

Spent Nuclear Fuel Transportation Experience

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September 21, 2005

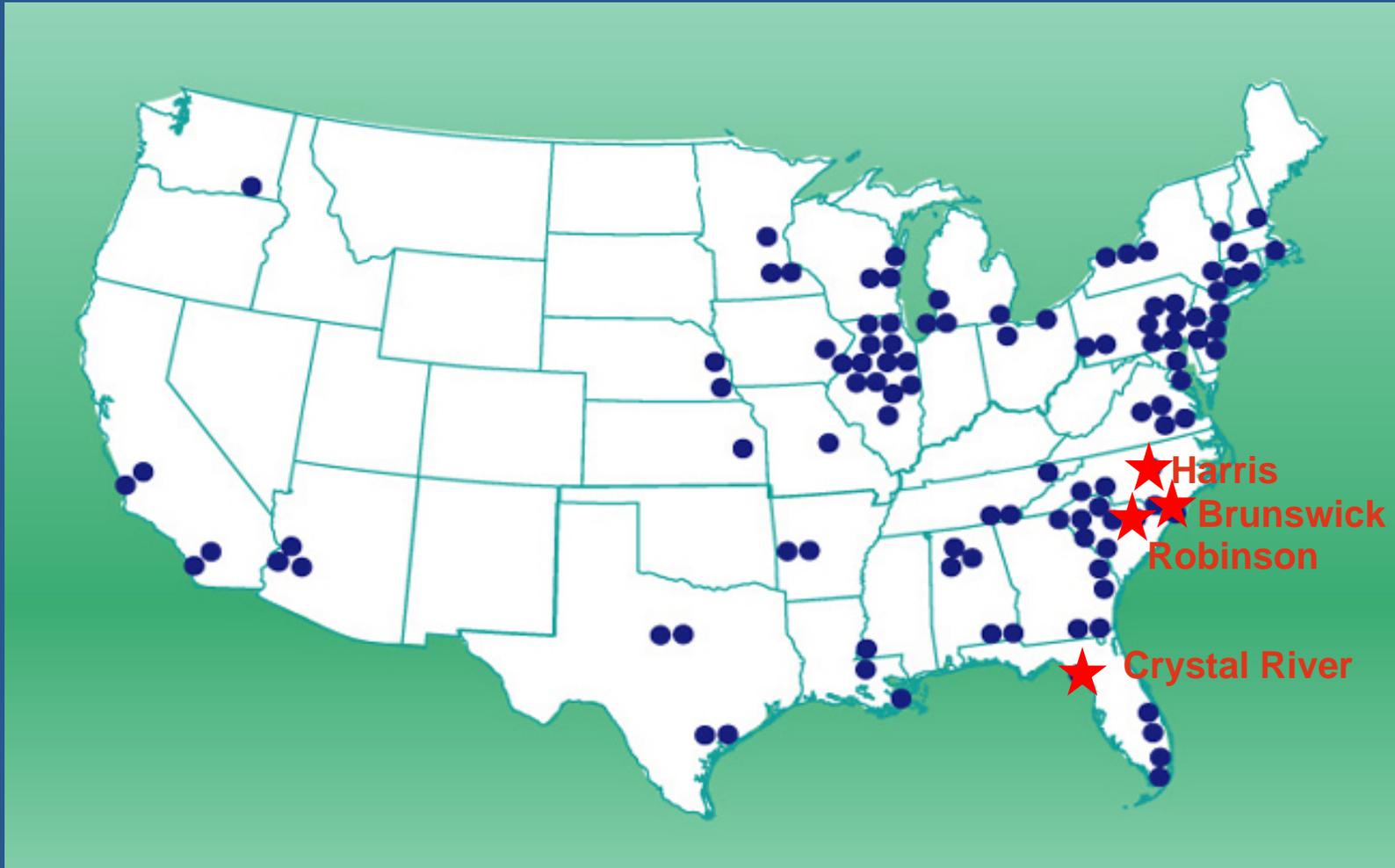


Progress Energy

Discussion Topics

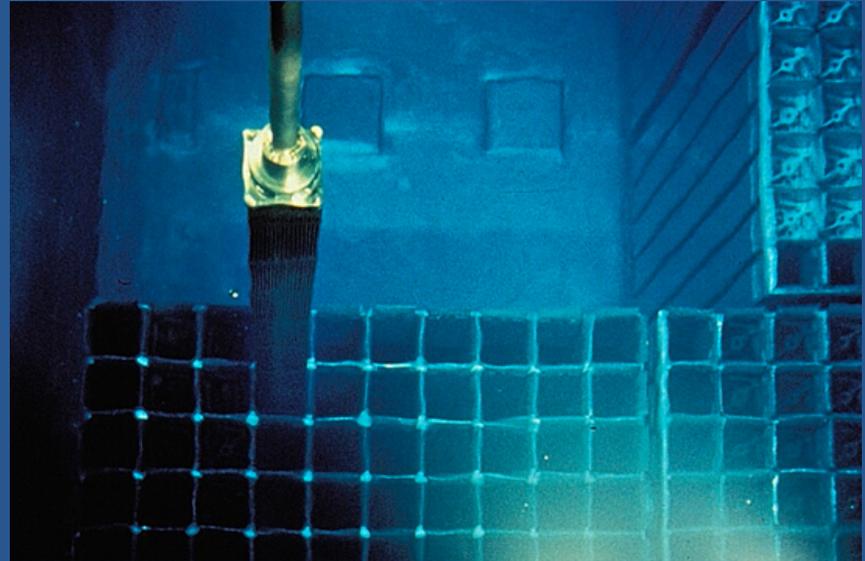
- Progress Energy Transportation History
- Success Factors
- Shipment Security
- Dedicated Trains
- Emergency Response
- Public Communication/Participation
- Summary

Progress Energy Nuclear Plants

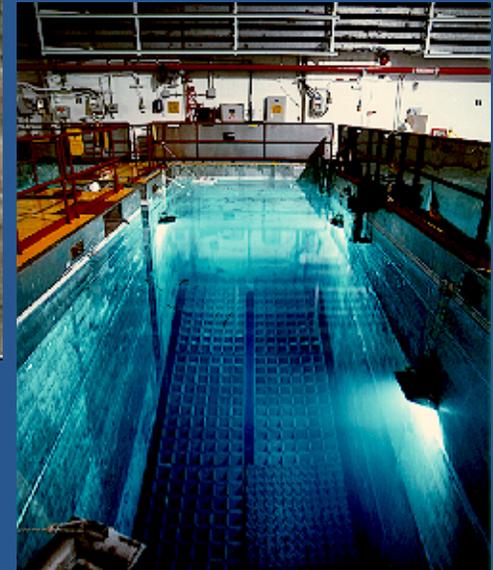


Spent Fuel Management Strategy

- Maintain operating reserve at all nuclear units
- Spent fuel shipping program to reduce inventories at Brunswick and Robinson
- Maximize use of Harris spent fuel pools



Transportation Experience



- 191 shipments
- 1,000 MTU transported
- 4,541 spent fuel assemblies transported

Transportation Experience



- **First Shipment – 1977**
- **Active spent fuel transportation program since 1989**
- **12 to 15 shipments per year**
- **Own a fleet of casks, railcars, cabooses**

Excellent Operational Record

- No radioactive spills or releases
- No radiation exposure to train personnel or general public



Safety - Success Factors



- Robust package design
- Nuclear safety focus
- Clearly identified accountabilities
- Quality maintenance program & facilities

Safety - Success Factors

- Continuous improvement culture
- Pre-shipment briefings
- Post-shipment critique and lessons learned



Shipment Security



- Dedicated rail shipments
- Time of shipments and specific security provisions are 'safeguards information'
- Continuous, remote monitoring of shipment location

Dedicated Train

- Locomotive
- Empty Flatcar
- Cask Car
- Cask Car
- Empty Flatcar
- Caboose



Detailed Procedures



- Site procedures
 - ◆ Loading
 - ◆ Unloading
 - ◆ Shipment Preparations
- Transportation
 - ◆ Routine
 - ◆ Emergency

Shipment Personnel



- Trained and Qualified Personnel
- Proficient core team
 - ◆ At each site
 - ◆ Accompany shipment

Shipment Organization

- Shipment Manager
- Radiological Escort
- Mechanical Escorts
- Communicators
- Plant Response Coordinator & Team
- Response Manager



Emergency Response



- Pre-identified scenarios
- Radiological and hazard information readily available
- Dedicated and trained response personnel

State and Local Coordination

- Initial meetings with towns and counties
- Periodic exercises with State and County Emergency Personnel
- Ongoing Communication



Notification of Shipment Status

- Advance Notification
 - ◆ State – Governor's designee (7 day)
 - ◆ Federal –NRC (10 day)
- State and County updates during shipment



Summary



- **Successful transportation experience exists**
- **Coordinated effort between Utilities, Federal, State and Local organizations**