

Agenda



- Asset Sale Agreement
- Organization
- Nuclear Decommissioning Process
- Overview of Zion Station Decommissioning
- Schedule
- Near Term Activities
- Spent Fuel Management and Dry Fuel Storage
- Decommissioning and Decontamination (D&D)
- What to expect at the end of the project



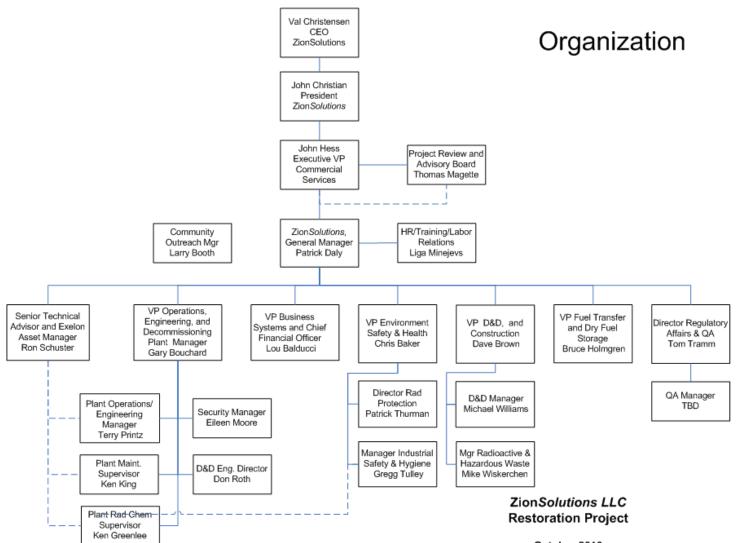
Asset Sale Agreement

Asset Sale Agreement with Exelon Nuclear, EnergySolutions has;

- Acquired the assets of Zion Station
- Leased the land from Exelon
- Taken possession of spent nuclear fuel
- The NRC licensee for Zion Station transferred
- Assumed all liabilities and obligations for decommissioning and site restoration, end state is the return the site to Exelon in 10 Years

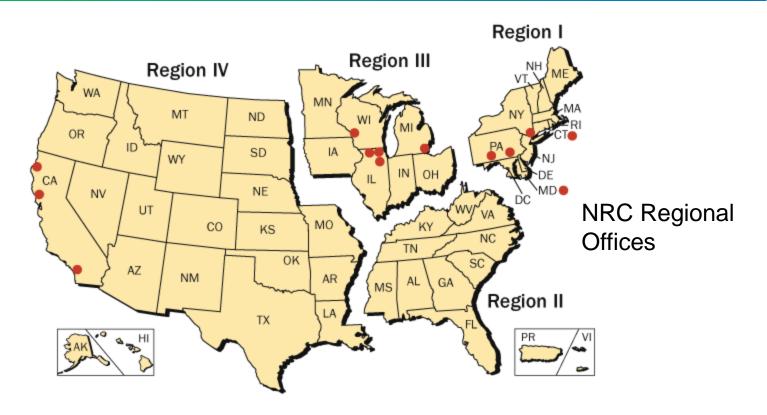


ZionSolutions





Nuclear Decommissioning



There are 12 commercial nuclear sites that are in either the SAFSTOR or Active Decommissioning phase under their NRC license

ZION SOLUTIONS LLC An Energy Solutions Company

Nuclear Decommissioning

Decommissioning Process:

- Submittal and review of the Post-Shutdown Decommissioning Activities Report (PSDAR)
- Exelon submitted the first PSDAR in 2000 and have performed Safe Store decommissioning activities for the last 10 years.
- Zion Solutions submitted a revised PSDAR in 2008 for active decommissioning
- The NRC published receipt of the Zion Solutions PSDAR in the Federal Register and made the PSDAR available for public comment. In addition, the NRC held a public meeting at the Illinois Beach Resort in the summer of 2008 to discuss the PSDAR and obtain input from the public and local community.
- The next phase of the regulatory process will be submittal of the License Termination Plan (LTP) which is expected to be submitted late in 2014.



Nuclear Decommissioning

- The License Termination Plan has to be submitted at least 2 years before the completion of the project.
 - The NRC and ZionSolutions will hold meetings to agree on the format and content of the LTP.
- The LTP must include the following:
 - a site characterization;
 - identification of remaining dismantlement activities;
 - plans for site remediation;
 - detailed plans for the final radiation survey;
 - description of the end use of the site, if restricted;
 - an updated site-specific estimate of remaining decommissioning costs; and
 - a supplement to the environmental report describing any new information
- The NRC will notice receipt of the LTP and make the LTP available for public comment and hold a public meeting in the Zion area



Nuclear Decommissioning

- Implementation of the License Termination Plan will be in the later half of the project (2015 to 2020)
 - After approval of the LTP, Zion Solutions must complete decommissioning in accordance with the approved LTP
 - The NRC staff will periodically inspect the decommissioning operations at the site to ensure compliance with the LTP. These inspections will normally include in-process and confirmatory radiological surveys.
- Final Status Surveys are conducted to release the land for unrestricted use.
- The final end state will be an amendment to the NRC Licenses to release the current land (with the exception of the Interim Spent Fuel Storage Installation) for unrestricted use, expected to be complete in 2020.



Site Characterization Preparation

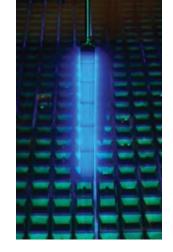
Site Characterization

- Soil background study Q4 2010
- MARSSIM-based survey program and procedures development underway
- Non-impacted and Class 3 areas and buildings surveys expected Spring 2011
- ISFSI pad area radiological assessment
- Dose modeling and Derived Concentration
 Guideline Levels (DCGLs) to correspond to final site release criteria of 25 mrem/year

Overview of Project



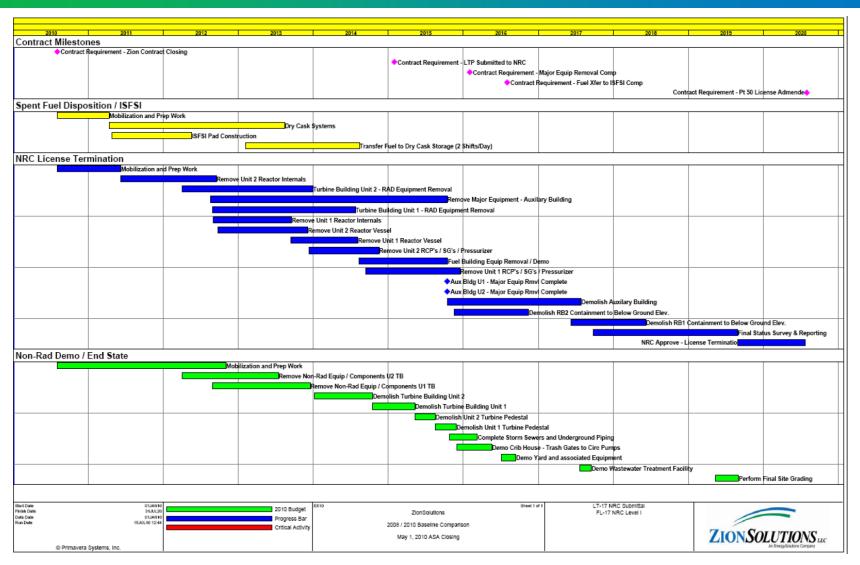
- 3 Major Phases of work
 - Spent Fuel (wet to dry)
 - License Termination Scope, estimated cost
 - Site restoration



- Critical path through the Reactor Vessels
- Highest cost scopes of work include the fuel campaign and reactor vessel segmentation
- Total duration is estimated to be 10 years



Level One Schedule



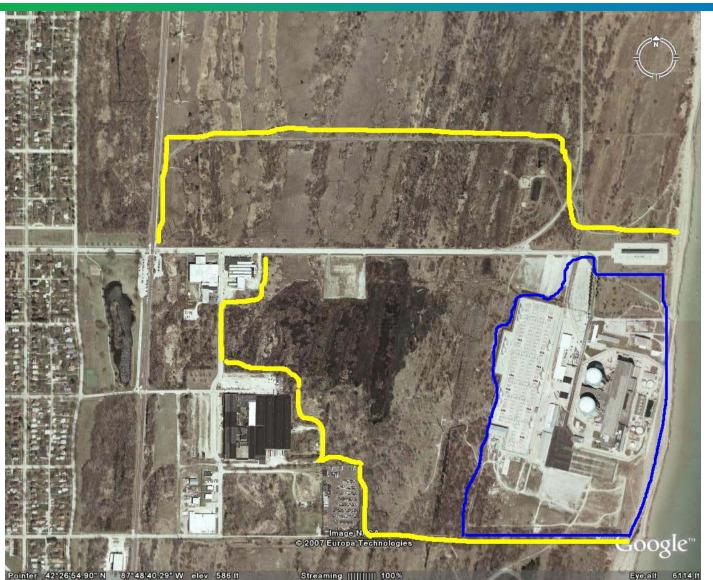


Near Term Activities First 18 Months

- Contractor Parking Lot Improvements
- 345 KV Overhead Line Removal
- Tech Support Center Refurbish
- DAW Building Demolition
- N-GET Training Center Remodel
- Unit-2 Containment Access Opening
- Unit-2 Polar Crane Up-Grades
- Unit-2 Refueling Cavity Preparation
- Unit-2 Reactor Vessel Internals Segmentation
- Unit-1&2 Tendon Detensioning
- Unit-2 Cavity Water Supply
- ISFSI Preparatory Work in Spent Fuel Building
- ISFSI Fuel Modification & Inspection Work in Spent Fuel Pool

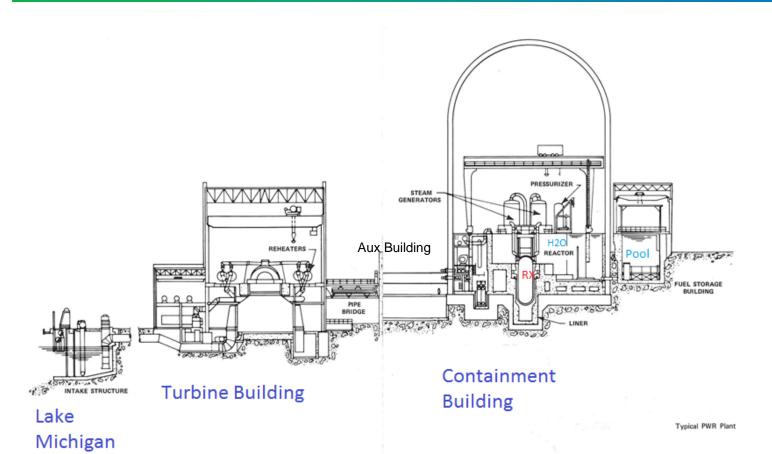


Overview





What is Inside the Plant?





Fuel Transfer - Objectives

 Safely Transfer All 2,226 Used Fuel Assemblies To Dry Storage

- Safe Dry Storage of Fuel and High Level Waste
- Operations / Maintenance
 - Radiation Protection
 - Security
- All Zion Fuel and High Level Waste Will be Licensed for Transported Off Site
 - 10CFR71 Transport Certificate

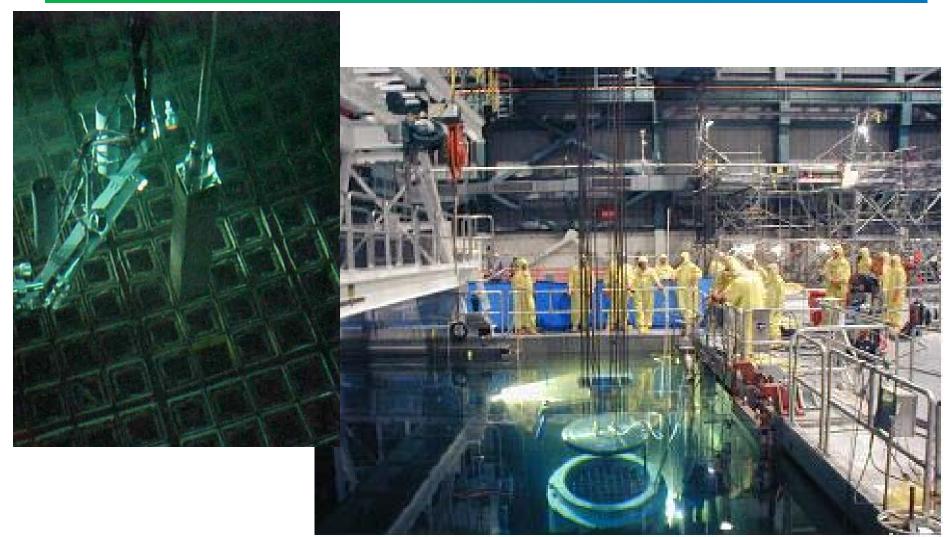


Fuel Transfer- 4 Tasks

- 1. Fuel Modifications and Inspections Proposal (Westinghouse)
- 2. Dry Cask Storage Canisters (NAC, International)
- 3. ISFSI Design and Construction Proposal
 - Concrete Pad / Security Features / Haul Road
 - Monitoring Station
 - Fuel Building Seismic Upgrades
- **4. Fuel Transfer Operations, Loading Fuel** Zion *Solutions /* Sub-Contractors



Fuel Transfer



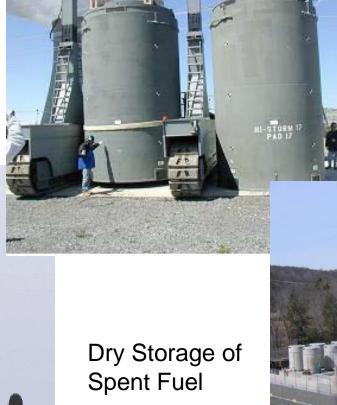


Bundle of used fuel assemblies

Conister

Storage cask —

Fuel Transfer





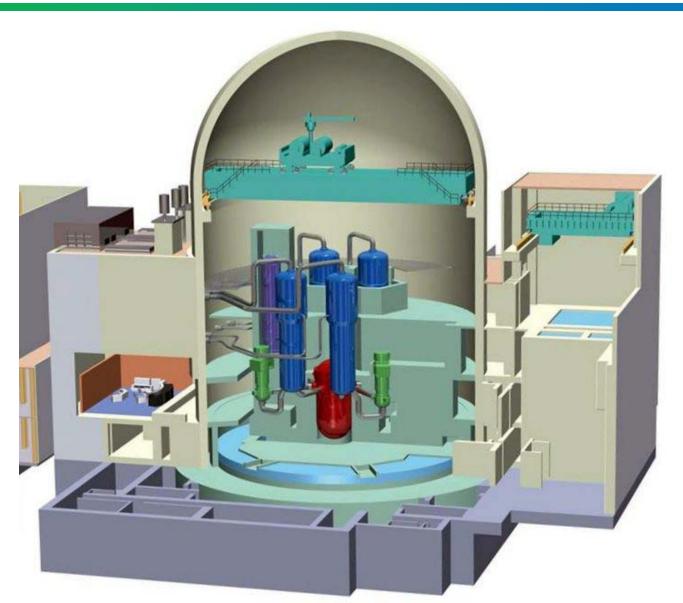


D&D Milestones

- Major Equipment removed within 66 months
 - -Reactor vessels and internals
 - -Other major components, valves & piping
 - -Four main transformers
 - -Main turbines, generators, & condensers
 - Secondary valves, pumps motors & piping
 - -Secondary loop heat exchangers
- •All site work complete and released for unrestricted use within 120 months
 - -All structures removed to 3 ft below grade
 - -Lake piping and structures abandon in place
 - -Fuel pad, switchyard, roads, rail &fences remain



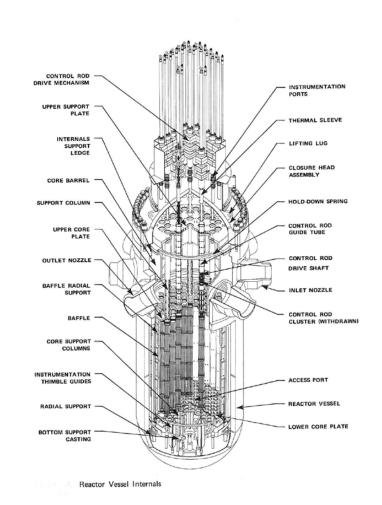
Containment Building Components





Reactor Vessel and Internals Segmentation

- Siempelkamp Nuclear Technology US
 - Internals, vessels, heads
 - Cutting, water management and waste packaging
 - Mechanical cutting
 - Real-time cut planning for waste management
 - Class B/C waste minimization
 - Load GTCC liners for packaging





Waste Management

- Overview (estimated)
 - 4.0 MM ft³ Class A
 - Equipment, piping, debris, secondary waste
 - 2.7 MM ft³ fill materials
 - Concrete, debris
 - 1.3 MM ft³ recycle materials
 - Copper, steel, rebar
 - − 3,200 ft³ Class B/C
 - RV Internals
 - 700 ft³ GTCC
 - RV internals





Major Component Removal

Containment

- Sequence to Reactor
 Vessel (RV) segmentation
- Heavy lifts
- Steam Plant
 - Sequence to hazard removal
 - Asbestos insulation is the principle hazard







Demolition after Major Component and Fuel Removal







Fill and Recycle





Clean Fill Materials

- Use as site backfill
 - Crushed concrete
 - Building debris

Recycle Materials

 Some Release for unrestricted use





- The land will be restored to allow unrestricted use with the exception of the Dry Fuel Storage Facility
- The NRC license and land will be returned to Exelon for future beneficial use.



