

**Fall Term 2006**  
**Subject 22.39 Oral Final Exam**  
**December 18 & 19, 2006**

Undoubtedly light water reactors of increasingly advanced design will be developed and deployed in the US (if not worldwide) over the next 50 years. You are asked to define your views on the characteristics you would pursue for such a reactor as the lead vendor's senior vice president for reactor development.

Assume that the reactor you are designing is to be licensed by the USNRC for deployment in 2025 in the USA.

In defining the reactor characteristics of your choice, be sure to identify the following factors:

- Your selected reactor mission
- Coolant type (PWR or BWR) and power rating
- The design and licensing strategy to meet your view of safety desired
- Materials selection
- And finally, and most important, those advanced and/or unique design features you would incorporate to achieve the above mission, goals, characteristics and operating license.