



# Decommissioning **San Onofre**

Nuclear Generating Station

## New Analysis of Seismic Faults near San Onofre

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Tom Palmisano

Vice President, Decommissioning &  
Chief Nuclear Officer

# Objectives

- Review purpose of the seismic research
- Summarize SONGS original seismic design basis, subsequent seismic studies
- Summarize ISFSI seismic design basis
- Preview new Scripps seismic studies

# California Energy Commission (CEC) Seismic Directive

- In 2010, CEC directed SCE to evaluate seismic faults that could impact SONGS operation/reliability
  - Codified in Assembly Bill 1632
  - Requested evaluation of relevant seismic data
  - Directed SCE to conduct new research

# SONGS Plant

## Seismic Design Basis

- Seismic design criteria for San Onofre based on:
  - Extensive geological and seismic studies
  - Evaluation of earthquakes having Richter magnitude 5.0 and greater within 200 miles
  - Largest site acceleration caused by magnitude 7.0 quake at Newport Inglewood/Rose Canyon (NI/RC) fault system
  - Translated to peak ground acceleration (PGA) of 0.63g at San Onofre
- Plant designed to withstand PGA of 0.67g with NRC approval

# Interim Activities

Timing	Developments / Evaluations / Findings
2000	Oceanside Blind Thrust (OBT) fault postulated beneath San Onofre
2001	ISFSI designed to increased PGA of 1.5g
2001	SCE study of postulated OBT fault, determines seismic risk does not appreciably change
2002	NRC agreed with SCE's OBT conclusion
2010	SCE updates seismic hazard analysis considering 7.5 magnitude earthquake from NI/RC plus OBT
2010	Found that seismic risk was bounded by previous results approved by NRC

# Summary

- SCE / Scripps will complete analyses required of SCE by CEC early 2017
- SONGS ISFSI seismic design highest in U.S.
- More recent seismic hazard analysis show no appreciable increase in risk to San Onofre

# Implications of Findings for San Onofre

- Findings support reduced seismic risk at San Onofre
  - Hypothesized Oceanside Blind Thrust fault not supported
  - Data indicates all segments of the Newport-Inglewood/Rose Canyon (NI/RC) fault have not ruptured together in the past
  - If all segments of the NI/RC rupture, could generate up to 7.3 or 7.4 magnitude earthquake, which is less than the magnitude 7.5 used in the latest seismic hazard analysis
  - Near-field tsunami risk reduced without OBT
  - Large far-field tsunamis baffled by California Borderlands
- Seismic design of spent fuel pools consistent with new research
- ISFSI design provides greater margin given reduced seismic risk
  - SONGS ISFSI seismic design is highest in U.S.