

La Crosse Boiling Water Reactor Dry Cask Storage Project Update

Nuclear Regulatory Commission
March 29, 2011



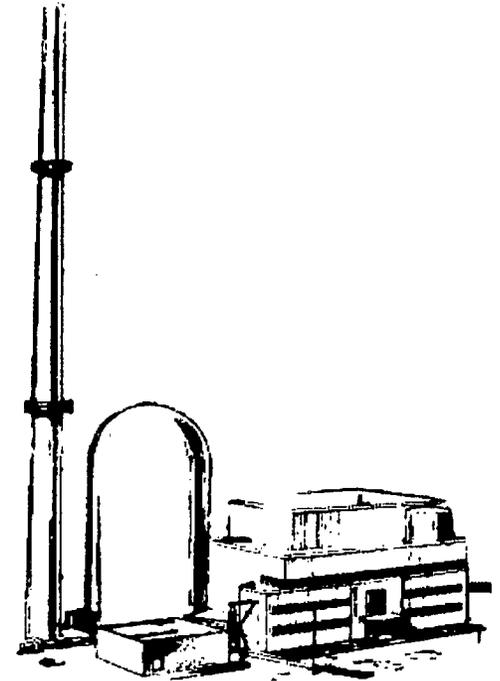
A Touchstone Energy® Cooperative 

Agenda

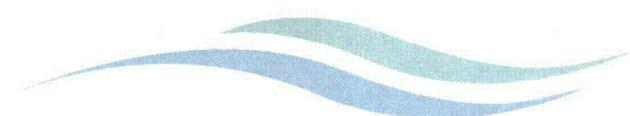
- Background on LACBWR
- NAC Cask System
- ISFSI Construction Status
- Cask Loading Sequence
- Site Construction Status
- Licensing
- Project Schedule
- Security
- Wrap up and Summary

LACBWR Background

- AEC Demonstration Reactor
- Allis-Chalmers design - 50 MWe
- Reactor critical – July 1967
- Commercial operation – November 1969
- DPC purchased reactor – July 1973
- Permanently shutdown – April 1987
- Placed in SAFSTOR – August 1991
- ‘Limited Dismantlement’ start – February 1996
- Reactor Pressure Vessel Removal – May 2007
- Start Dry Cask Storage Project – June 2007

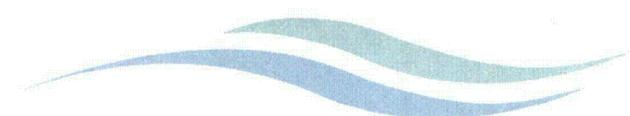
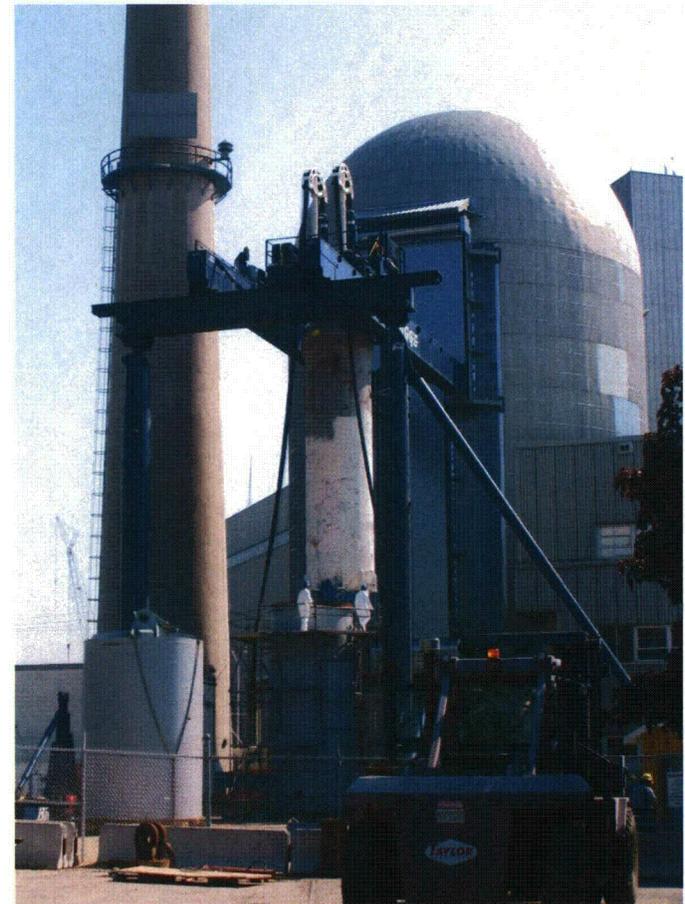


LACBWR at Genoa Site



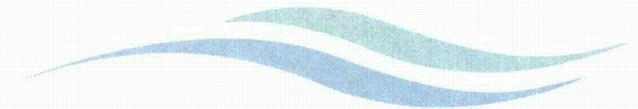
Decommissioning

- Limited Dismantlement
 - Over two million pounds of material removed
 - Reactor Pressure Vessel
- Metal removal start – 2012
- Decision on buildings pending

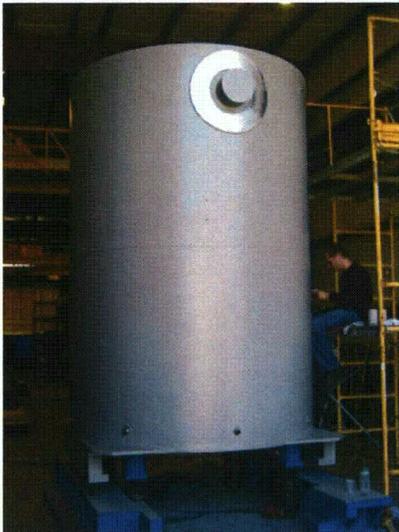
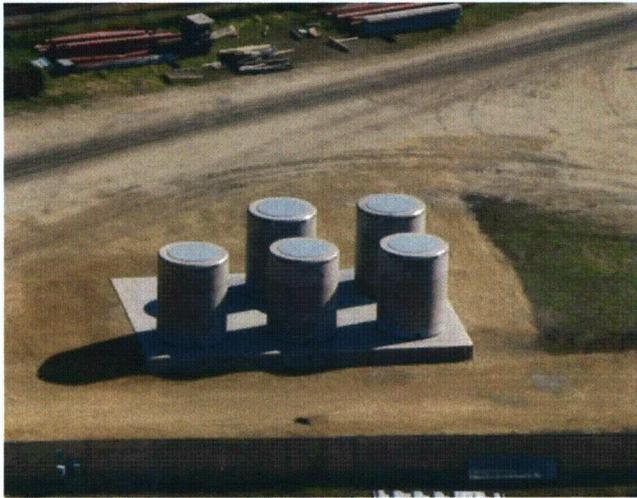


NAC Cask System

- Approved for storage and transportation of LACBWR fuel
 - October 2010
- Five casks at LACBWR
 - 68 fuel cells per cask
 - 333 total fuel assemblies
- Minimum cooling time of 24 years
- Exposure <22 GWD/MTU
- Heat load
 - Approximately 12 KW total
 - Average <40 W per assembly
- Damaged fuel
 - 32 Damage Fuel Cans per cask
 - 155 damaged fuel assemblies



Cask System Status

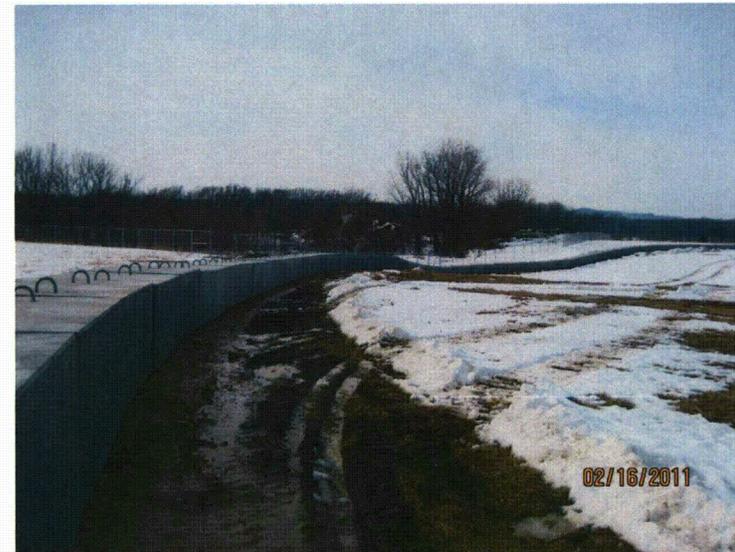


ISFSI Status



ISFSI Construction

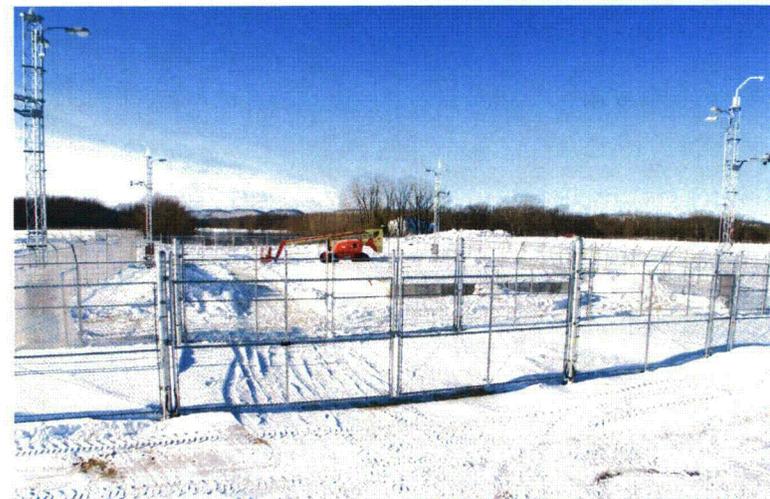
- Concrete pad complete
- Fencing installed
- Vehicle Barrier System
 - Installation in progress



ISFSI Security/Electrical

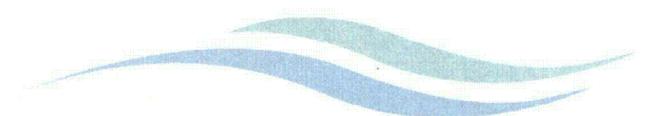
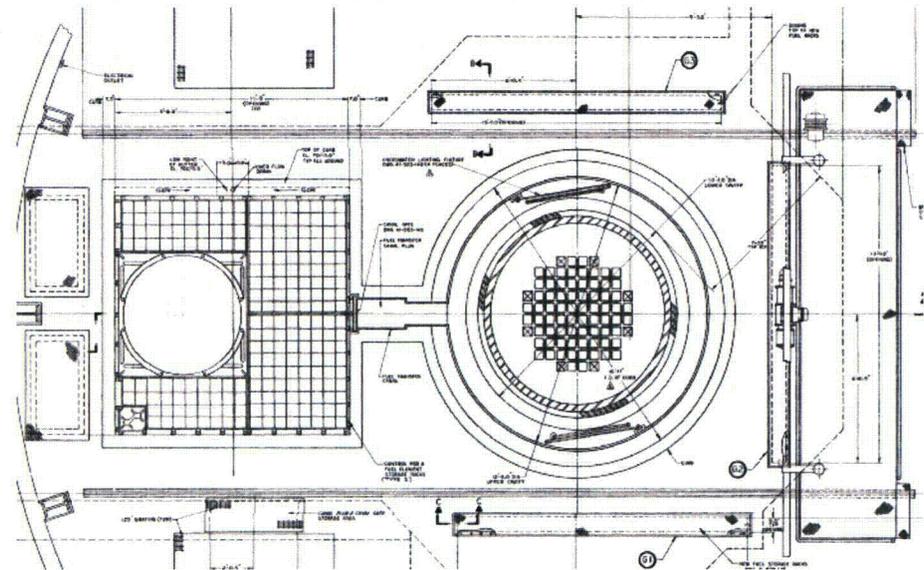


- All camera towers installed
- Intrusion detection system installed
- Security system acceptance test and training – Late April



Loading Operations

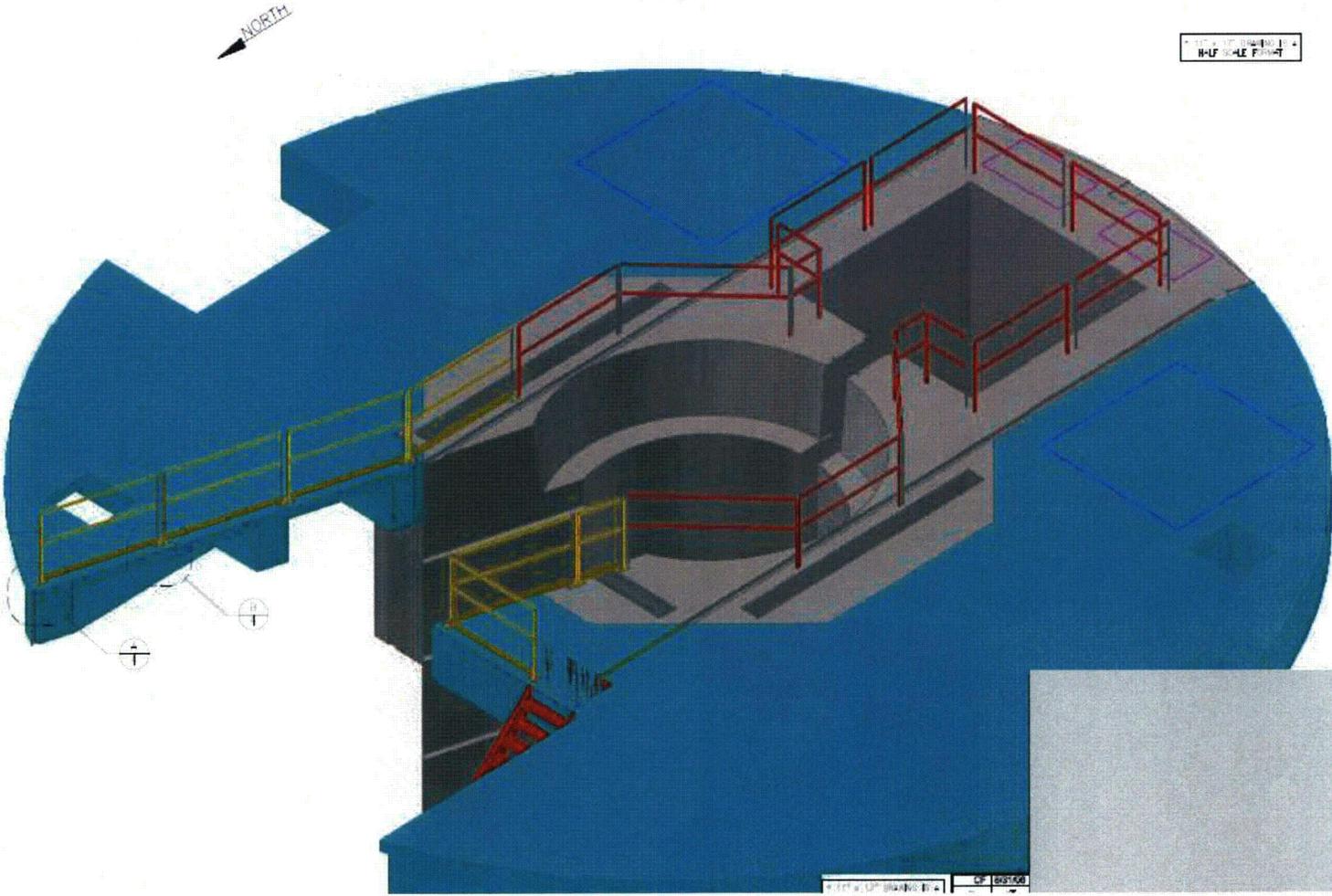
- Fuel pool
 - 11' by 11'
 - Two tier rack system
 - Small cask set down area
- Cask pool installation where reactor was removed
- Use installed fuel handling equipment



Operational Highlights

- Canister loading in cask pool
- Set inside runway girders aside for each cask loading
- Cask preparation on mezzanine floor
- Transfer to concrete cask outside of reactor building

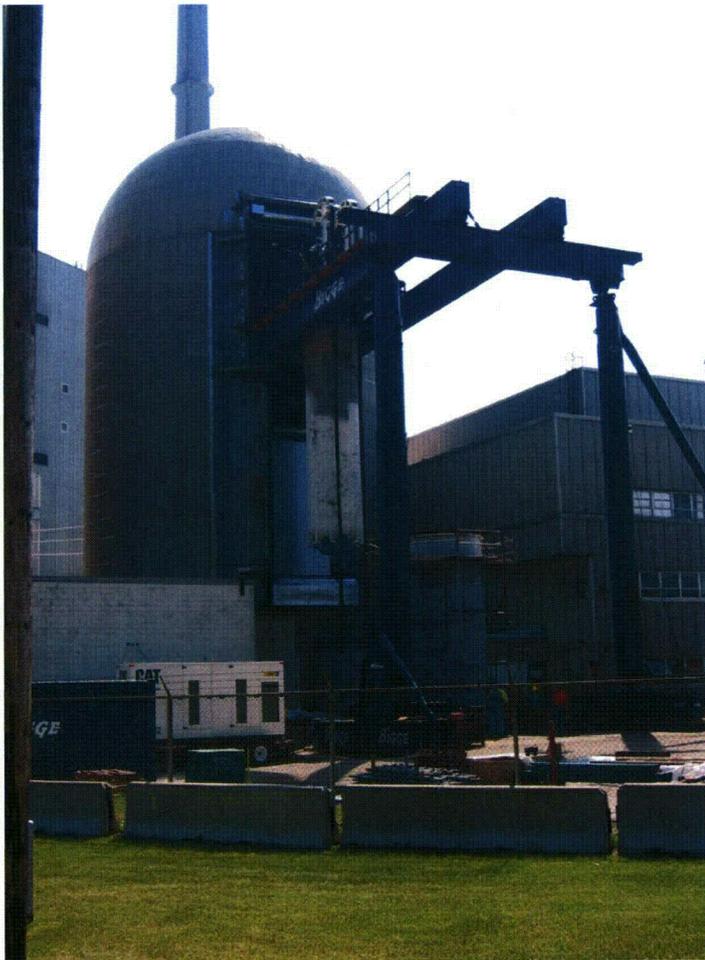
Operating Floor



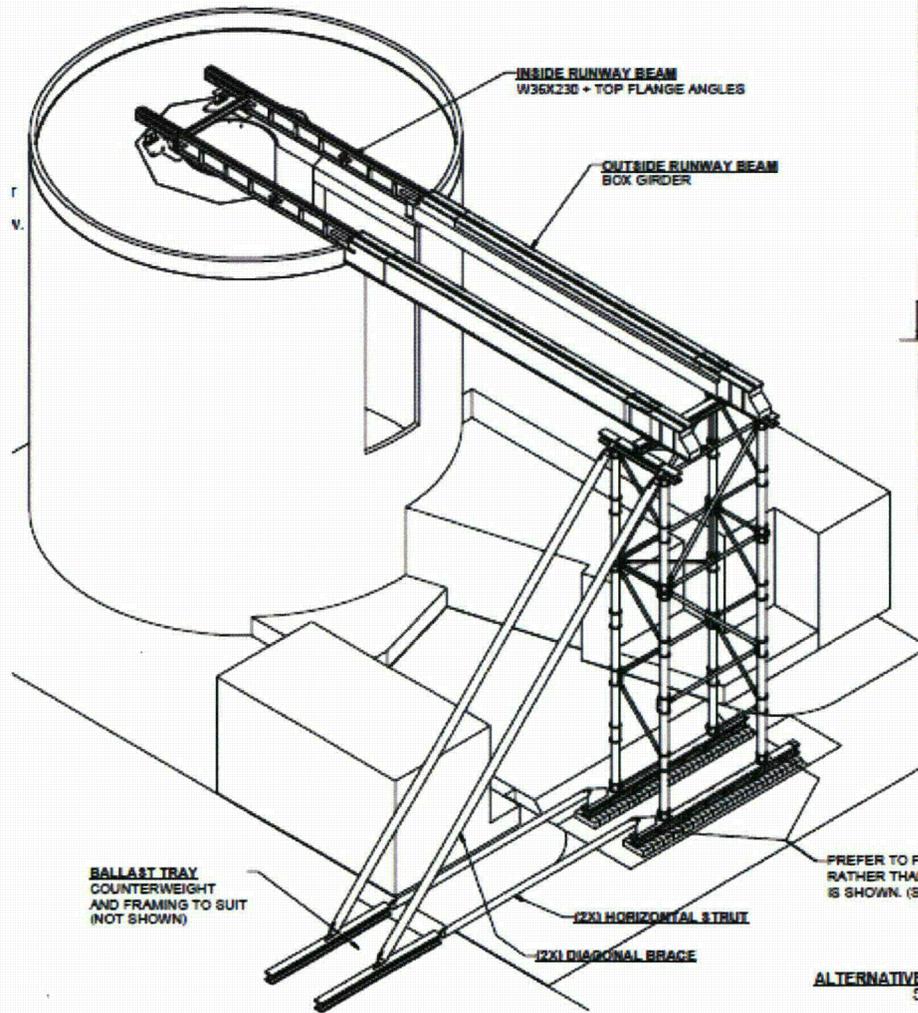
Former Reactor Vessel Area



Reactor Removal Crane

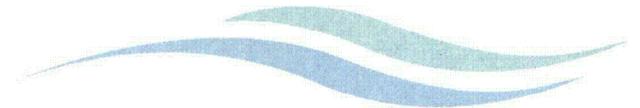
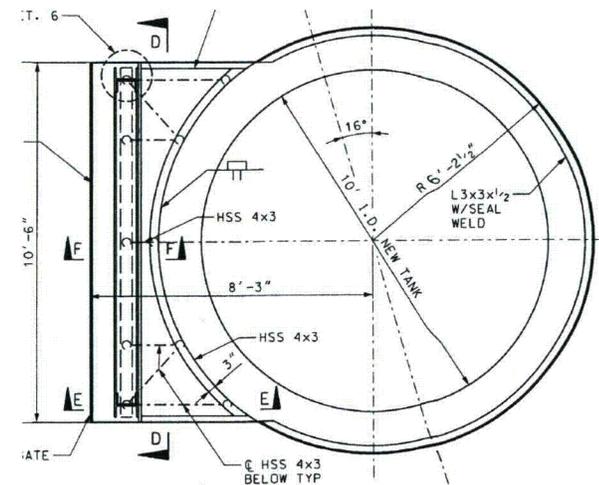


Cask Handling Crane

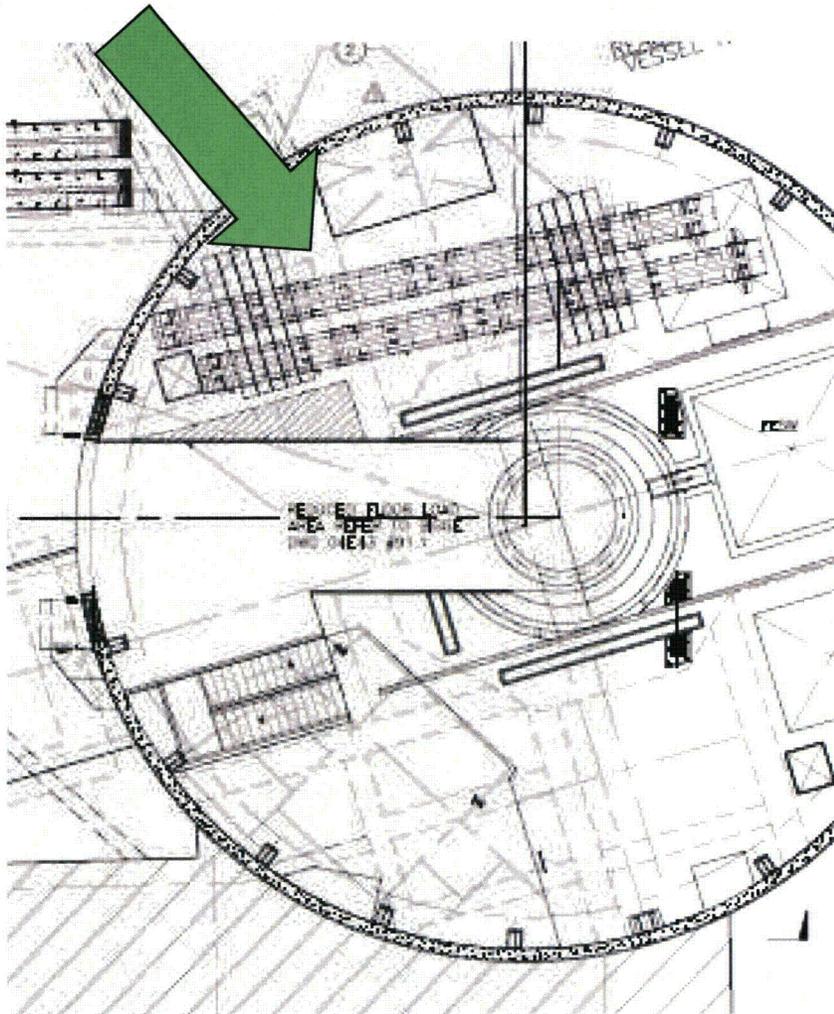


Loading Sequence

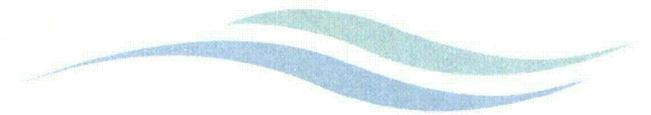
- Place transfer cask in cask pool
- Install cask pool gate



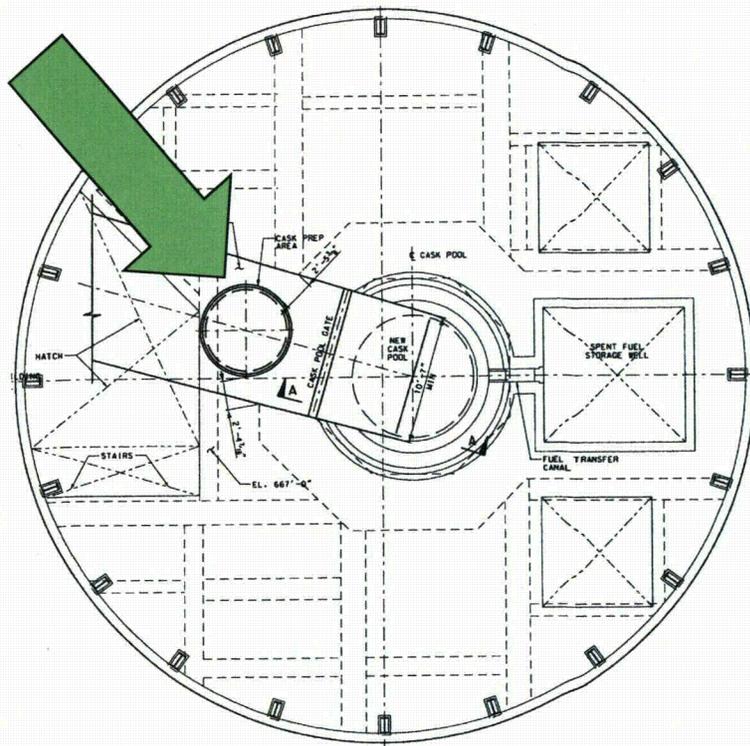
Loading Sequence



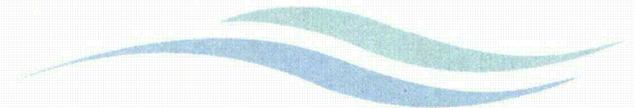
- Set inside runway girders aside
- Flood cask pool



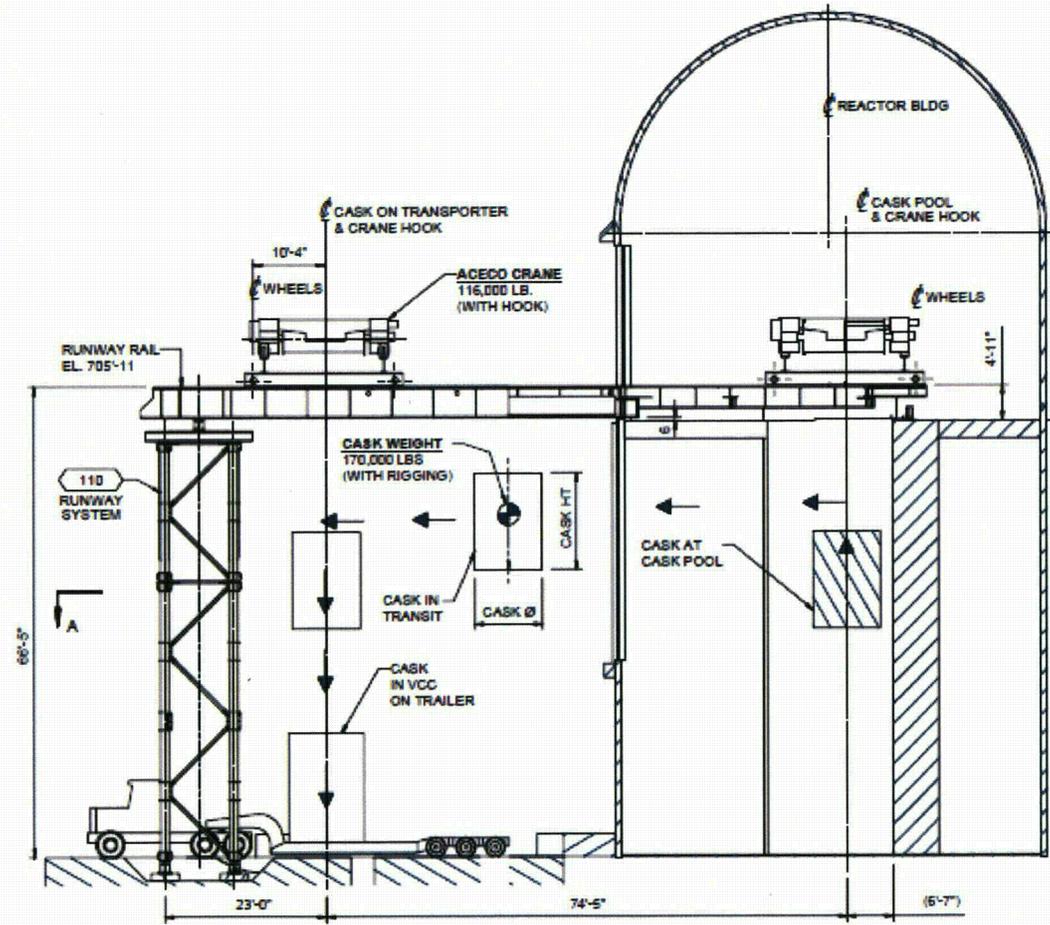
Loading Sequence



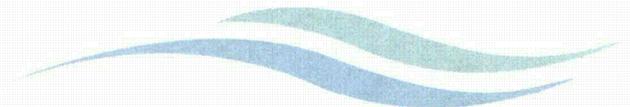
- Install inside runway girders
- Install canister lid
- Drain cask pool
- Remove cask pool gate
- Place cask in prep area
- Weld, dry & back-fill canister



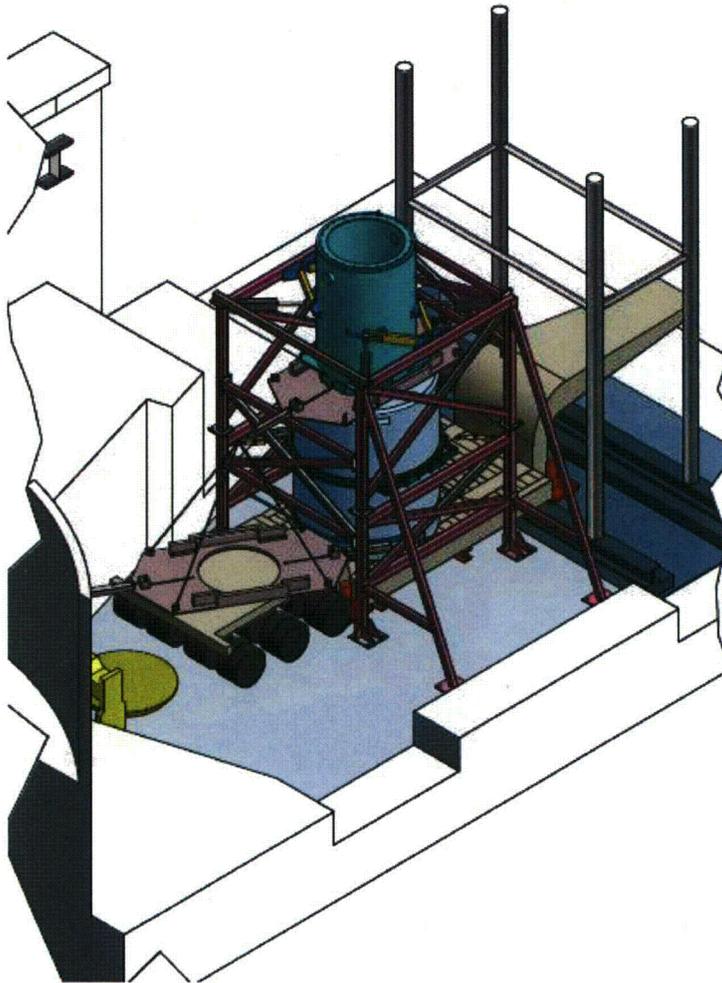
Loading Sequence



- Move transfer cask outside for canister transfer



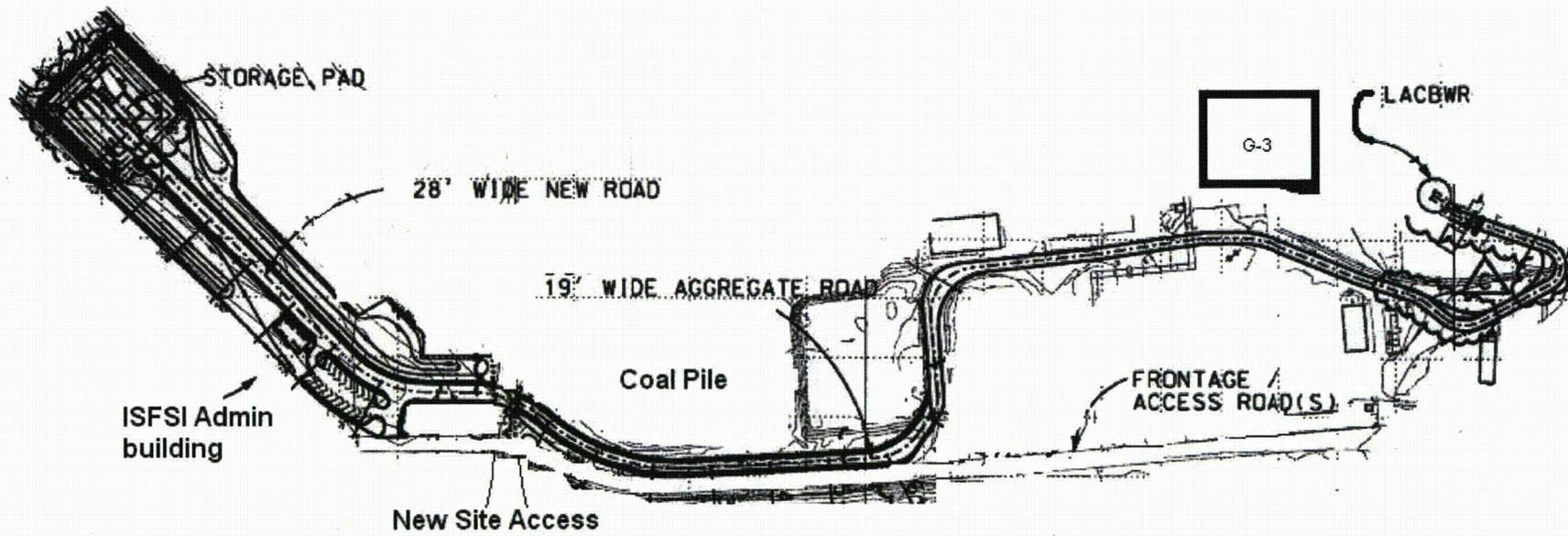
Loading Sequence



- Place transfer cask on transfer adapter inside cask seismic restraint
- Transfer canister to vertical concrete cask using cask handling crane



Transfer to ISFSI



EXISTING HIGHWAY 35

North →





Fuel Pool Clean Out

- Load 5th canister
- Remove components
 - Fuel racks
 - Control rod rack
 - Crush pad
 - Core spray bundle rack
- Vacuum pool bottom sludge segregating fuel fragments
- Sorting table
- Temporary water clean-up system

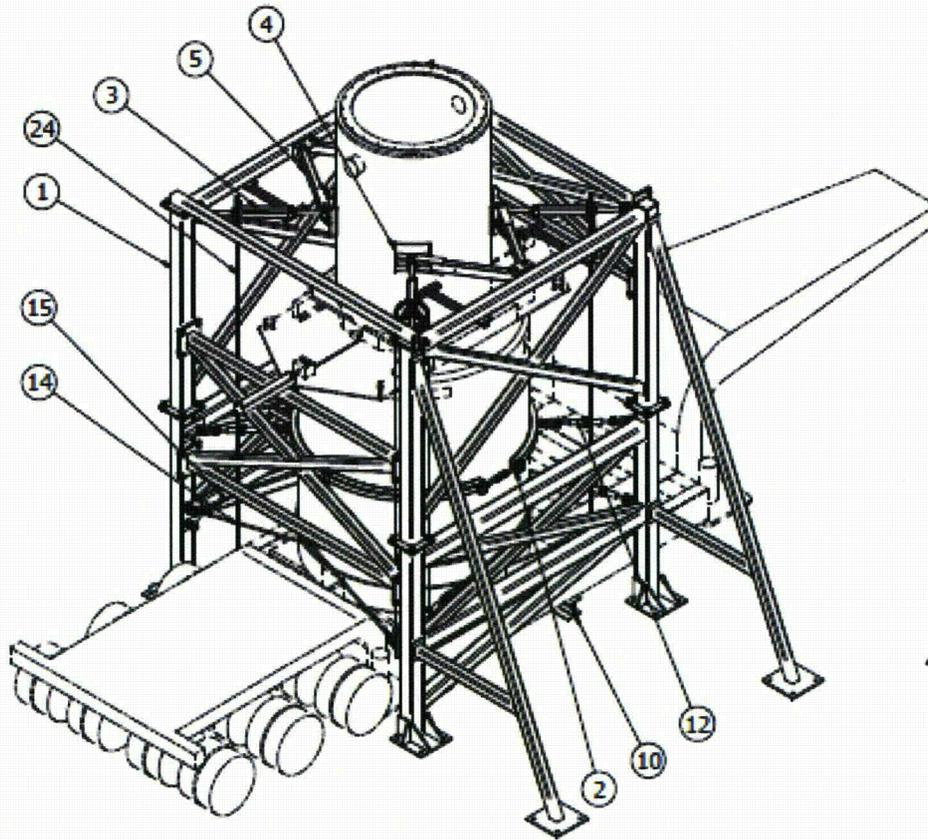


RB Modification Status

- Cask pool and gate
 - Delays due to fabrication
 - Tank to support weld
- Cask prep area
 - Complete
- Fuel pool piping
 - Piping on site
 - Install – April/May

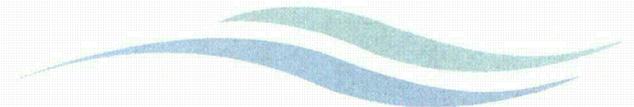


Cask Seismic Restraint



98 SEISMIC RESTRAINT STRUCTURE
EST. WEIGHT: 30,000

- Calculation for free standing completed by NAC
- Monitored status at other sites
- Made decision in December to restrain cask
- NAC designing structure and concrete pad
- Impacting loading schedule



Licensing

- License Amendment Request
 - Approved January 2011
 - Defines fuel handling
 - Lowered water level over stored fuel
 - Heavy loads
- 212 Report
 - Severe weather controls
 - Stack up restraint
- 50.59s
 - Heavy Loads
 - TSC preparations
 - Cask loading Operations

Plans and Procedures

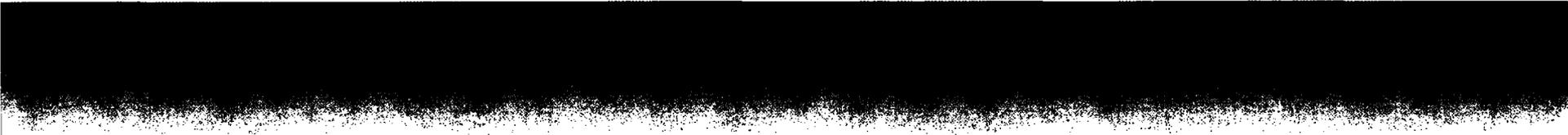
- Emergency Plan
 - NEI 99-01 Guidance for EALs at ISFSI
 - Integrating into current Emergency plan
- Decommissioning Plan (serves as FSAR) revised in December
- Fire Protection Plan incorporating ISFSI fire hazard analysis
- Procedures being revised now

Project Milestones

- May 2011
 - Reactor building modifications complete
 - All cask components on site
 - ISFSI operable
- July 2011
 - Cask Handling Crane operable
 - Cask Seismic Restraint complete
 - Sealing and welding dry run
- September 2011
 - Heavy loads and wet ops dry run
 - Loading campaign start
- November 2011
 - Complete loading campaign

Security

- 73.55 exemption
- Security plan
- ISFSI ASM
- Procedures



Questions?