From: Claudia Seelig - NMSS, NMSS, NMSS, NSIR
To: E. Jacobs-Baynard; Elizabeth Suarez; Michael Weber
Date: 3/23/01 2:13PM
Subject: Re: REVISED PEBBLE BED

Given this - I would just continue to include it in one of your existing planned accomplishments - no need to separate it out into a new planned accomplishment since it is such a small resource number. So it should be reflected in FCSS' Att. 5A, addressed in the blue book, and we will include it in the C-3 and CFO CARDS resource update. Liz JB will coordinate on above with Liz S if needed.

>>> Michael Weber 03/23/01 01:08PM >>>
Just got off the phone with Tom King in RES and have updated information. Bottom line - Looks like we only need a base level of resources to participate in preparatory activities for the entire period (1 FTE per year, no $, for the office for FY02-04). This takes us back to where we started when we developed the prioritization matrix.

Exelon plans to apply for a fuel fabrication license in the 2005-06 timeframe (first domestic fuel in 2007-08). In the interim, they will rely on foreign fuel. First load of fuel would be in 2004. Not clear on whether a NRC certificate will be needed here, or whether they will rely on a foreign certificate. NRR will license the spent fuel storage as part of the reactor licensing.

The General Atomic plan is about 1 year behind Exelon. Their design is a graphite block design with mixed depleted uranium and 19% enriched balls. Demo facility may be in Russia. Preapplication review to begin in FY02, with a kick off meeting in the summer of 2001.

>>> Claudia Seelig 03/23/01 12:48PM >>>
The attached information has been revised based on today's ET/LT meeting. Changes are shown in redline/strikeout so please print via WP to view properly.

If you have any changes to attached based on what you thought you heard this a.m., please provide them to Seelig by COB today.

I'm still waiting for Connie Schum to confirm that it is OK for NMSS to place this new work effort in NMSS' budget submission (5A, Blue Book, CARDS resource document, etc.) in one new planned accomplishment entitled "Fuel and Transportation Activities for Future Reactor" in the Materials Arena Fuel Cycle Program rather than show each separate component under the Waste Arena Environmental Program and the Spent Fuel/Transportation Program; and the Materials Arena Fuel Cycle Program.

CC: Constance Schum - EDO

K/10

Pebble Bed Modular Reactor Planning Wedge

Mtg w/LT/ET 3/22/01

Rulemaking OS

	FY 2002		FY 2003		FY 2004	
	$K	FTE	$K	FTE	$K	FTE
FCSS	0	0.4	200	8	200	8
SFPO	200	0.4	0	0	~~300~~ 0	~~2~~ 0
DWM	0	0.2	500	1	500	1
IMNS — Wrong for Resources	0	0	~~100~~ 0	~~2~~ 0	~~100~~ 0	~~2~~ 0
Total	200	1	800	11	1100	13

* for fresh fuel

FCSS: FY02 resources needed for pre-application review; FY03-04 resources needed for review a an application for a new fuel fabrication facility which would be needed to provide the required fuel for the PBMR. $200K and 8 FTE would also be needed for FY 2005.

SFPO: FY02 resources needed for review of a Part 71 nonspent fuel transportation application; FY04 resources needed for the review of a Part 71 spent fuel transportation application and a Part 72 storage application.

DWM: Resources needed to provide for an EIS.

IMNS: Resources needed to develop any new regulations which could involve several parts of the regulations, coordination with NRR, and significant stakeholder interactions.

NRR Assumption (2/22/01):

2c. Pre-application review activity for the Pebble-Bed Modular Reactor (PBMR) is expected to continue and conclude late in FY 2002. An application for a COL for a PBMR is possible in late FY 2002.

Basis: Exelon requested the NRC to perform a pre-application review of the PBMR design by letter dated 12/5/00. The initial meeting with Exelon occurred on 1/31/01, and the NRC staff expects the review to last ~ 18 months. The COL assumption is based on statements made by Exelon representatives at the 1/31/01 meeting. Also, references include (1) Commissioner Merrifield's 10/31/00 memo, "Staff Readiness for New Nuclear Plant Construction and Pebble Bed Reactor" and (2) the EDO's 11/14/00 memo re "Advanced Reactors". Based on letters and statements made by Exelon.

Uncertainty: Low - for Pre-application. High - for COL. Based on assessment of past experiences with these sorts of advanced reactor activities.

• NMSS has need but [illegible] w/ Low

Assumption

• Made a planned accomplishment new

2/22/01

2. Applicability of the AP600 Analysis Codes to AP1000
3. Use of additional Design Acceptance Criteria for AP1000
4. Use of AP600 exemptions on AP1000

The NRC staff expects that Phase 2 will require 6 - 9 months for the review.

The AP1000 Design Certification assumption is based on a letter from Westinghouse, dated December 12, 2000. Westinghouse stated that they will be prepared to submit their application in early 2002, but the date may be affected by the results of the AP1000 pre-application review.
Uncertainty: Low for the Pre-Application. Medium for AP 1000 design certification; High for IRIS. Based on assessment of past experiences with these sorts of advanced reactor activities.

2c. *High Temperature Gas-Cooled Reactor (HTGR):* Pre-application review activity for the Pebble-Bed Modular Reactor (PBMR) is expected to continue and conclude late in FY 2002. An application for a Combined Operating License (COL) for a PBMR is possible in late FY 2002.

Basis: Exelon requested the NRC to perform a pre-application review of the Pebble-Bed Modular Reactor (PBMR) design by letter dated December 5, 2000. The initial meeting with Exelon occurred on January 31, 2001, and the NRC staff expects the review to last ~ 18 months. The Combined Operating License assumption is based on statements made by Exelon representatives at the January 31, 2000 meeting. Also, references include (1) Commissioner Merrifield's October 31, 2000 memo, "Staff Readiness for New Nuclear Plant Construction and Pebble Bed Reactor" and (2) the EDO's November 14, 2000 memo re "Advanced Reactors". Based on letters and statements made by Exelon.
Uncertainty: Low - for Pre-Application. High - for Combined Operating License. Based on assessment of past experiences with these sorts of advanced reactor activities.

2d. *Construction Permit/ Operating License (CP/OL):* An application to complete the operating license review of an existing construction permit is not expected in the FY 2002 through FY 2004 time frame.

Basis: Based on overall assessment of possible future scenarios.
Uncertainty: High - Based on assessment of past experiences with these sorts of advanced reactor activities.

3. Approximately 1,500 licensing action requests are expected each year from licensees in FY 2002 through FY 2004.

Basis: This is based on historical trends, survey of licensees, and the assumed number of operating nuclear power reactors. Projected savings (fewer licensing action requests to modify technical specification Limiting Condition for Operation [LCO] and surveillance requirements) from plants which have converted to the iSTS are expected to be offset by projected increases in requests for risk-informed technical specification changes.