

Boes!

1.31.2001
EXELON
on PBMR

PROAT

- started assessment PBMR-SA design
- have not yet decided on whether to go forward - 2nd 2001
- on Board of Holding Company

Escom 40%

(S.A) mining and preliminary design phase

Muntz - how to license and how to build

BNFL - 2% stake (Howard Bursick is also Board Member)

EDC is S.A. investment banking firm - 25% through 1st phase

EXELON = 12.5%

Phase 1 is complete preliminary design + feasibility study ^{end of June}

Phase 2 - build full-scale prototype - decision by end 2001

- S.A. gov agrees, then start prototype by mid-2002

Full-scale testing on prototype to approve code

EXELON Generation interest - can low cost nuclear be developed?

EXELON NUCLEAR would be operator & licensing PBMR

'Merchant plants' not incentivised by regs re: anti-trust
siting alternatives

Vijay Malhotra

900°C for uranium @ 1000 psi

construction - 24 months after 1st few plants built

AUR = fuel development from biso to triso fuel in '60s

HTTR = discovered problem of inserting coated rods directly into fuel

cycle - uranium + precursor in one water

15,000 pellets in one sphere

370°F from center to surface of a sphere

330,000 sphere in a core + 10,000 graphite pellets

375 pellets added to core / day

8.1% enrichment - 9 grams U metal in each sphere

Predict 40% efficiency for PBMR

9 ops or 900 hrs

Even/Carbid pellets that can be put into a graphite ring for outgassing

Cell 7

MAKS

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Ephson

Citadel is reinforced concrete to protect from external winds, etc.
RX = 19.5 ft in diameter and 65' long

Builder - 108' depth
187 height

SA plant mostly underground - 79' above ground

5 modules per control room

SA has a safety analysis group

Power density no 15 times less than BWR
or 25 " " PWR

Validate computer codes w/ prototype

SECY-

Liked 91-074 on prototype testing

W. SPREAT - Key Technical Issue

License system - plant + fuel fabrication process

- certify fuel fab. process. If that people get approval to use?

Plan to do a full level 3 PRA - use as risk info. for licensing process
- spray heat w/ pressure water tanks - keeps concrete cool (cited)

KEVIN BORTON - licensing process options

Part 50 ~~top~~ half

" 52 bottom half

Blue line is licensing

Green is Environmental

ESP fits w/ either process

Conserves licensing time the same for P50 + P52

Prototype has to be completed before licensing

Jim Muntz - Unique Issues

"Boeing" model - std. plant w/ procedures + construction section
to utility w/ ability for minor changes (point-to-point FWR)

Parts manufacture authorized by PSMR

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Cholon

Jim Murty

1st case 5% enrichment, then up to 8%

we 30 systems in ~~the~~ FBMR → ESP was in NET meeting 8000

ESP application in 2002

Plant application in mid-2002

Cholon planning to build during S.A. testing program
Subsequent reactors brought on in succeeding years.
Don't plan to use Gov. \$ in project

Kevin B - next steps

- NRC working group on Reg. Promote work

- determine appropriate licensing process + schedule

Word } by Sept. 2001 - can we come to agreement on
spread } end } licensing process + schedule

licensing process + schedule

- can we "identify" gaps in Regs

- don't need to resolve by Sept. 2001

- resolution in licensing process

Need to deal w/ Michael Port views in a time frame to license FBMR
- want more dialog on how to proceed
- report - ask MIT work on code 141 and public led activities

Next - stop for NRC - reviewed Plan by March 2001

- feed back re licensing (what can I do)

Separate ESP on siting reviews in 02