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FYI

Briefing of LT
"Status of Future Licensing Activities"
April 3, 2002

RM John J.

Agenda

- I. Introductions
- II. Budget and Project Timeline
- III. Summary of Advanced Reactor Issues and Activities
- IV. Legal and Financial Issues related to Exelon's Pebble Bed Modular Reactor (PBMR)
- V. Technical Issues for PBMR Pre-application

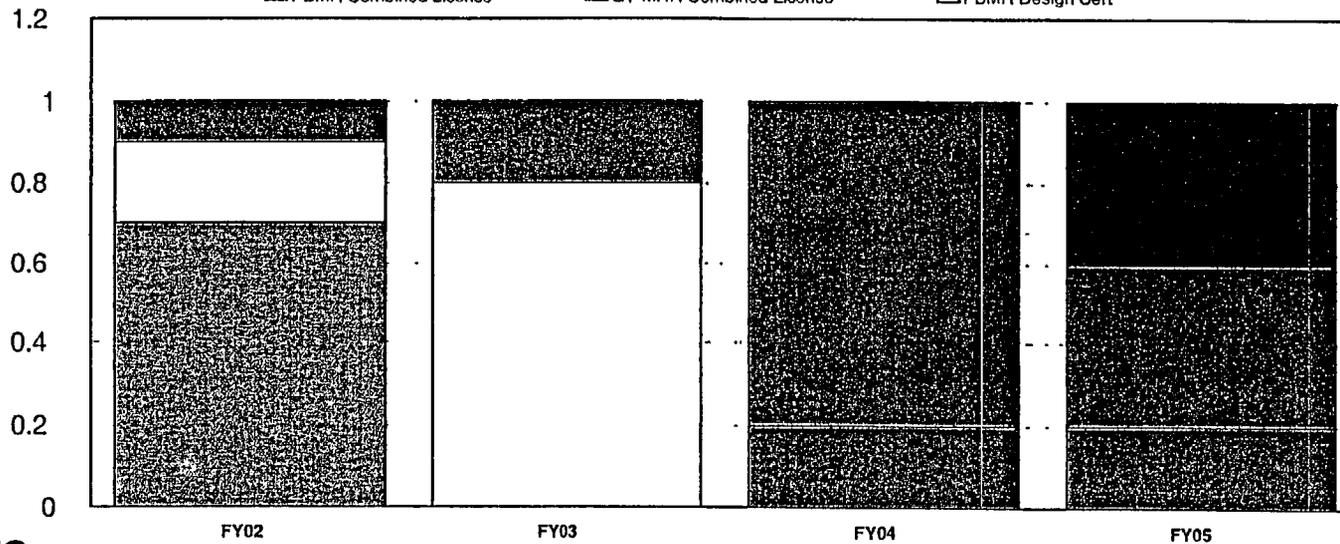
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PROJECT TIMELINE

	FY02	FY03	FY04	FY05	FY06	
	PBMR Pre-Application					
	GT-MHR Pre Application					
	IRIS Pre-Application					
				PBMR Combined License		
				GT-MHR Combined License		
						Design Cert.

PBMR Pre-Application
 GT-MHR Pre-Application
 IRIS Pre-Application
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 GT-MHR Combined License
 PBMR Design Cert

FTE



RESOURCES

	FY02	FY03	FY04	FY05
PBMR Pre-Application	.7			
GT-MHR Pre-Application	.2	.8	0	
IRIS Pre-Application	.1	.2	.2	.2
PBMR Combined License		0	.8	.4
GT-MHR Combined License			0	.4
PBMR Design Certification				
Total FTE	1.0	1.0	1.0	1.0
Total \$K				

Summary of Selected Advanced Reactor Activities

September 26, 2001	Tom King letter to Exelon
October 2001	"Future Licensing and Inspection Readiness Assessment" (FLIRA), SECY -01-0188
November 15, 2001	Exelon letter responding to Tom King issues
November 20, 2001	"Legal and Financial Issues related to Exelon's PBMR", SECY-01-0207
January 2002	SPB coordinated a meeting with RES, OGC, SFPO & OIP regarding RES plan to import German archive fuel pebbles for irradiation testing
February 14, 2002	SPB coordinated teleconference with Exelon, RES, DWM and SFPO regarding pre-application <u>fuel cycle</u> issues
February 18, 2002	General Atomics' Plan for GT-HMR pre-application
March 27, 2002	PBMR Legal and Financial Issues Workshop
March 29, 2002	NRC response to General Atomics' Plan for GT-MHR pre-application
April 1, 2002	NMSS submitted comments on RES SECY "Draft Advanced Reactor Research Plan "
April 1, 2002	RES letter to Exelon regarding pre-application technical issues
April 10, 2002	Update to FLIRA due to EDO
April 12, 2002	ACRS briefing on RES SECY "Draft Advanced Reactor Research Plan "
April 24, 2002	FCSS Colloquium, "Advanced Reactor Graphite Manufacturing Technology"
May 29, 2002	Commission Meeting on FLIRA update
Sent to EDO	RES SECY "Status of Pre-application Activities on PBMR"

Staff Response to Exelon's Legal and Financial Issues

Exelon Legal and Financial Issues (December 2000)	Staff Response, SECY-01-0207 (November 2001)
A. Operator staffing requirements in 10 CFR 50.54(m)	Exelon will need to address the safety implications of more than two reactors per control room in its application. An exemption to the regulations would be necessary.
B. Fuel cycle impacts: Tables S3 and S4 in 10 CFR 51.51 and 51.52	Current S3 and S4 tables do not cover fuel cycle and transportation impacts of non-LWR. Fuel cycle impacts should be addressed in each combined license application.
C. Fuel cycle impacts: Waste Confidence Rule in 10 CFR 51.23	NRC agrees that the PBMR spent fuel is covered by the Waste Confidence Rule. Exelon should enter discussions with DOE to confirm that the PBMR spent fuel can be accepted into the geologic repository.
D. Financial qualifications in 10 CFR 50.33(f)	Exelon has not presented sufficient technical and regulatory information to support the establishment of a separate class of utilities who would not submit financial qualifications information.
E. Decommissioning funding requirements in 10 CFR 50.75	Using a "sinking fund" payment scheme does not provide the same assurance of adequate decommissioning funding.
F. Minimum decommissioning cost estimates in 10 CFR 50.75(c)	Staff will accept a minimum decommission cost estimate specifically for the PBMR, if Exelon provides adequate technical justification.
G. Antitrust review requirements in 10 CFR 50.33a	OGC will address whether NRC can except certain applicants from NRC antitrust review requirements.
H. License issues: <ul style="list-style-type: none"> ▪ Number of licenses ▪ License duration of one combined license for multiple reactors ▪ Duration of design approval under a combined license for multiple 	<ul style="list-style-type: none"> ▪ Nothing in legislative history precludes combining the individual Part 52 COLs into a single license. Rulemaking would be needed for clarification. ▪ The term of operation for a single combined COL would be limited to 40 years – not sequential 40-year terms. ▪ Design approval should be reviewed every 5 years
I. Annual fee issues: <ul style="list-style-type: none"> ▪ Annual fee requirements in 10 CFR Part 171 ▪ Commencement of annual fee in 10 CFR Part 52 	<ul style="list-style-type: none"> ▪ CFO is planning fee rulemaking that authorizes annual fees to be charged per license, not per unit. ▪ For Part 52 combined license, staff plans to assess annual fee only after construction is completed, regulatory req. are met, and Commission has authorized the operation.
J. Financial protection requirements in 10 CFR Part 140	Congress should amend the Price-Anderson Act if it seeks to assure that multiple modular units at a single site are treated as a single facility.
K. Testing of new design features for a combined license	NRC initiated rulemaking of Part 52 to require all testing (determined to be necessary to demonstrate that new design features will perform as predicted in the final safety analysis) be completed before issuance of the COL.

NMSS Issues (Tom King Letter - 9/26/01)	Exelon Response (Jim Muntz letter - 11/15/01)	Outstanding NMSS Questions
Fuel Fabrication How and where the initial PBMR fuel will be fabricated?	Fuel will be fabricated with methods directly consistent with German method for production of TRISO fuel; Initial fuel expected to be fabricated at the Pelindaba facility in South Africa	
Are there plans for fabricating PBMR fuel in the U.S. at some point in the future?	Additional fabrication facilities will be decided based on future commercial considerations	
What special provisions might be required for transporting fresh PBMR fuel to the U.S. (e.g., due to the higher enrichment)?	Shipment of fresh fuel will account for current licensing requirements including: low enrichments in excess of 5%, shipping container design, and transportation requirements	What are Exelon's plans and schedules for submitting an application to NRC for the certification, review and approval of fresh PBMR fuel transportation packages? Alternatively, does Exelon plan to use a package that has been certified by a foreign transportation competent authority?
		What are Exelon's plans for spent fuel storage casks? What are Exelon's plans for licensing the on-site storage facilities for the PBMR fuel?
Security and Safeguards Does the PBMR design pose any unique security or safeguards concerns?	Security and safeguards information to be provided in early 2002	
Are there special provisions for material control and accounting (MC&A)?	Special provisions not envisioned for MC&A	

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<p>Waste Management How will the fuel ultimately be disposed of?</p>	<p>Spent fuel expected to be disposed of in the same manner as other commercial reactor fuel Longer Term: Detailed resolution not seen as critical to pre-application activities</p> <p>Details expected to be finalized in the 2003-2005 time frame</p>	<p>Does Exelon have more specific projected dates and plans?</p>
<p>Address any special provisions that would be necessary to dispose of the substantially larger volume of spent fuel (on a per MWe basis) associated with large scale deployment of the PBMR in the U.S.</p>	<p>Spent fuel expected to be physically larger in volume per MWe; Due to its lower heat load, will require less storage area in its final storage configuration than LWR fuel activities</p>	<p>Is Exelon considering the environmental impacts from transportation of the much larger number of spent fuel shipments due to an increase in spent fuel volume?</p>
<p>Plans for packaging, transportation, and disposal of spent fuel, after on-site spent fuel storage? Does Exelon anticipate the need for dry cask storage?</p>	<p>Spent fuel will be stored on site in dry spent fuel storage tanks</p>	
		<p>What is Exelon's strategy to protect against the operational hazards of Carbon-14, Silver-110m and carbon dust?</p>