SONGS Decommissioning Project
Community Engagement Panel Workshop
Spent Fuel Storage
05/06/14
Spent Fuel Storage

Two Options for storage of spent fuel prior to Department of Energy (DOE) taking possession:

- ‘wet’ storage in existing spent fuel pools*
- Independent Spent Fuel Storage Installation (ISFSI) ‘dry’ cask storage.

* Note: as part of the Decommissioning process, all spent fuel must be removed from the Spent Fuel Pools prior to dismantling the Spent Fuel pool building and potentially some adjacent buildings.
Spent Fuel Storage

**Unit 2 SFP**
- 1318 Fuel Assemblies
  - (570 High Burn Up)

**Unit 3 SFP**
- 1350 Fuel Assemblies
  - (545 High Burn Up)

**Existing ISFSI Pad**
- U1: 395 Assys
  - 17 Canisters
- U2: 408 Assys
  - (1 High Burn Up)
  - 17 Canisters
- U3: 384 Assys
  - (7 High Burn Up)
  - 16 Canisters

**GE Morris IL**
- 270 Fuel Assemblies

**U2 & U3 to Off-Load to Dry**
- (1318 + 1350)
- 2668 Fuel Assemblies

**ISFSI Expansion Pad**
- U2 – Need 45 Canisters
- U3 – Need 39 Canisters
- U2&3 – Need 12 Canisters for GTCC

**U1 & U2 & U3**
- To DOE
  - 3855 Fuel Assemblies

**U1 To DOE**
- 270 Fuel Assemblies

**Note:** Number of canisters is approximate since the fill will ultimately be based on actual fuel data.
SONGS Spent Fuel Storage

• Approximately 1/3 of the Spent Fuel for SONGS Units 1, 2, and 3 have been transferred to dry cask storage

• Currently 2668 Spent Fuel Assemblies reside in the SONGS Unit 2 and Unit 3 spent fuel pools

• Approximately 1/3 of the Spent Fuel for SONGS Units 1, 2, and 3 are characterized as “High Burn Up” Fuel:
  • Unit 2 Pool – 570 Spent Fuel Assemblies
  • Unit 3 Pool – 545 Spent Fuel Assemblies
  • Dry Cask – 8 Spent Fuel Assemblies
Spent Fuel Storage

The existing ISFSI storage facility must be increased to accommodate approximately 100 additional canisters.

Current ISFSI facility:
- 50 loaded Spent Fuel canisters
- 12 empty modules
- Space for 26 more modules
The existing ISFSI storage facility must be increased to accommodate approximately 100 additional canisters.

The concept to the left shows relative expansion requirement.

Red line shows existing installation.
Seismic

- Nuclear plants are licensed to withstand earthquakes of a specific anticipated ‘ground movement’, or peak ground acceleration measured as a ratio of gravitational acceleration.

- SONGS Units 2 and 3 were designed and built to withstand an earthquake with a peak ground acceleration of at least 0.67g.

- For comparison, the current California Building Code design requires any buildings built in the vicinity of SONGS to be designed to withstand an earthquake motion that has peak ground acceleration of 0.38g.
Comparison of Seismic ‘Acceleration’ in the horizontal direction for Local Building Code, SONGS Plant, SONGS ISFSI Design