

From: M Ellen Poteat
To: Douglas Weiss, Glenda Jackson, Jennifer Golder, ...
Date: Wed, Feb 7, 2001 2:28 PM
Subject: Fwd Re FY Hours for AP600

for your information - NRC estimates for future applications including Pebble Bed

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BB

From: Jerry Wilson
To: Meek, Terry
Date: Wed, Feb 7, 2001 11:00 AM
Subject: Re FY Hours for AP600

Thank you! The attached file is what I prepared - Jerry

CC: Poteat, M Ellen

NRC ESTIMATES FOR FUTURE APPLICATIONS

- Utility representatives have stated that 1 or 2 early site permit (ESP) applications will be submitted in FY2003, under Subpart A of Part 52, and these applications will be for sites that already have operating nuclear power plants. Therefore, the staff's review will include site safety, in accordance with the siting sections of the Standard Review Plan (NUREG-0800), environmental protection, in accordance with the Environmental Standard Review Plan (NUREG-1555), and a limited emergency planning review because of existing emergency plans. The staff estimates that it will require ~ 15 FTE and \$1M of program support to perform an ESP review,^{1,2} which includes a mandatory hearing (~ 4 FTE for OGC) and assumes:
 - 3 years to complete the ESP review.
 - use of technical assistance contracts with key staff directing the contractor's efforts
 - completion of "alternative site" and "Table S-3 and S-4" rulemakings in FY2003. The resources for this effort are not included in the above estimate.
- Exelon has stated that they plan submit an application to certify the PBMR design, under Subpart B of Part 52, after completion of prototype testing in South Africa and operation of the first module licensed in the U.S. The staff's review will be performed in accordance with the same criteria, policies, and guidance used on the AP600 review, except that some regulatory criteria are not applicable to a gas-cooled reactor. The resources needed to review the test program and analysis codes, and to develop regulatory criteria for the new design features will be expended during the COL review discussed below. The staff expended 222,461 hours of direct effort and \$5.5 M of program support on the AP600 review, not including the costs of confirmatory research at APEX and ROSA and some of RES's assistance to the NRR staff. The staff estimates that it will require ~ 75 FTE to certify PBMR, assuming no hearing.
- Exelon has stated that they will submit an application to build multiple units of a pebble-bed modular reactor (PBMR), under Subpart C of Part 52, at a site that already has an operating nuclear power plant in CY2002. Exelon may submit a separate ESP application for the PBMR site, but this estimate assumes that the site and design information will be submitted in one application for a combined license (COL). The staff's review will be performed in accordance with NUREG-0800, NUREG-1555, NUREG-0654, and policy and review guidance for gas-cooled reactors provided by the Commission. The staff estimates that it will require ~ 170 FTE and \$10 M of program support to complete the COL review, which includes a mandatory hearing (~ 7 FTE for OGC). This estimate includes the resources needed to review the PBMR analysis codes and South African test program, and to develop criteria for new design features.
- The staff estimates that 38 - 40 FTE will be needed to develop an inspection program

¹ SECY-89-104, "Assessment of Future Licensing Capabilities," dated April 3, 1989

² SECY-91-041, "Early Site Permit Review Readiness," dated February 13, 1991

1 FTE = 1,460 direct hours of staff effort

and conduct inspections for the first PBMR plant. Exelon is estimating that the first PBMR plant will require 3 years to construct and 1 year of startup testing. The staff estimates 8 FTE/year for NRC inspections during construction and startup, 3-5 FTE to develop a generic sign-as-you-go program, and 3 FTE to customize the generic sign-as-you-go program to the PBMR construction program. In SECY-89-104, the staff estimated 4 FTE/year of Regional inspection resources for a new custom plant with a construction duration of 9 years and an additional 8 FTE for the last 2 years of construction to resolve design/construction errors.

¹ SECY-89-104, "Assessment of Future Licensing Capabilities," dated April 3, 1989

² SECY-91-041, "Early Site Permit Review Readiness," dated February 13, 1991

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