



FRAMATOME ANP

An AREVA and Siemens Company

FRAMATOME ANP, Inc.

February 8, 2005
NRC:05:008

Document Control Desk
ATTN: Dr. William D. Beckner
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Pre-Application Review of the EPR

Ref.: 1. Letter, William D. Beckner (NRC) to Jerald S. Holm (Framatome ANP),
January 14, 2005.

Ref.: 2. Letter, James F. Mallay (Framatome ANP) to Document Control Desk (NRC),
NRC:04:066, December 2, 2004.

Dear Dr. Beckner:

Framatome ANP, Inc. (FANP) requests a pre-application review of the EPR reactor design. The results of the review will provide guidance on the application for design certification for the EPR, to be submitted in accordance with Subpart B of 10 CFR Part 52.

The EPR is an evolutionary four-loop, pressurized, light-water reactor design. Key safety features include: four independent, separate trains of Emergency Core Cooling; safety systems with proven, active components; double containment with a liner; and severe accident mitigation features. The EPR is the product of an evolutionary design philosophy based on the use of demonstrated PWR technology along with innovative features.

Due to the evolutionary nature of the EPR design and the use of proven technology and active safety features, FANP expects that the NRC design certification review of the EPR will be straightforward. Nonetheless, we seek a pre-application review consistent with the provisions of the NRC's "Statement of Policy for the Regulation of Advanced Nuclear Power Plants," dated July 8, 1986, which encourages early discussions between the NRC and reactor designers as a mechanism for providing licensing guidance. NUREG-1226, issued in June 1988, provides guidance on the implementation of this policy and describes the NRC's approach in its review. The NRC conducts pre-application reviews to identify:

- (1) major safety issues that could require Commission policy guidance to the staff;
- (2) major technical issues that the staff could resolve under existing regulations or NRC policy; and,
- (3) the research needed to resolve identified issues.

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Regarding item (1), it is our belief that certification of the EPR does not depend on any changes in regulation or policy.

Regarding item (2), the identification and resolution of major technical issues, we believe that the similarity of the major EPR systems with those of plants currently licensed and operating in the U.S., and the enhanced safety margins of the EPR design, will enable efficient resolution of any identified technical issues under existing regulations and policies.

Regarding item (3), we believe that the use of proven technology and active safety systems eliminates the need for additional research to resolve technical issues. It is expected that currently-approved analytical methods will apply directly or will require only minimum modifications. We believe that no new testing is required for qualification of the analytical methods or for demonstration of safety system functions.

FANP's goals for the pre-application review are to ensure that the design certification application contains no unexpected issues for the NRC, and to identify the cost and schedule requirements for the pre-application review and the review of the design certification application.

The specific objectives supporting those goals are:

- Familiarize the NRC with the EPR design, focusing on the unique and innovative design features;
- Identify any key technical issues of concern to the NRC and develop strategies to address those issues;
- Identify any potential regulatory issues and obtain concurrence on the strategy to address those issues;
- Demonstrate the applicability of currently-approved analytical methods or submit changes to the analytical methodologies required to support the design and obtain approval for them; and
- Develop cost and schedule estimates for the design certification review.

We expect that the review will be conducted in two phases. The first phase will focus on familiarizing the NRC with the design and the proposed approach for applying the computational methodologies. In addition, during the first phase the NRC would identify and document the resource and schedule requirements for completion of Phase 2. The second phase will focus on licensing issues, review and approval of topical reports, and cost and schedule planning for the design certification review. Details of the proposed plan for each of these phases is discussed below.

Phase 1 (2005)

Proposed Activities:

Consistent with your letter of January 14, 2005 (Reference 1) indicating that the NRC would support EPR pre-application meetings in 2005, we propose the schedule of meetings shown in the table below for Phase 1 of the pre-application review. We do not anticipate the need for

detailed technical review in 2005. We plan to submit an EPR Design Description Report in August of 2005 to support the NRC's review of the design and of subsequent topical reports, but it will be submitted for information only, not for formal review and approval.

Expected Products:

Our expectation is that at the conclusion of Phase 1 the NRC will provide documentation of the resource requirements for the agreed-upon schedule of Phase 2 activities.

Meeting Subject	Proposed Month
Overview of EPR Design Certification Project and the EPR Design	March 2005
Pre-Application Plan (Objectives, Key Issues, Schedule)	April 2005
Design Codes and Standards	May 2005
Probabilistic Risk Assessment	June 2005
Plant Design Bases	July 2005
I&C Design	August 2005
NRC Information Visit to Framatome ANP European Facilities	September 2005
Analytical Methodology Overview	October 2005
Severe Accidents	November 2005
Plan for Phase 2 Activities	December 2005

Phase 2 (2006 and 2007)

Proposed Activities:

We propose to continue the meetings between FANP and the NRC to address items identified as a result of discussions in Phase 1, to address issues which arise as a result of FANP preparation of the design certification submittal, and to support topical report submittals. FANP currently anticipates requesting that the NRC review four topical reports during Phase 2. These are listed in the table below, along with the requested approval dates.

Expected Products:

Our expectation is that by the end of Phase 2 the NRC will issue SERs on the four topical reports and will provide documentation of the resource requirements and schedule for review of the design certification submittal.

Topical Report Description	Submittal Date	Requested Approval Date
CHF Correlation Topical Report	1 st Quarter CY 2006	2 nd Quarter CY 2007
EPR Transient and Accident Analysis Code Applicability Report	3 rd Quarter CY 2006	4 th Quarter CY 2007
Fuel Mechanical Design Methodology Topical Report	3 rd Quarter CY 2006	4 th Quarter CY 2007
Severe Accident Evaluation Topical Report	4 th Quarter CY 2006	4 th Quarter CY 2007

Based on more detailed planning performed subsequent to our letter to you of December 2, 2004 (Reference 2), FANP plans to submit a design certification application for the EPR at the end of 2007.

Since FANP anticipates that the NRC pre-application review of the EPR will be straightforward, comprised primarily of meetings and a small number of topical report reviews, we expect that the NRC resource requirements to support the review will not be prohibitive. We expect that planning discussions with you in 2005 will result in agreement on the exact level of support required.

We acknowledge the NRC's need to prioritize activities to support resource allocation and recognize that priority will be given to activities aligned with a domestic partner. FANP is involved in ongoing discussions with potential domestic partners and will keep the NRC apprised of major developments in this area.

FANP looks forward to working with the NRC to ensure an efficient and successful pre-application review. Ms. Sandra M. Sloan, Regulatory Affairs Manager for New Plants Deployment, will be the point of contact with the NRC for the pre-application review. She may be reached by telephone at (434) 832-2369 or by e-mail at sandra.sloan@framatome-anp.com.

Very truly yours,



Jerald S. Holm, Director
Regulatory Affairs

cc: J. F. Williams
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