any number of edge rods missing.
- <sup>5</sup> Minimum sum of the cladding wall thickness and the pellet-clad radial gap, ((Min Clad OD – Max Pellet OD)/2, in.

## FRAMATOME ANP, Inc.

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