

Monticello ISFSI

Dry Spent Fuel Storage
at the
Monticello Nuclear Generating Plant

U.S. Nuclear Regulatory Commission

December 8, 2004



Meeting Agenda

- **Introductions**
- **MNGP Spent Fuel Storage History**
- **MNGP Dry Fuel Storage Project**
- **10 CFR Part 50 Interface**
- **State of Minnesota Approval Process**
- **Closing/Questions**

Project Plan

The Monticello ISFSI Project will successfully design and implement a spent fuel storage and transportation system at the site. The Project will develop a plan to support continuous plant operation through the license renewal period and future decommissioning.

History of Spent Fuel at MNGP

- **1970 - Original Spent Fuel Pool (SFP) configured for 740 assemblies**
- **1978 - Re-rack SFP**
- **1984 to 1985 - Shipped 1058 assemblies to GE Morris, IL**
- **2004 - Initiated Study for Dry Fuel Storage**

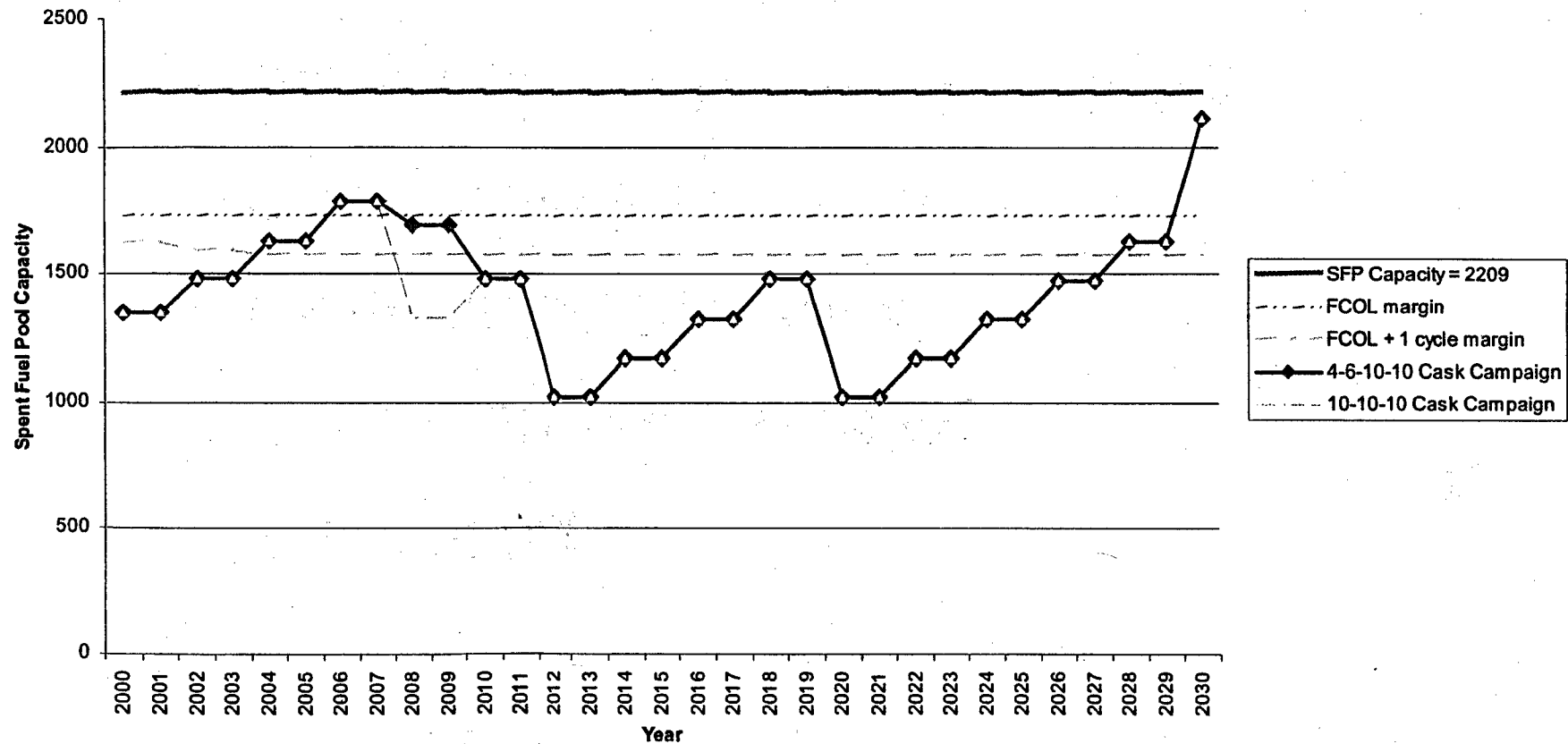
Current Spent Fuel Pool Status

- **2237 Assembly License**
- **2209 Assembly Capacity**
- **1478 Assemblies in Storage**
- **Full Core Offload Capability Lost March 2007**
 - **Contingency Evaluation for Temp. Rack**
- **Sufficient space to support plant operation until
EOL in 2010**

Study Findings

- **Evaluation Scope**
 - **Reactor Building Evaluation**
 - **Crane Assessment** 85 Ton - single failure proof
Re 1.124 design proof
 - **ISFSI Site Evaluation**
- **Technology Assessment**
- **SFP Evaluation**
- **Minnesota Regulatory Timeline**

MNGP Storage Requirements



MNGP Key Considerations

- **ISFSI Siting**
- **General License Technology**
- **Certificate of Need Process**
- **Crane Upgrade to 105 ton**
- **Heavy Load Analysis for Rx Building**
- **Quality Assurance Program**

Project Schedule

Albert Wong:
 6-9 no NRC structured
 John M.: review
 heads up on turnround character
 including Rx Bldg & Crane Upgrade
 - floor loading
 - bldg. structure
 - crane
 no NRC review
 - several more issues

ISFSI Study

ISFSI Design

Environmental Impact Statement

Certificate of Need

Legislative Review

Cask Fabrication

NRC review has licensing changes

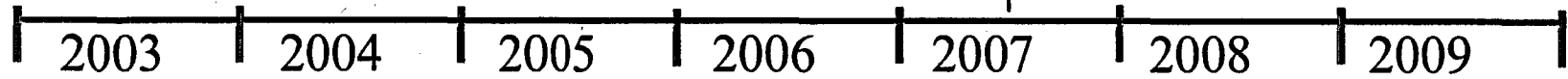
Rx. Bldg. & Crane Upgrade (installation)

ISFSI Construction

HI & SFPD Inspectors

Loading Campaign

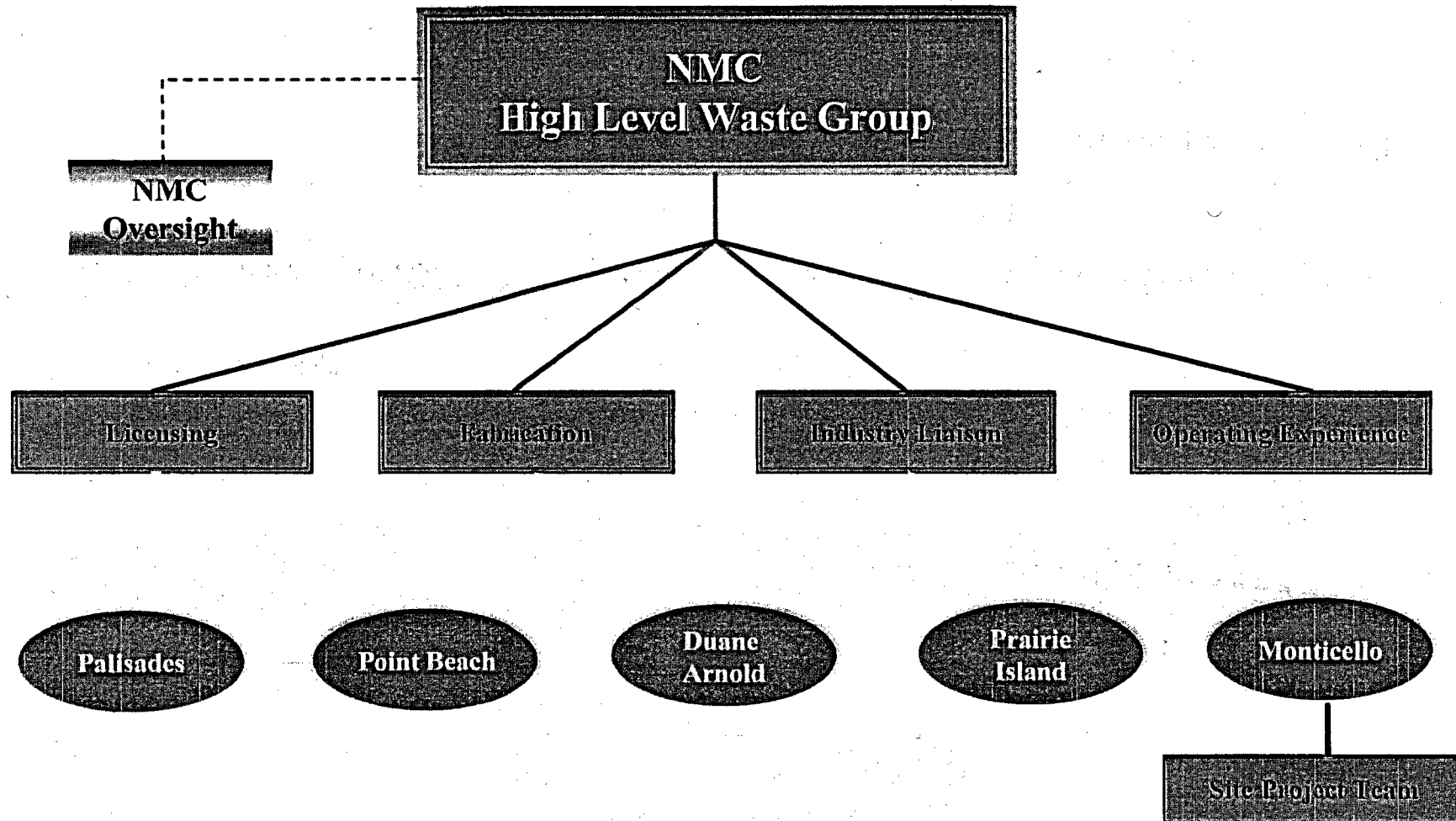
no SFPD review

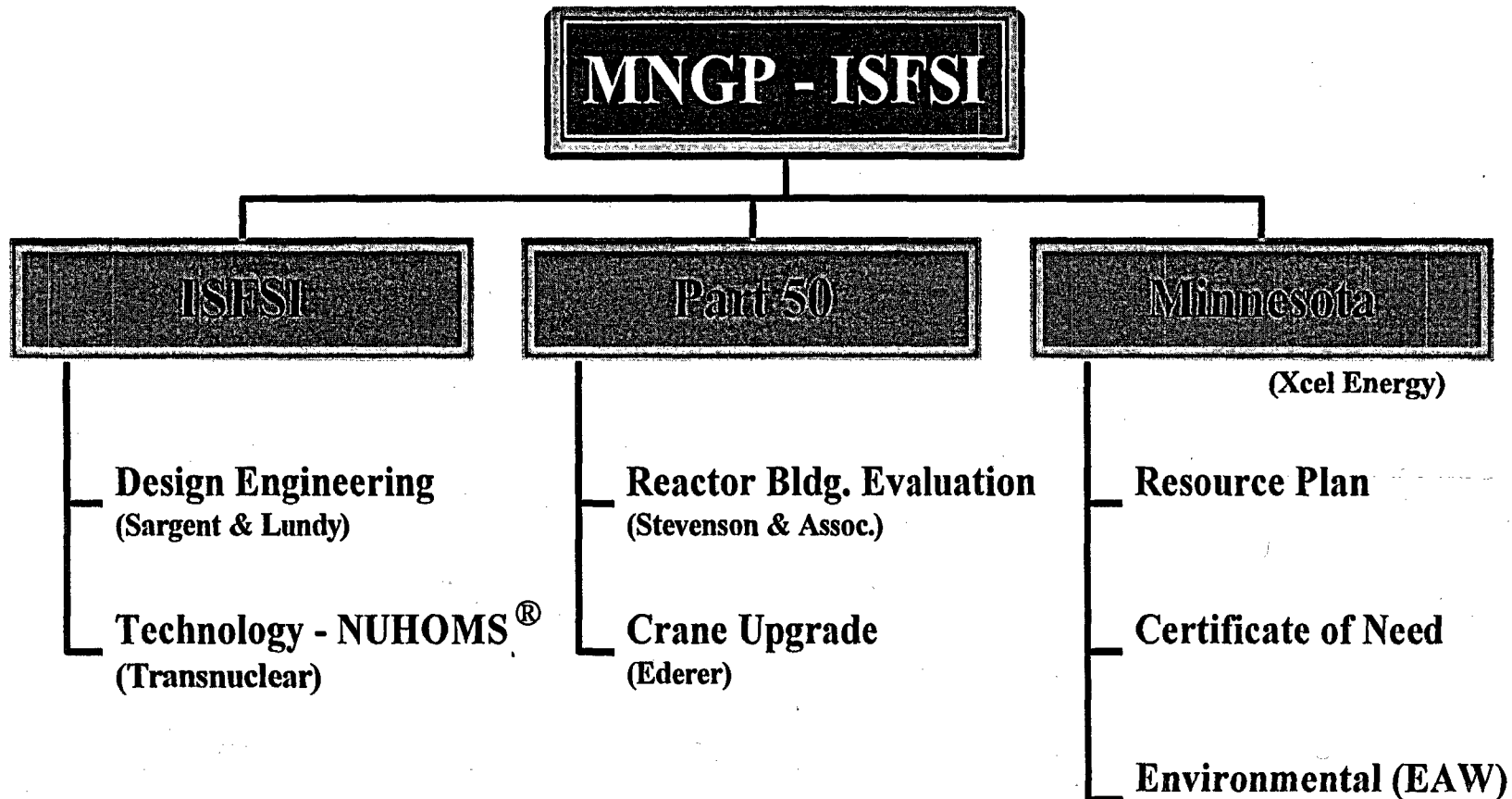


MNGP Operating Cycles

Key Milestones

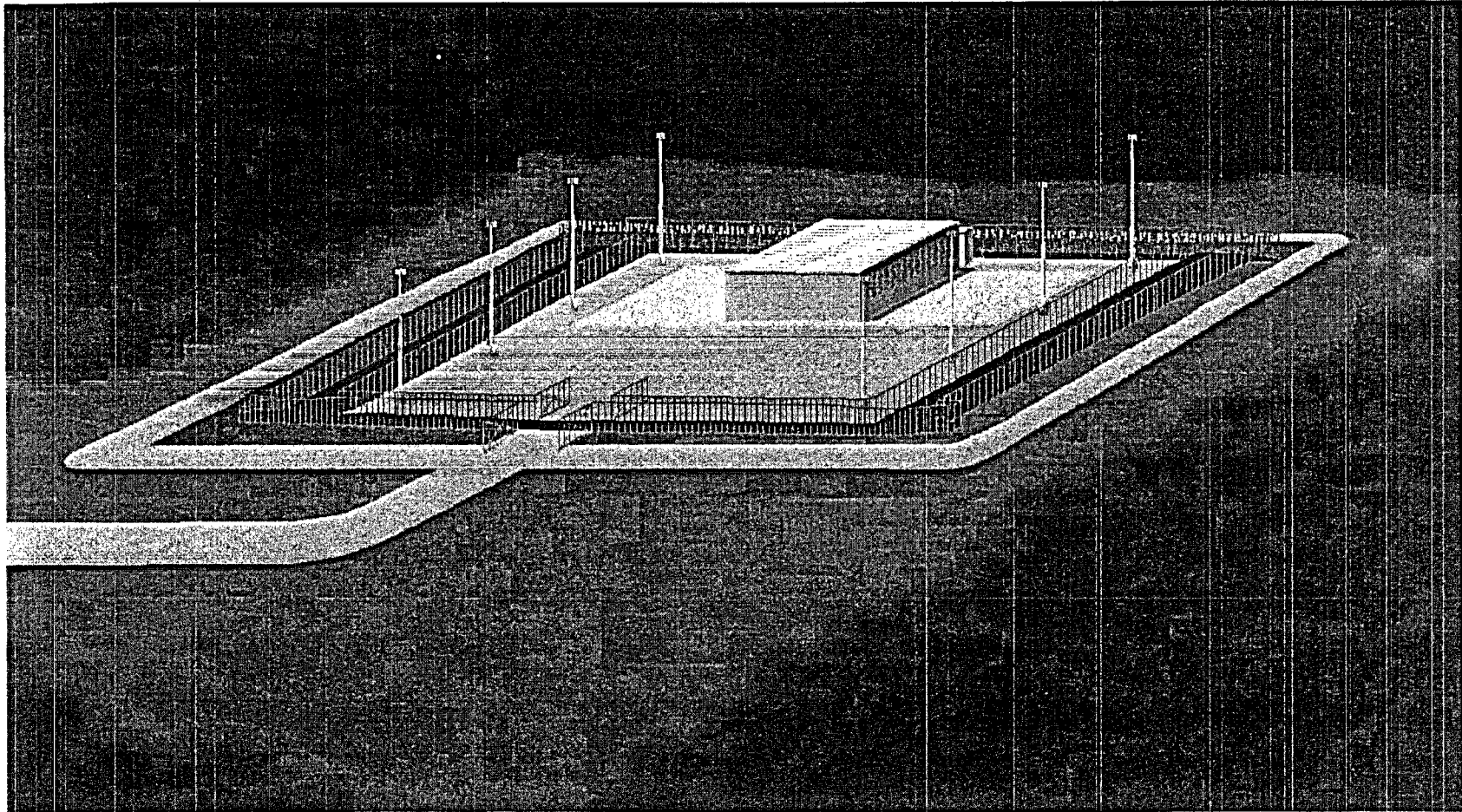
- **ISFSI Siting**
- **Technology Selection**
- **Resource Plan & Certificate of Need Filing**
- **Fabrication**
- **MN Legislative Review** *need before starting construction*
- **ISFSI Construction**
- **Initial Canister Loading**

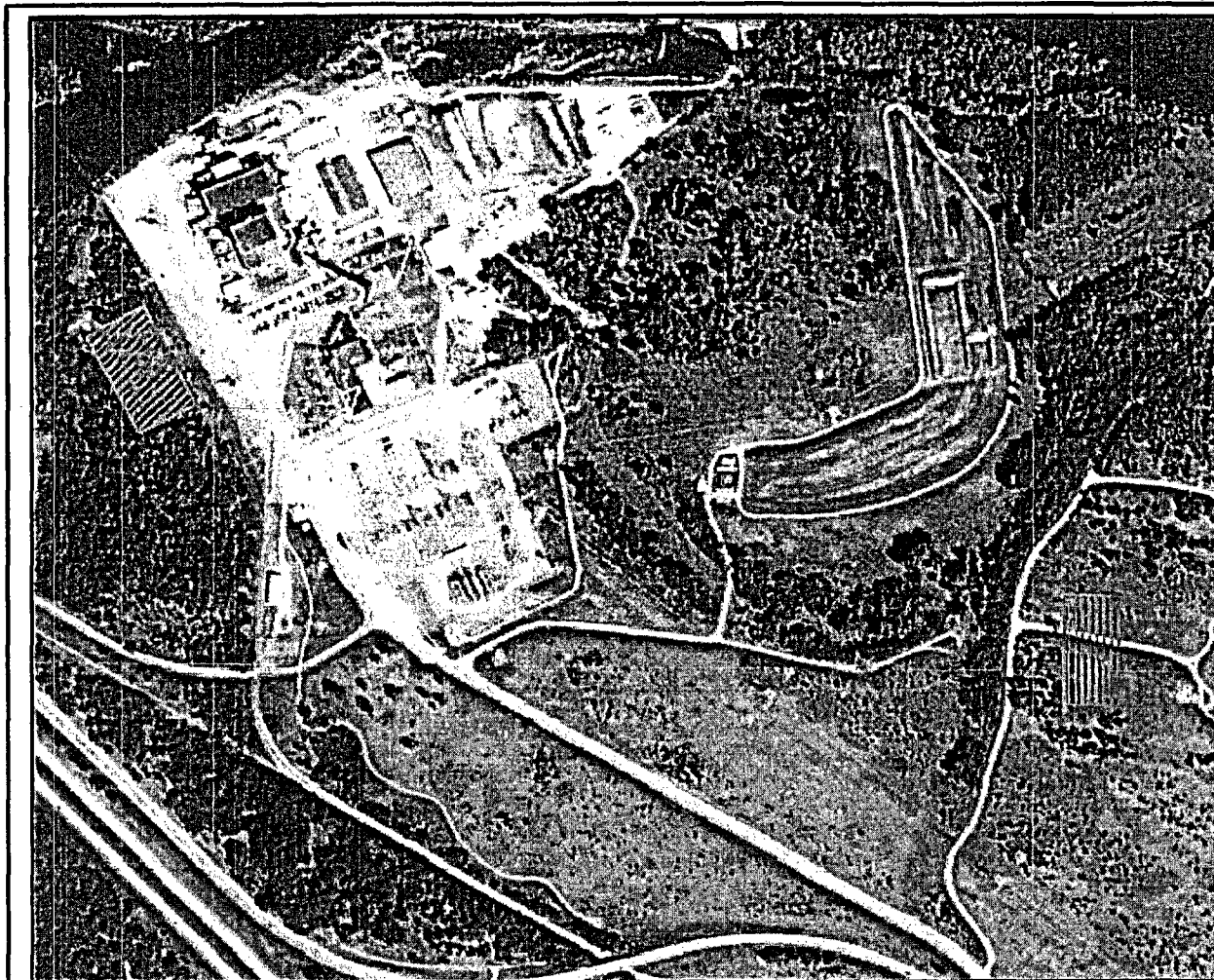




Monticello ISFSI

MNGP's Dry Fuel Storage Project





Preferred and Alternate Site Locations

Monticello Spent Fuel Storage
Generator Plant

Legend

Site



Preferred Site



Alternative Site

0 135 270 540 810 1,080 Feet

Shaw
Shaw Environmental, Inc.



Monticello Spent Fuel Storage

\\shaw\01\gep\Env_Report_Maps\GIS\A2_site.mxd August 31, 2004 LH
Source: USGS, MN DNR, Del. Land Management Information Center, Minnesota Geographic Data Clearinghouse, MN DNR

NIMC
Committed to Nuclear Excellence

Reactor Building Crane
Current License Basis

*current
licensing
basis*

NRC SE (5/19/77) approved the following:

- **Crane modifications for 85-ton Single Failure Proof** *dup/drm*
 - **Comply with draft NRC Regulatory Guide 1.104 "Overhead Crane Handling Systems for Nuclear Power Plants" where practical**
- **Use of 70-ton Spent Fuel Shipping Cask IF-300**

Reactor Building Crane^{Proposed} Upgrade

- Use NUHOMS® Dry Storage Canister and Transfer Cask
- Upgrade Crane to 105-ton Single Failure Proof
- Comply with NUREGs-0554/0612 for operating plants where practical
- Evaluate crane upgrade under 50.59 process
- Evaluate and modify building and structures as required

use existing bridge
+ trolley upgrade
- ~~modify~~ trolley

determine if
NRC review
req'd based
on this

85 → 105 T is a lot

lot of work to do seismic analysis of upgrade

presented by
Xcel energy

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State of Minnesota Approval Process

Minnesota Regulatory and Environmental
Requirements
for Spent Fuel Storage at Monticello

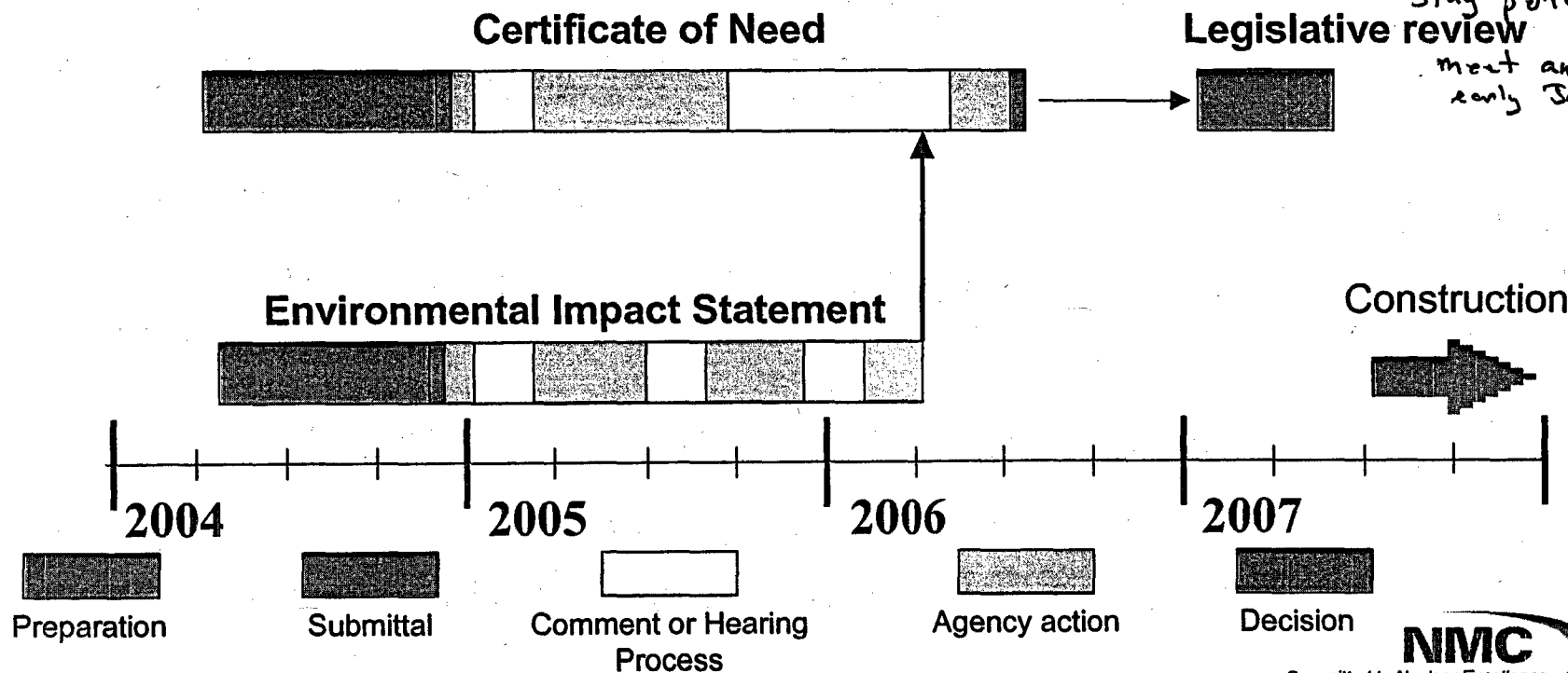
- ^{need} Certificate of Need Minnesota Public Utilities Commission ^{for 75FS1}
- Environmental Impact Statement (EIS) Minnesota Environmental Quality Board ^{will file License Renewal next spring so need 75FS1 prepared by get public involved}
- Legislative oversight opportunity, if they choose

Environmental Quality Board

Minnesota Regulatory Timeline

Process & schedule estimate

*puc decision
has to be made
before the start
of the next legislative
session
stay until June of
year after
stay period
meet annual
early Jan*



Summary

- MNGP can operate through its current license in 2010.
- MNGP needs additional spent fuel storage capacity for license renewal operation to 2030.
- Dry fuel storage supports continued MNGP operation and the ISFSI will be sized to support eventual decommissioning. *in 2030 emptying of pool*
- Minnesota's regulatory process requires the state to complete both an Environmental Impact Statement and Certificate of Need.

Questions



Monticello Nuclear Generating Plant