SIEMENS

October 31, 2000
NRC:00:047

Document Control Desk
ATTN: Chief, Planning, Program and Management Support Branch
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Request for Review of EMF-2403(P) Revision 0, *Duplex D4 (DXD4) Cladding for PWRs*

Fifteen proprietary and 12 nonproprietary copies of topical report EMF-2304(P) Revision 0, *Duplex D4 (DXD4) Cladding for PWRs*, are being submitted to the NRC for review and acceptance for referencing in licensing actions. It is requested that the NRC approve this report by mid-2001. (NOTE: Three proprietary copies and one nonproprietary copy have been sent directly to Mr. N. Kalyanam.)

This topical report describes the manufacture, physical characteristics, and operational performance of a two-layer fuel rod cladding called Duplex D4, designated DXD4. The purpose of this report is to provide justification for the use of DXD4 cladding in PWR fuel reloads.

DXD4 cladding is a two-layer cladding consisting of a thin, highly corrosion-resistant outer layer of a low-tin, high-iron zirconium alloy, Alloy D4, bonded to a thicker inner layer of Zircaloy-4 that forms the bulk of the cladding and imparts most of its mechanical strength. The use of DXD4 cladding in PWRs provides for reductions in cladding corrosion, hydrogen pick-up, and fuel rod growth, and results in larger operating margins up to the approved fuel rod burnup limit of 62 MWd/kgU rod-average burnup.

Siemens Power Corporation considers some of the information contained in the enclosed report to be proprietary. As required by 10 CFR 2.790(b), an affidavit is enclosed to support the withholding of this information from public disclosure.

Very truly yours,

for James F. Mallay, Director
Regulatory Affairs

/arn
Enclosures

cc: R. Caruso
M. S. Chatterton
N. Kalyanam (w/Enclosures)
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AFFIDAVIT

STATE OF WASHINGTON)
) ss.
COUNTY OF BENTON)

1. My name is Jerry S. Holm. I am Manager, Product Licensing, for Siemens Power Corporation ("SPC"), and as such I am authorized to execute this Affidavit.

2. I am familiar with the criteria applied by SPC to determine whether certain SPC information is proprietary. I am familiar with the policies established by SPC to ensure the proper application of these criteria.

3. I am familiar with the SPC information included in the enclosure [EMF-2403(P)] transmitted by letter NRC:00:044 which is referred to herein as "Document." Information contained in this Document has been classified by SPC as proprietary in accordance with the policies established by SPC for the control and protection of proprietary and confidential information.

4. This Document contains information of a proprietary and confidential nature and is of the type customarily held in confidence by SPC and not made available to the public. Based on my experience, I am aware that other companies regard information of the kind contained in this Document as proprietary and confidential.

5. This Document has been made available to the U.S. Nuclear Regulatory Commission in confidence with the request that the information contained in the Document be withheld from public disclosure.

6. The following criteria are customarily applied by SPC to determine whether information should be classified as proprietary:

(a) The information reveals details of SPC's research and development plans and programs or their results.

(b) Use of the information by a competitor would permit the competitor to significantly reduce its expenditures, in time or resources, to design, produce, or market a similar product or service.

(c) The information includes test data or analytical techniques concerning a process, methodology, or component, the application of which results in a competitive advantage for SPC.

(d) The information reveals certain distinguishing aspects of a process, methodology, or component, the exclusive use of which provides a competitive advantage for SPC in product optimization or marketability.

(e) The information is vital to a competitive advantage held by SPC, would be helpful to competitors to SPC, and would likely cause substantial harm to the competitive position of SPC.

7. In accordance with SPC's policies governing the protection and control of information, proprietary information contained in this Document has been made available, on a limited basis, to others outside SPC only as required and under suitable agreement providing for nondisclosure and limited use of the information.

8. SPC policy requires that proprietary information be kept in a secured file or area and distributed on a need-to-know basis.

9. The foregoing statements are true and correct to the best of my knowledge, information, and belief.

SUBSCRIBED before me this 20th day of October, 2000.

Amy R. Nixon
NOTARY PUBLIC, STATE OF WASHINGTON
MY COMMISSION EXPIRES: 12/06/03

AMY R. NIXON
COMMISSION EXPIRES
NOTARY PUBLIC
DECEMBER 6, 2003
STATE OF WASHINGTON