Briefing for The National Academies

December 3, 2003

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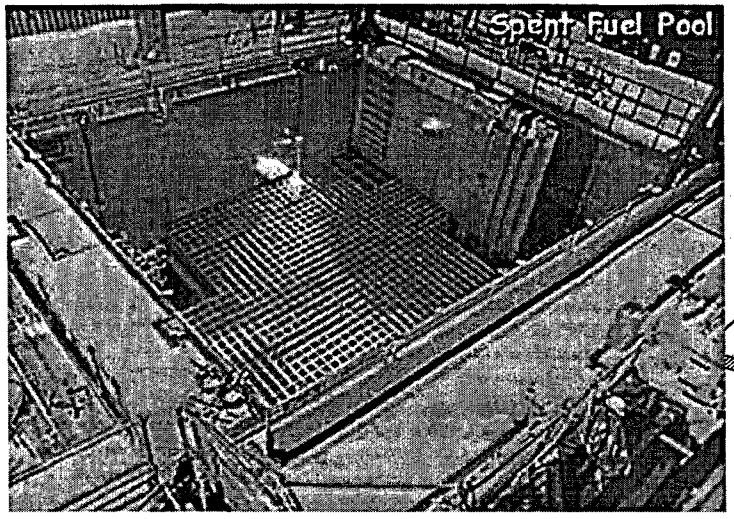
Objectives

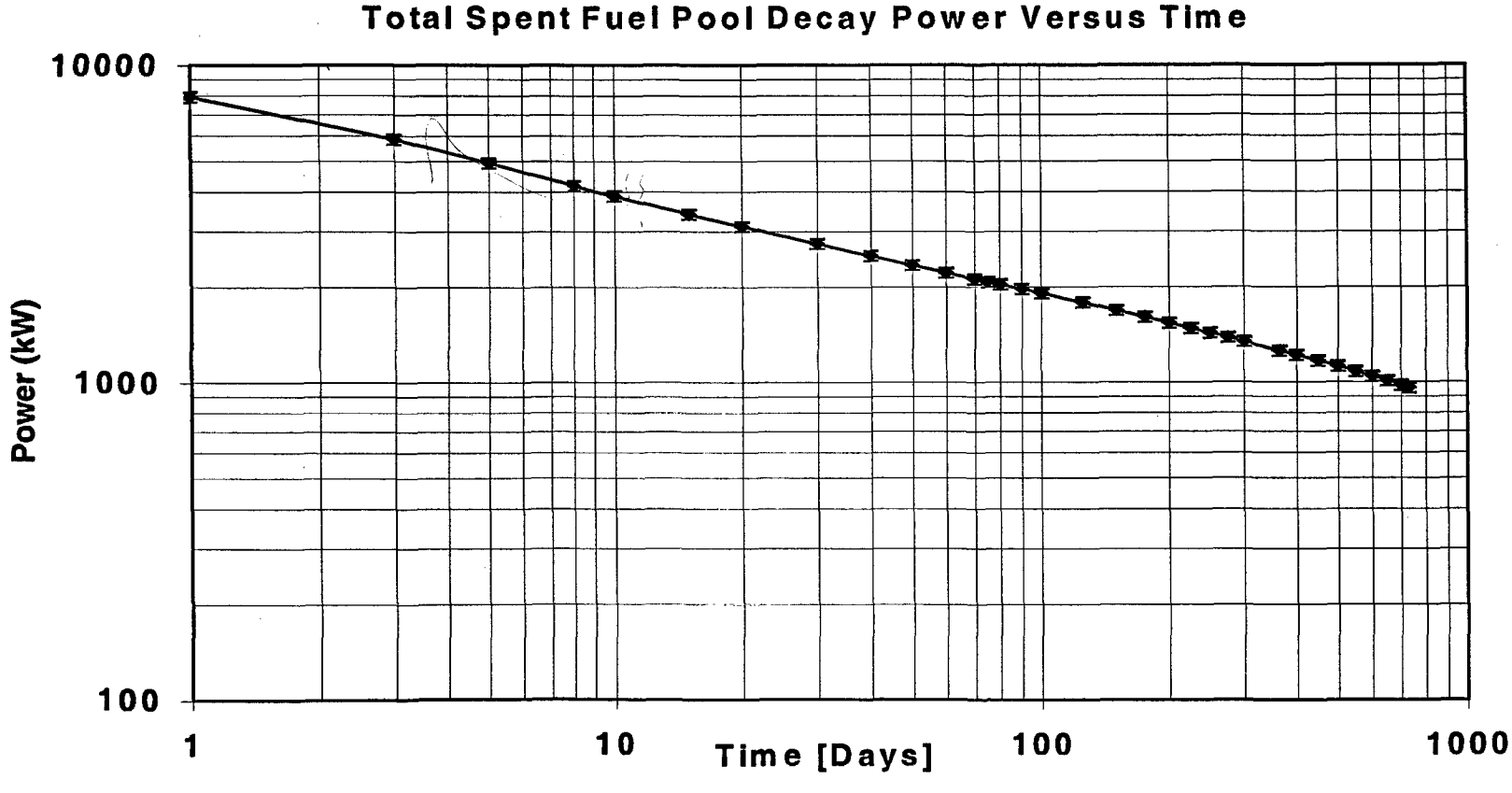
Describe:

- Safety features of spent fuel pools
- Safety features of dry cask storage
- Security measures

Typical Spent Fuel Pool



Pool Decay Heat



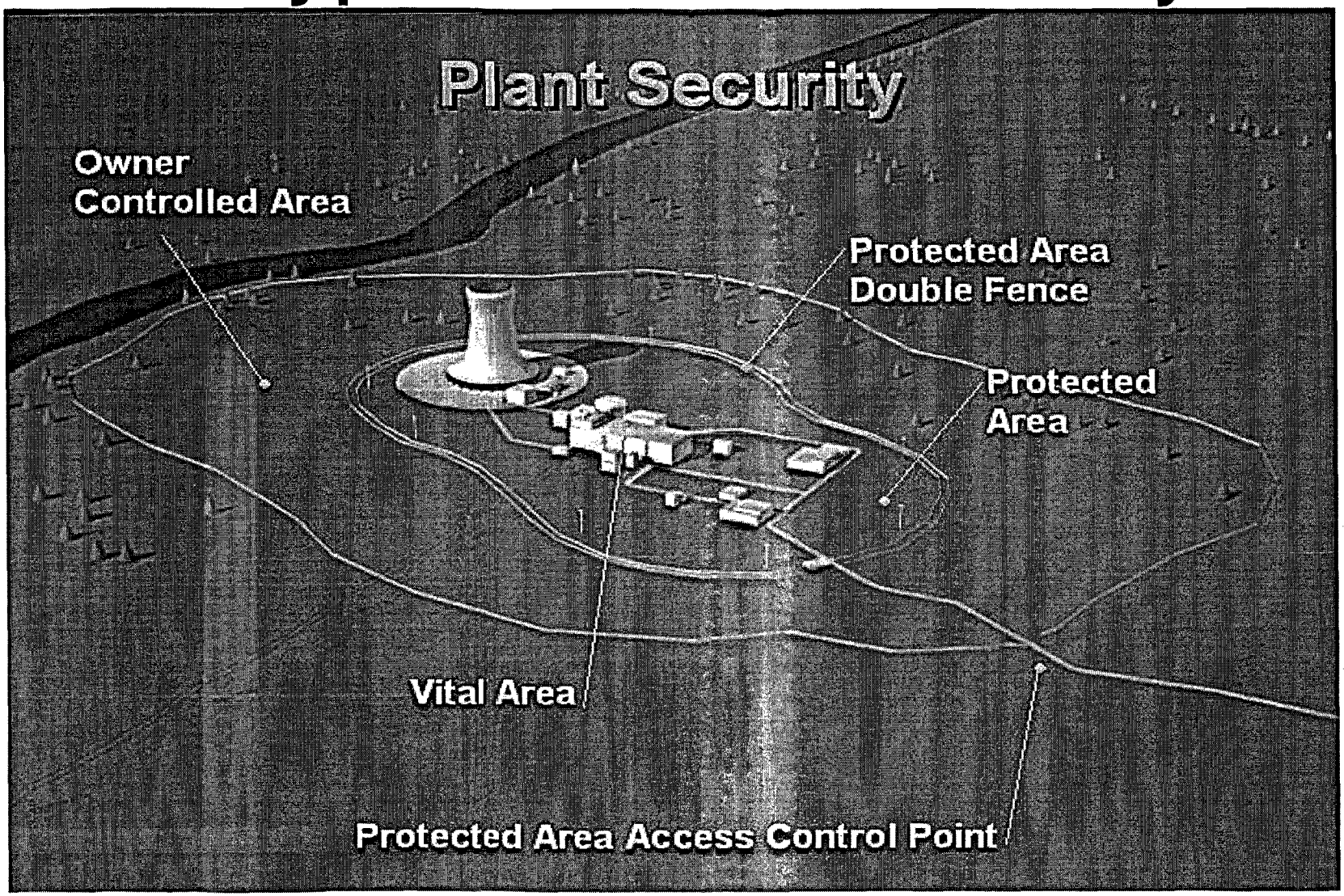
Spent Fuel Pool Studies

- Past NRC studies used very conservative models/methods and assumptions to evaluate potential for fuel heatup, fission product release (radiation) and offsite consequences
  - Bounding pool conditions
  - Simplified/conservative models for fuel heatup
  - Limited or no credit for fission product release attenuation

Spent Fuel Pool Studies

- More detailed realistic modeling and analysis underway
  - Based on actual pool conditions, fuel inventory and loading pattern
- Insights from ongoing analyses indicate:
  - fuel may be more easily cooled than predicted
  - if cooling is lost more time is available to restore cooling
  - if fuel is damaged, consequences less severe

Typical Nuclear Facility



Conclusions

- Spent fuel can be safely stored in either pools or in casks
- There is reasonable assurance that the health and safety of the public is protected against such potential terrorist attacks for both types of spent fuel storage