To: *Allison Macfarlane, Chairman
U.S. Nuclear Regulatory Commission
Mail Stop 01664
Washington, D.C. 20555-0001

*Jeanne Hardebeck, Tom Brocher, et al.
U.S. Geological Survey M.S. 977
Earthquake Studies Group
345 Middlefield Road
Menlo Park, California 94025

*Sam Blakeslee, California Assemblyman
1104 Palm Street
San Luis Obispo, California 93401

*U.S.-N.R.C. Atomic Safety and
Licensing Board Panel
Two White Flint North
11545 Rockville Pike M.S. T-3F23
Rockville, Maryland 20852

From: J.A. Tony Fallin
P.O. Box 1624
Boulder, Colorado 80306

Subject: NRC review of PG&E's report on the
Shoreline Fault offshore DCNPP, SOCAL

Date: August 15, 2013

*Sally Jewell, Secretary
U.S. Department of Interior
1849 "C" Street N.W.
Washington, D.C. 20240

*Roy Shlemon, CEO
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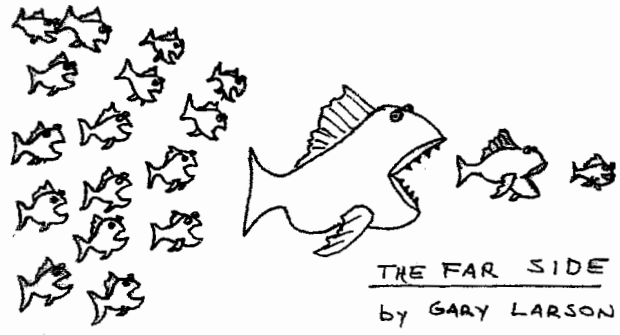
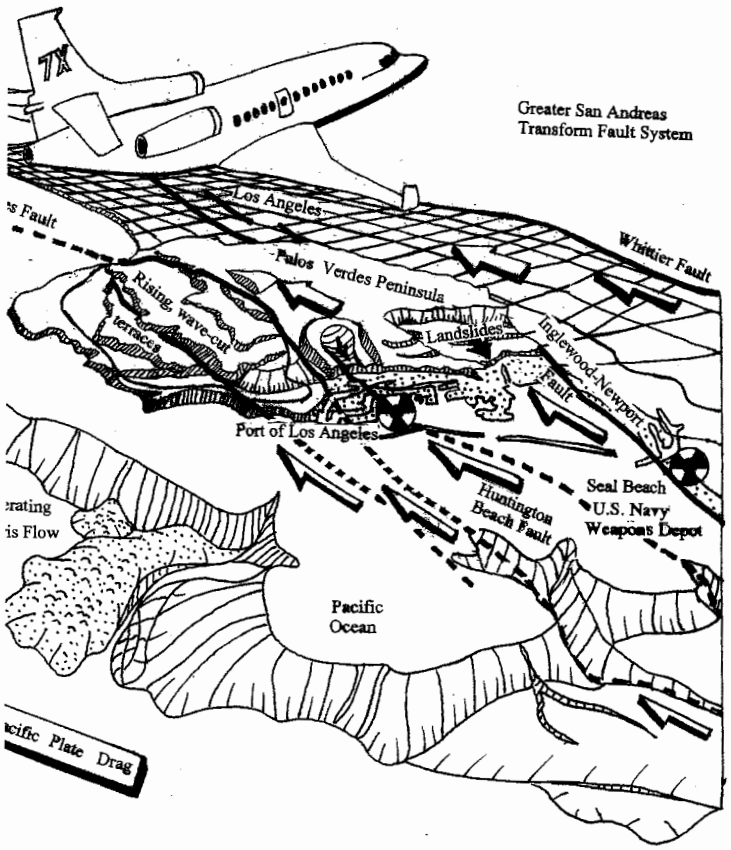
*Other Family, Friends and Associates

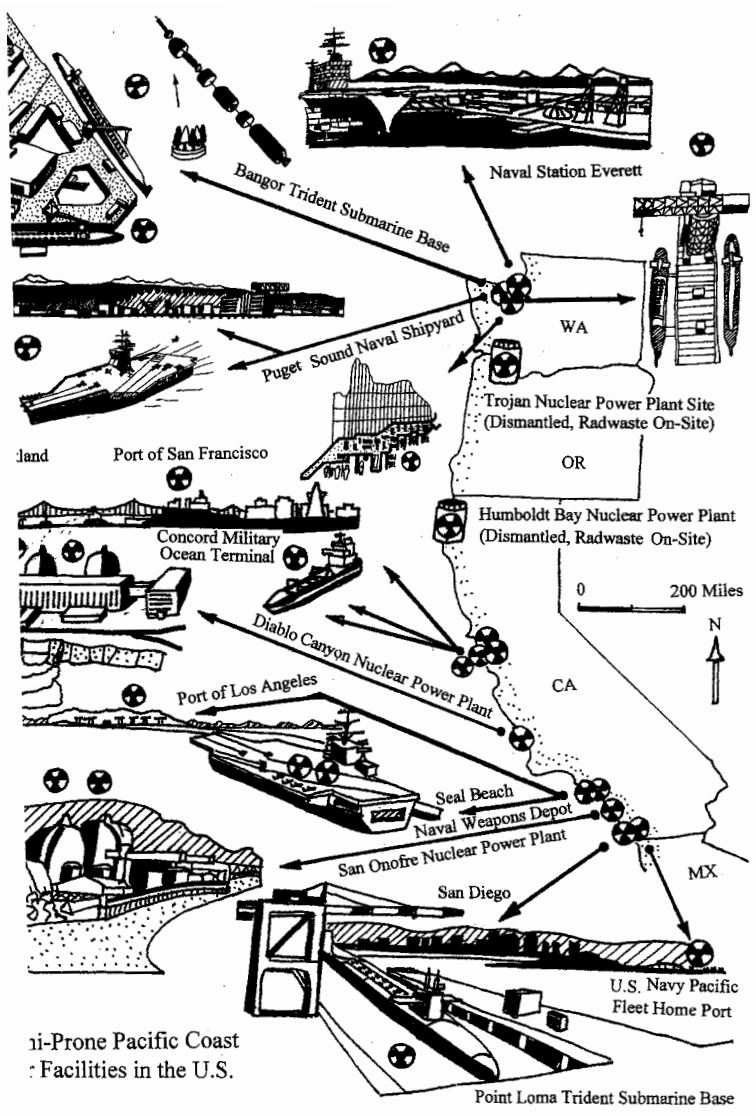


At-Risk, Nuclear Facilities Posing Clear and Present Dangers on Tsunami-Prone Coastlines of the U.S.

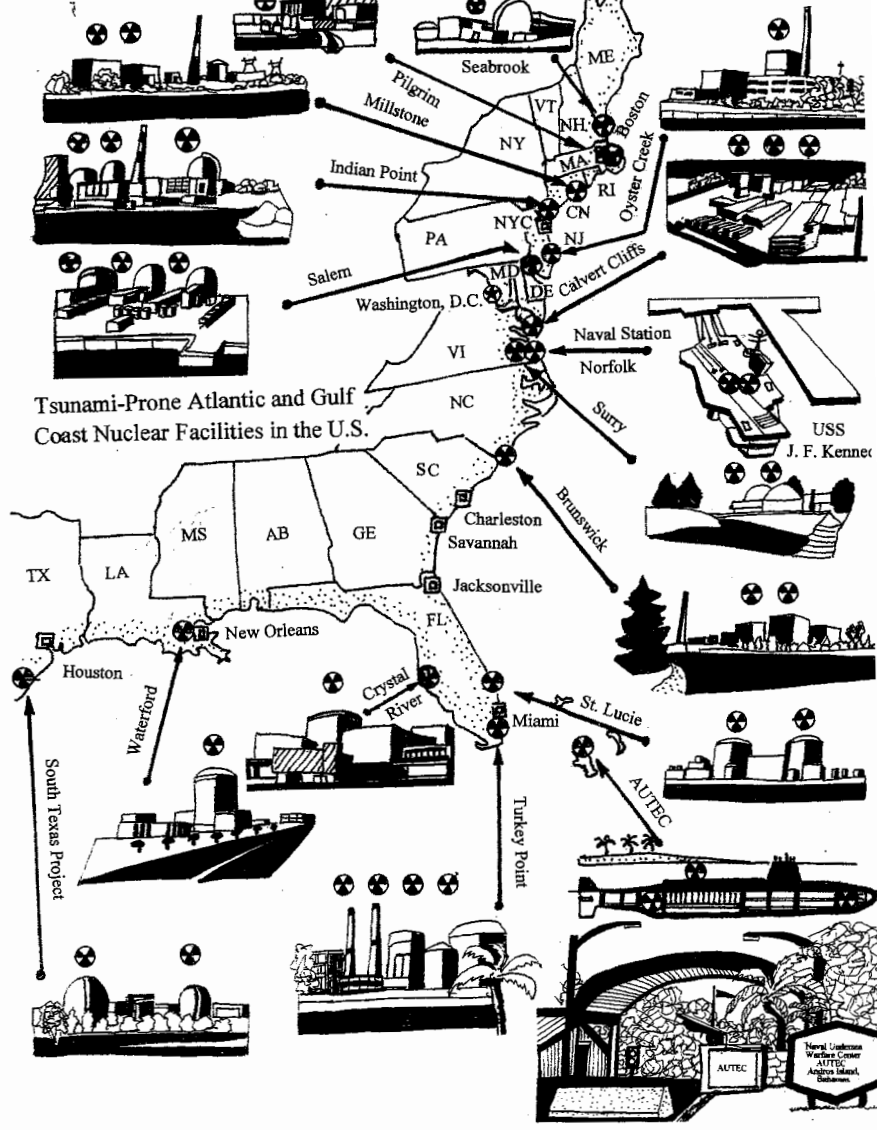
By J. A. Tony Fallin, U.S.G.S./Janus International – 2012



YET ANOTHER GEOLOGICAL CONSULTANT TRIES TO TALK COMMON SENSE INTO THE MINDS OF PG&E'S DEATH-WISH SUITS AT THE UTILITY'S CORPORATE HEADQUARTERS IN SAN FRANCISCO, CALIFORNIA



ıi-Prone Pacific Coast
: Facilities in the U.S.

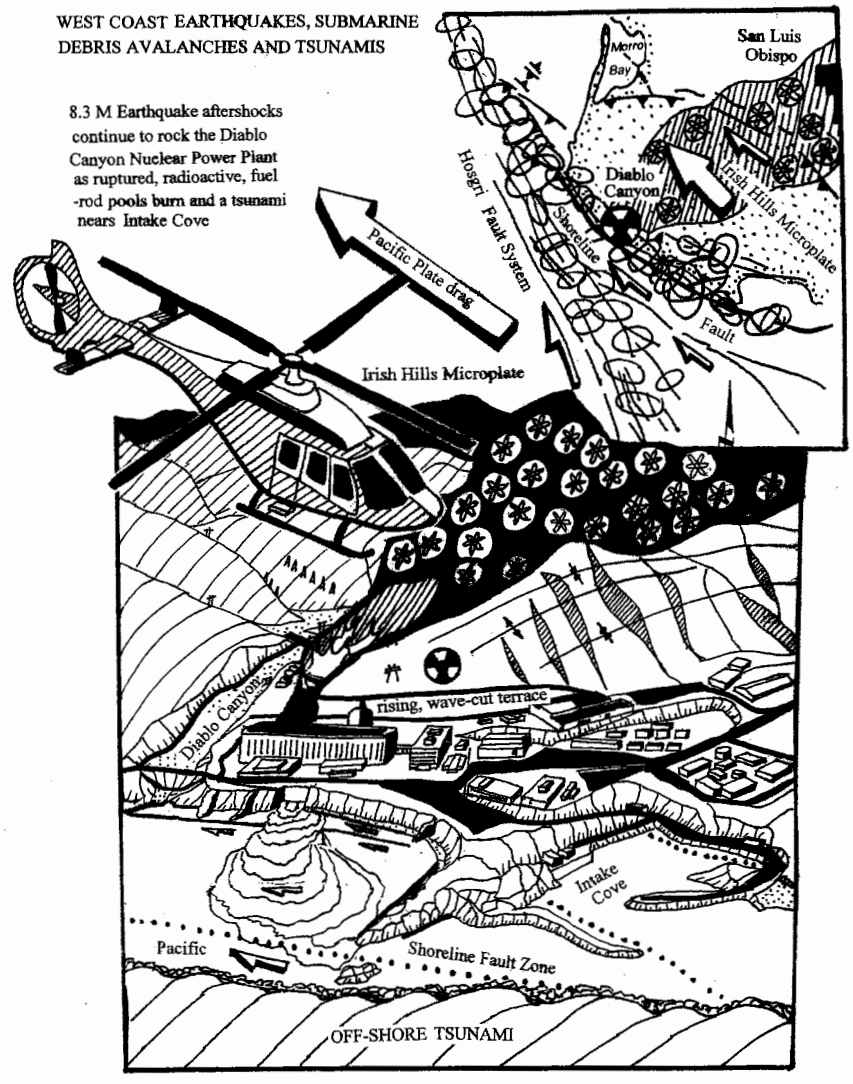


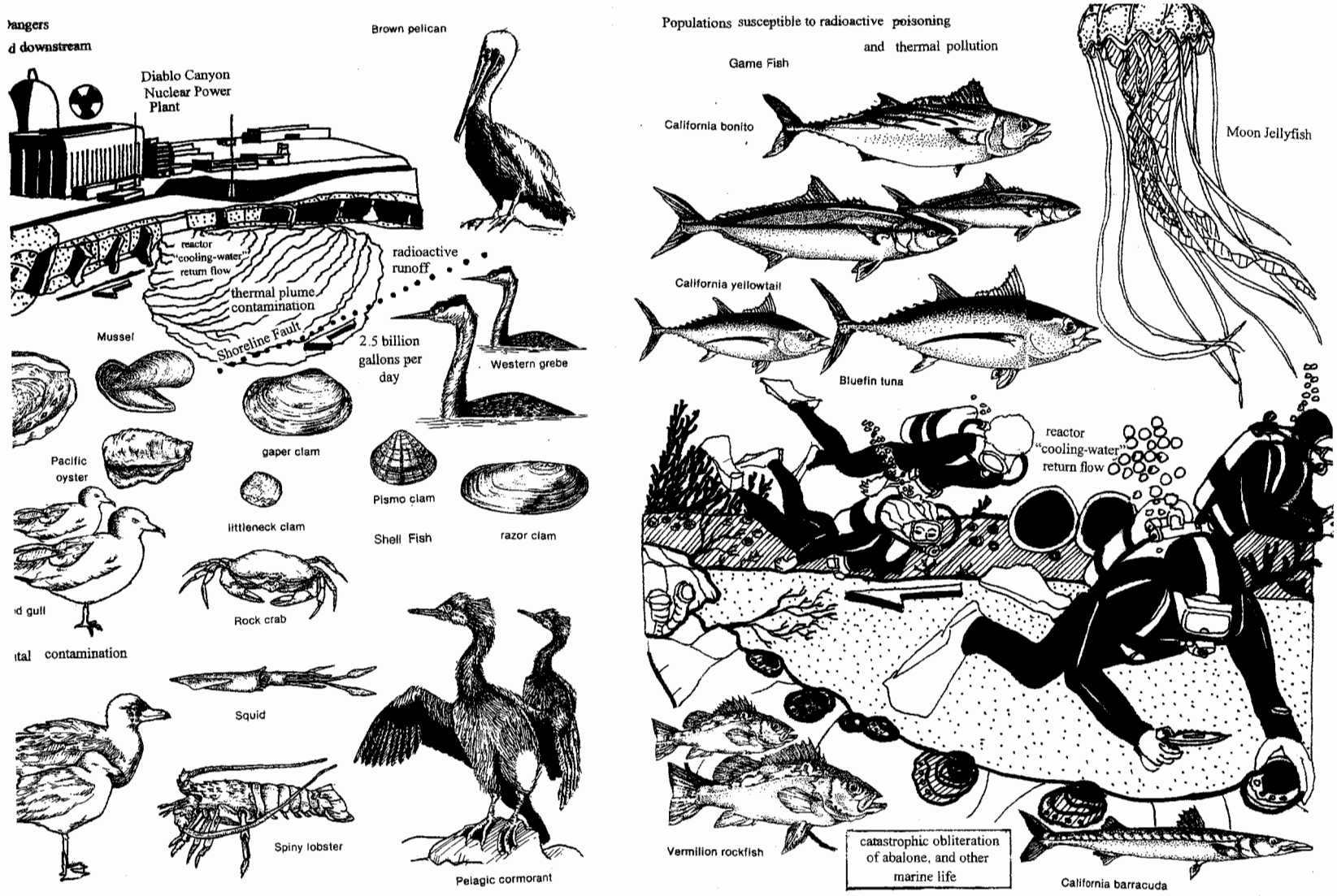
Tsunami-Prone Atlantic and Gulf
Coast Nuclear Facilities in the U.S.

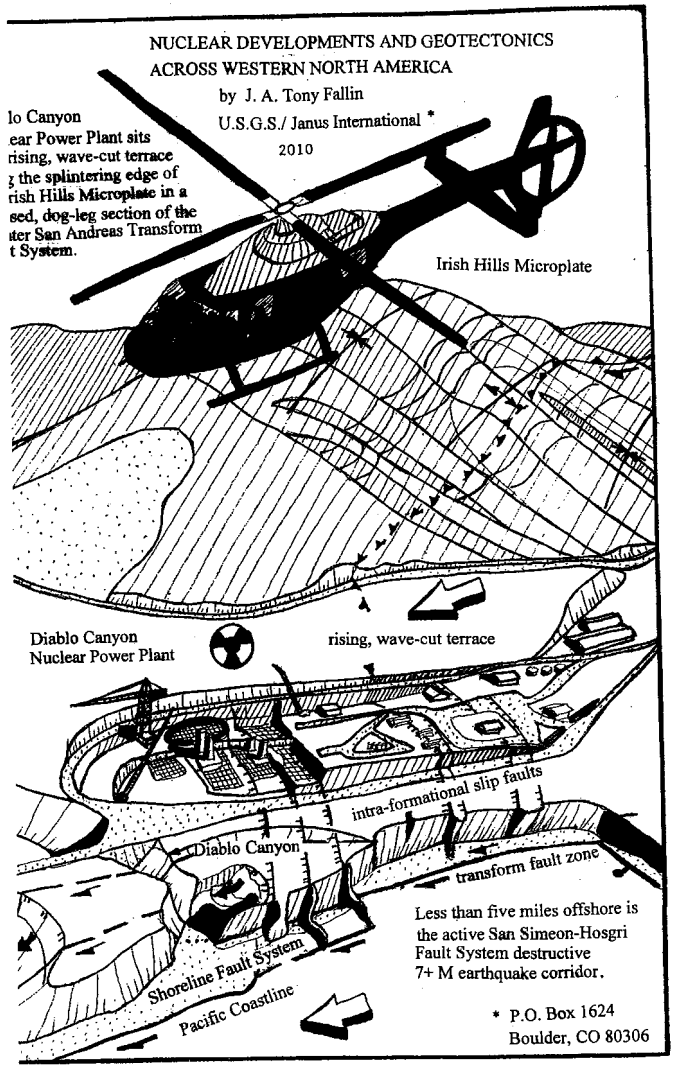
ing water intakes and outflow facilities
e Diablo Canyon Nuclear Power Plant
iocated at sealevel or lower,
osing them directly to
tsunami dangers.

WEST COAST EARTHQUAKES, SUBMARINE DEBRIS AVALANCHES AND TSUNAMIS

8.3 M Earthquake aftershocks continue to rock the Diablo Canyon Nuclear Power Plant as ruptured, radioactive, fuel -rod pools burn and a tsunami nears Intake Cove



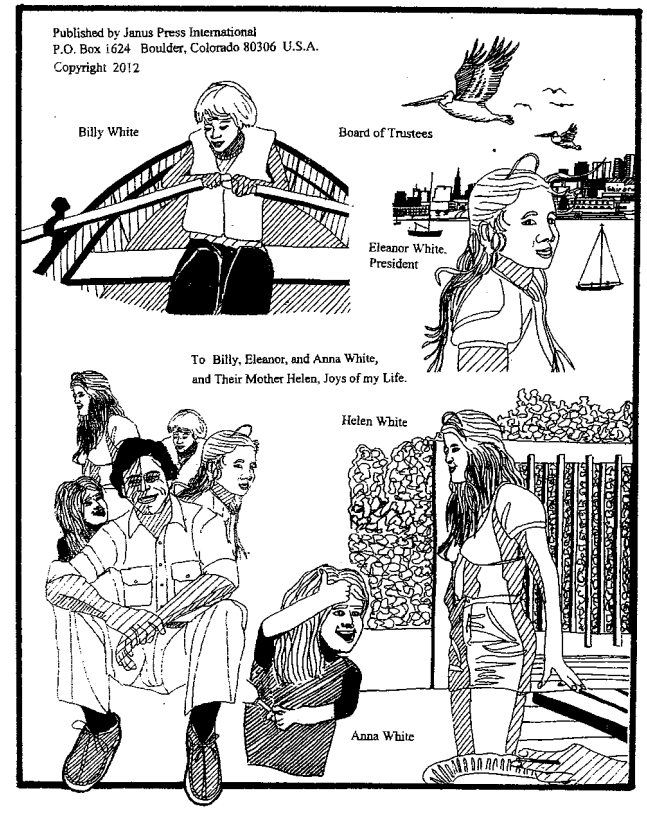

angers
d downstream
Brown pelican
Diablo Canyon
Nuclear Power
Plant
reactor
"cooling-water"
return flow
thermal plume
contamination
Shoreline Fault
radioactive
runoff
2.5 billion
gallons per
day
Western grebe
Mussel
gaper clam
Pacific
oyster
littleneck clam
Pismo clam
Shell Fish
razor clam
d gull
Rock crab
ital contamination
Squid
Spiny lobster
Pelagic cormorant
Populations susceptible to radioactive poisoning
and thermal pollution
Game Fish
California bonito
Moon Jellyfish
California yellowtail
Bluefin tuna
reactor
"cooling-water"
return flow
Vermilion rockfish
catastrophic obliteration
of abalone, and other
marine life
California barracuda



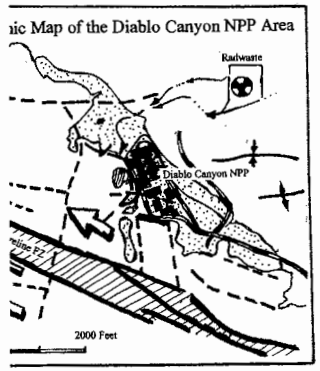
Thank you for your time and attention to this missive.

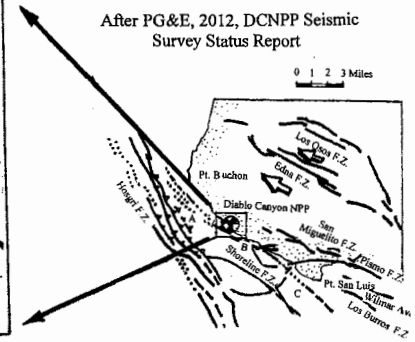
J. A. Fallin 8/15/13

J.A. Fallin

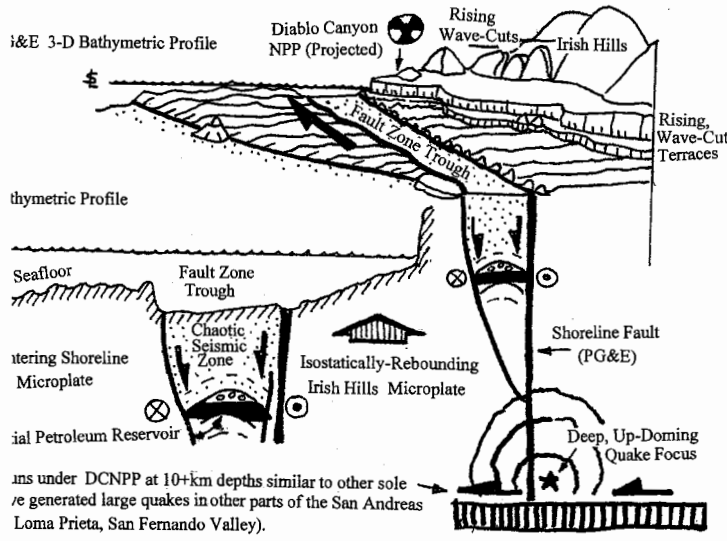


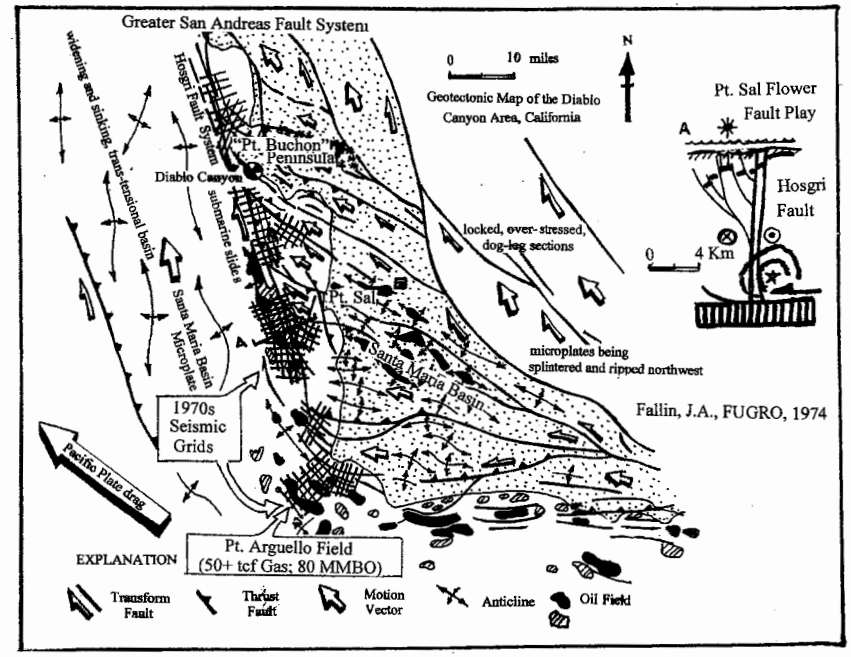
J. A. Tony Fallin, U.S.G.S./ Janus International





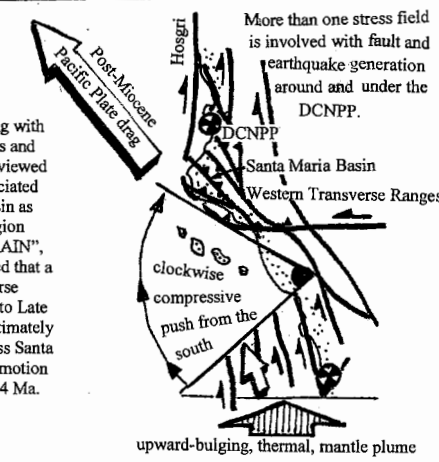
PG&E's 2012 bathymetric profiles of the Pacific seafloor around Diablo Canyon ıar Power Plant (DCNPP) suggest that up to a quarter-mile-wide trough borders the utility company labels as the Shoreline Fault. Such troughs occur often over rd-flowering offsets in the Greater San Andreas Fault System, with some even ng "pinched" or "torqued", anticlinal, petroleum traps at depth immediately south outheast of the DCNPP along the Hosgri and other fault traces, including ones in Maria Basin. Geochemical signatures suggest that thermally-mature, organic-rich,





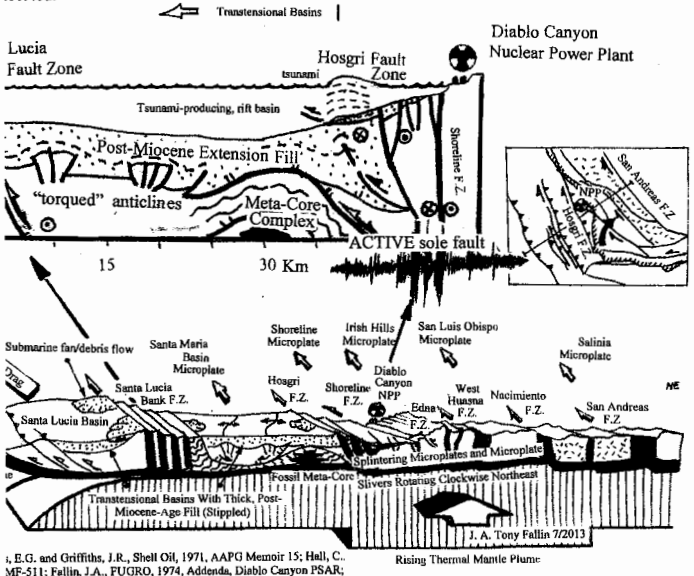
turbidites in the Monterrey Formation "sourced" much of the 25 ° API, sulfurous oil and methane-dominated gas.

During the 1970s when I was working with FUGRO, International, Consulting Engineers and Geologists, Stanford's Ben Page and others viewed many of the oil-bearing anticlines, plus associated thrusts and reverse faults in Santa Maria Basin as compressional structures. This led to the region being labeled as "TRANSPRESSIVE TERRAIN", especially when paleo-magnetic data revealed that a number of microplates in the Western Traverse Ranges were rotated clockwise during Mid- to Late Miocene time (~12 to 4 Ma), giving form ultimately to compressed, linear, mountain ranges across Santa Maria Basin, while also initiating transform motion along an inchoate Hosgri Fault trace around 4 Ma.



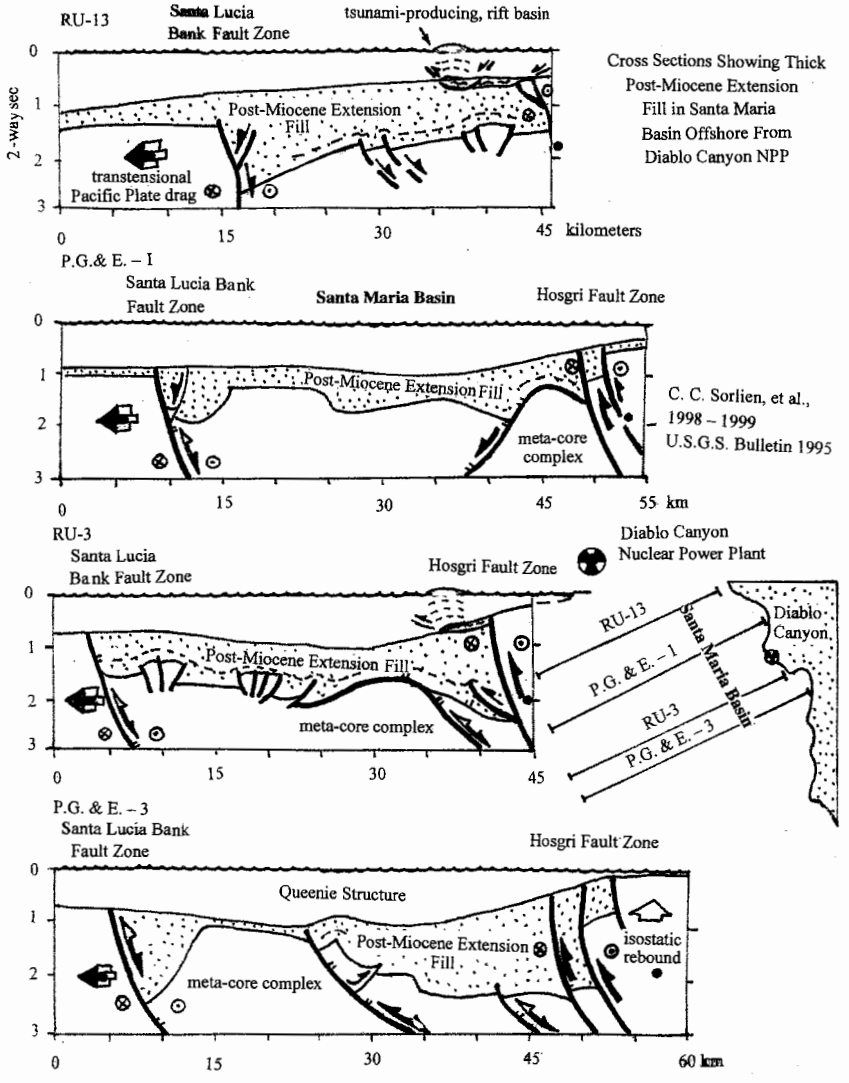
However, when I viewed proprietary seismic survey lines cutting across Santa
ria and Santa Lucia Basins just west of the Hosgri Transform, there was more evidence
a TRANSTENSIONAL than TRANSPRESSIONAL stress field still at work in Post-
ocene time. More specifically, the basins appeared to be rifting apart between trans-
m faults in response to northwestward, Pacific Plate drag, with thick, Post-Miocene fill
ng torqued into long, sinuous anticlines over time by bounding, transform movements.
ıong other things, this suggests to me that more than one stress field is involved with
lt and earthquake generation around and under the DCNPP.

For example, there is a compressive push from the south that is generating deep,
.e fault quakes beneath the Western Transverse Ranges (e.g., San Fernando Valley) and
)bably under rotated microplates in Santa Maria Basin, plus the "Pt. Buchon" Peninsula.
en there is Pacific Plate drag to the northwest that is inducing transform motion along
: Hosgri and other, offshore, fault traces in the Greater San Andreas System to be
nsidered. In addition, isostatic rebound over an upward-bulging, thermal, mantle plume
ıy explain periodic, jolting uplifts of the Irish Hills Microplate upon which the DCNPP
located.



i, E.G. and Griffiths, J.R., Shell Oil, 1971, AAPG Memoir 15; Hall, C.
MF-511; Fallin, J.A., FUGRO, 1974, Addenda, Diablo Canyon PSAR;
anford, 1977, Geology" Magazine; Crouch, J.K., et al., 1984, SEPM-Pacific
me 38; Clark, D.G., et al., 1994, GSA Special Paper 292; Sorlien, C.C., et
udies-U.C. Santa Barbara, 1998-1999, USGS Bulletin 1995; Hardebeck,
Bull. of Seis. Soc. Amer.; Fallin, J.A., 2010, Nuclear Developments and
of Western North America.

NUCLEAR POWER PLANT CONSTUCTION
IS PRECLUDED WITHIN
FIVE (5) MILES OF ANY ACTIVE FAULT
Nuclear Regulatory Commission

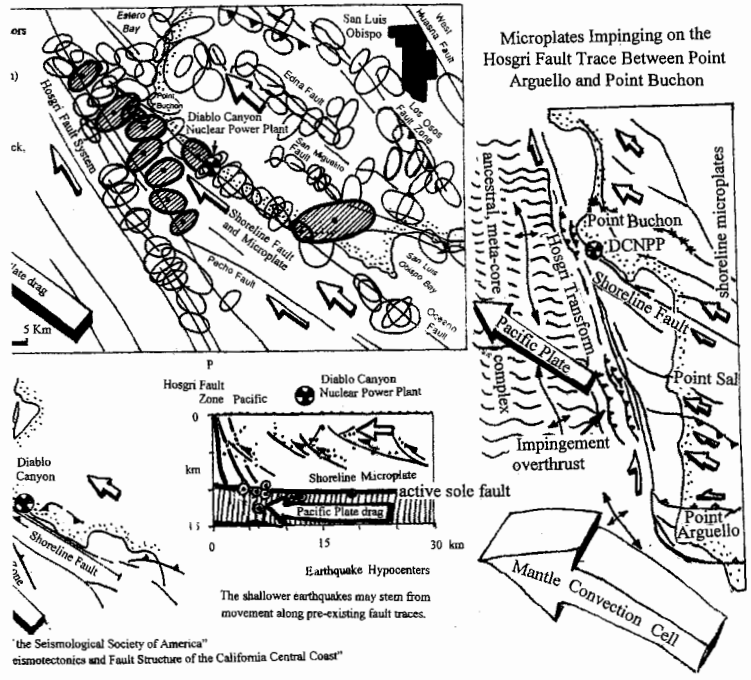


Cross Sections Showing Thick
Post-Miocene Extension
Fill in Santa Maria
Basin Offshore From
Diablo Canyon NPP

C. C. Sorlien, et al.,
1998 – 1999
U.S.G.S. Bulletin 1995

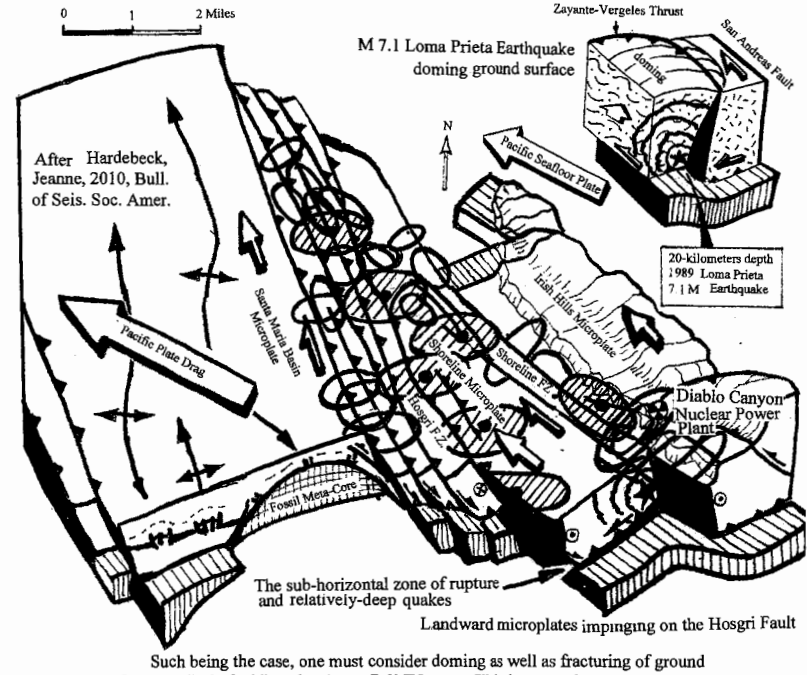
An upper mantle convection cell may also be driving shoreline microplates north-
estward between Point Arguello and Point Buchon, pushing some of the deeper-rooted,
idmass, crustal blocks even faster than the massive, offshore, Pacific Plate. Most
surely, some of the landward microplates appear to be impinging on the Hosgri Fault
stem, defining seaward-arcing, thrust belts off Purisma Point, Point Sal and Point
ichon. On seismic profiles, the offshore, thrust belts override an ancestral, meta-core
mplex buttress similar to one that we discovered offshore San Onofre Nuclear Power
ant across the California borderlands in the 1970s. The meta-core complex formed
ost likely when the West Coast of North America began over-riding the East Pacific
se, with northwest, convectional stresses below the coastal microplates following.

But more on the significance of sole faults running below DCNPP and many other
rts of the Greater San Andreas Fault System, especially ACTIVE sole faults that
nerate both small and large earthquakes as splintering microplates and microplate
vers shift about in an evolving, transform setting. To some of us, the excellent 2010
ardebeck report "Seismotectonics and Fault Structure of the California Central coast" in

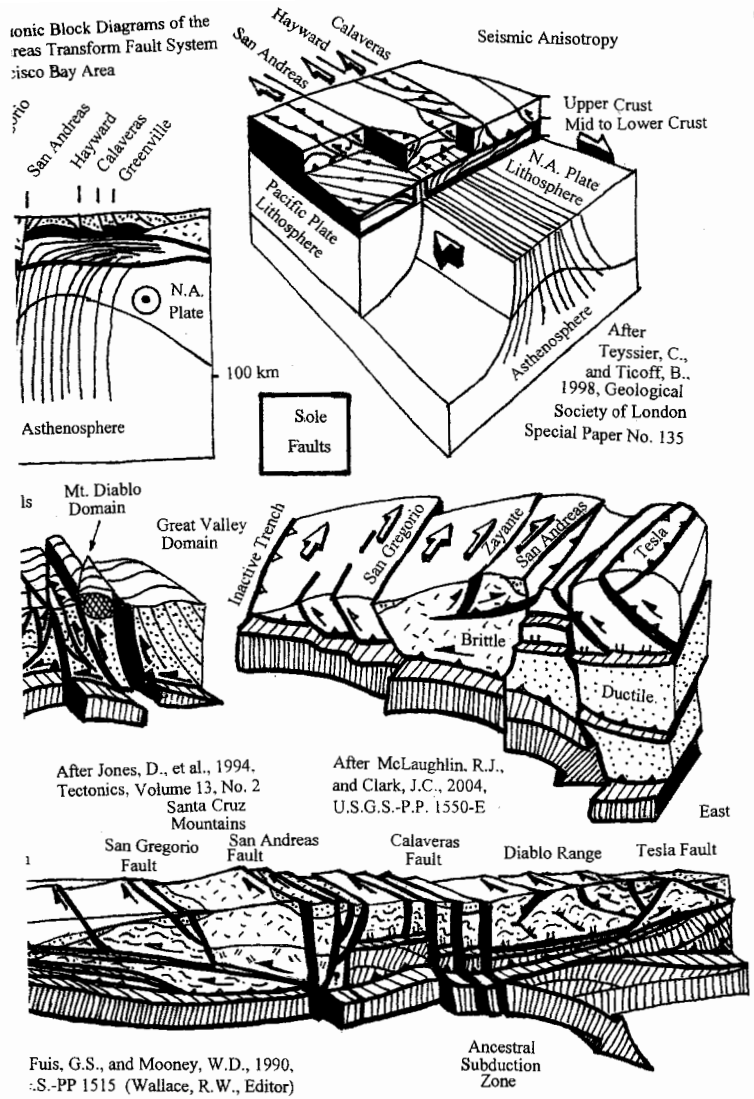


the Seismological Society of America"
eismotectonics and Fault Structure of the California Central Coast"

"Bulletin of the Seismological Society of America" suggests that an active sole fault runs below DCNPP between 10- and 12-kilometer depths. The sub-horizontal zone of rupture and intermittent, jolting, stress releases is defined by a series of relatively-deep, earthquake foci that occurred between 1988 and 2008 along the Shoreline Fault trace. Combined with a cluster of shallower, M 0.8 to M 3.5 seismic events, the deeper quakes accounted for an average of more than two tremors per year along the Shoreline Fault, while leaving open the possibility of even larger, more destructive earthquakes to come.



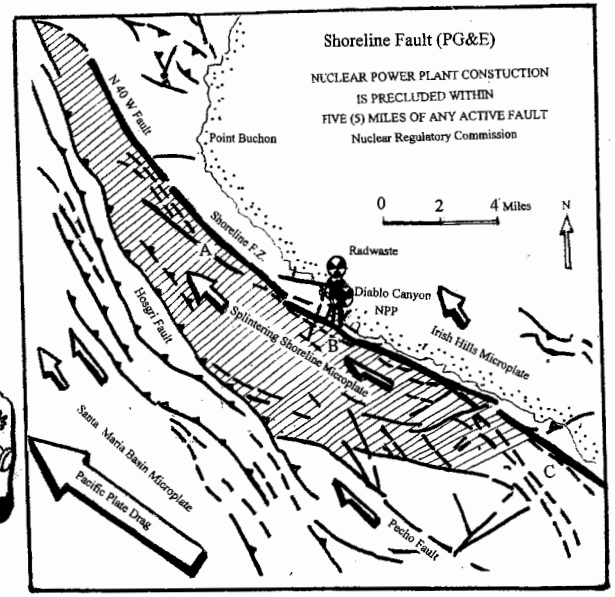
Such being the case, one must consider doming as well as fracturing of ground surface atop "sole fault" quakes in the DCNPP area. This is to say that even structurally-reinforced nuclear facilities might be tilted as well as fractured by sole fault shifts below them, cracking or partially draining used fuel rod cooling pools while also jamming reactors and initiating nuclear meltdowns. In 1989, the M 7.1 Loma Prieta Earthquake just south of the San Francisco Bay Area was generated at 20-kilometer depths over a sole fault, doming rather than fracturing ground surface, while also inducing numerous landslides and rippling Bay Area mud deposits like a bowl of Jello. Numerous, reinforced structures were tilted off their foundations as freeways overpasses collapsed like wet spaghetti and as broken gas main fires raged beside broken water lines.



Perhaps unsurprisingly, PG&E makes little or no mention of a sole fault and associated earthquakes occurring below the DCNPP. Nor does the Utility offer any explanation about how pouring extra concrete over rebar to reinforce and make their nuclear facility able to withstand a M 7.5 seismic event will keep it from being tilted to non-operable angles during a sole fault quake. After all, PG&E has a 50 year history of mis-representing and down-playing faults, earthquakes, tsunamis and other natural disasters, while also ignoring Nuclear Regulatory Commission criteria that preclude the construction of any nuclear plant within five miles of an active fault. Even when 60,000 people protested the construction of the DCNPP, the Utility had 2000 of the demonstrators arrested and charged with what they were doing, i.e., with civil disobedience, and endangering ALL!

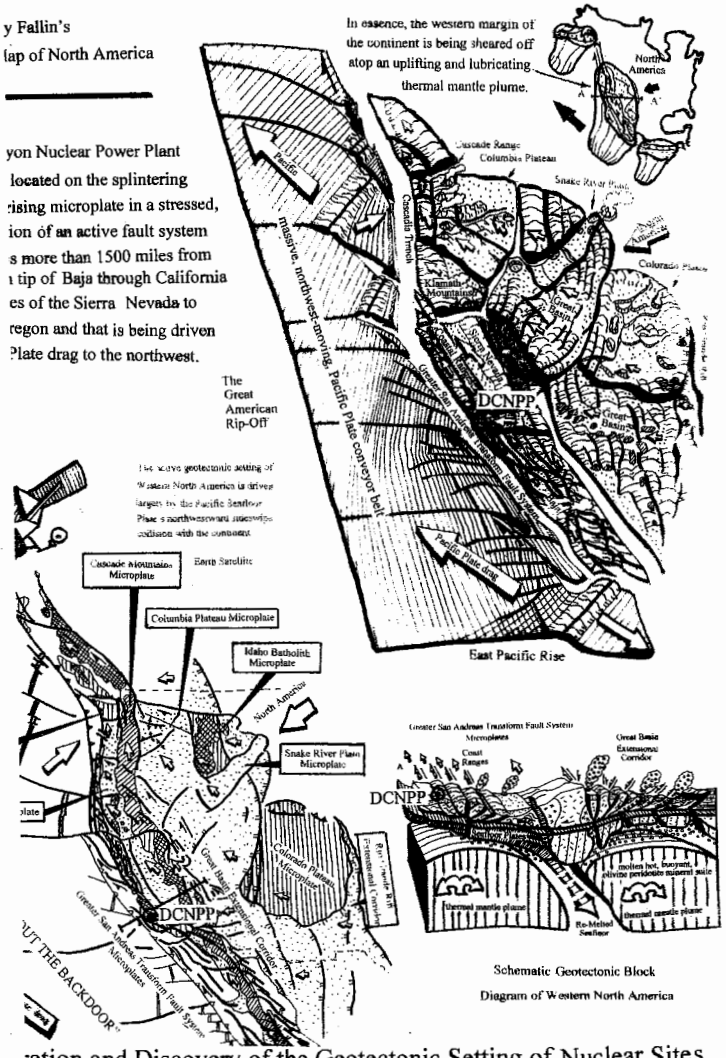
In PG&E's 2012 status report on the Shoreline Fault, the Utility describes the transform system as being actually three, out-stepping, seismically-active, right-lateral offsets that are less than 20-miles long combined. Then, after a rigorous evaluation with "logic trees", probability calculations and mind-numbing mathematics, the Utility concludes that the fault traces are no more than about M 6.5 "capable".

Others of us, using only logic, common sense and comparative analyses, view the Shoreline Fault a bit differently. To some of us, the Shoreline Fault is a series of three stressed, surface "rips" that may well be connected at depth and ready to tear apart with bounding "end" faults to the northwest (N 40 W Fault) and to the southeast (Oceano Fault), forming a 40- to 60-mile-long surface rupture. The fault is located in a stressed,



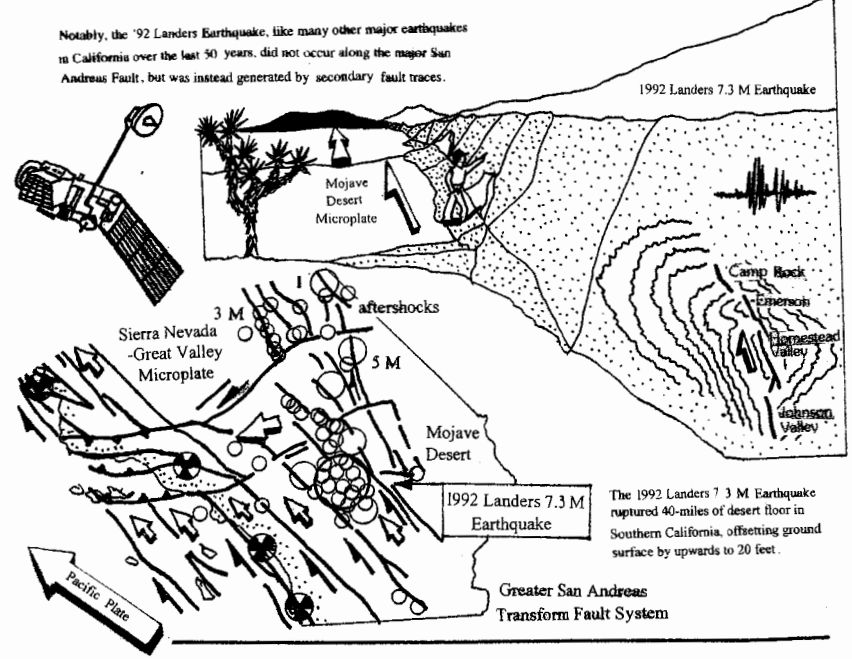
y Fallin's
lap of North America

yon Nuclear Power Plant
located on the splintering
ising microplate in a stressed,
ion of an active fault system
s more than 1500 miles from
1 tip of Baja through California
es of the Sierra Nevada to
regon and that is being driven
Plate drag to the northwest.



ration and Discovery of the Geotectonic Setting of Nuclear Sites

Notably, the '92 Landers Earthquake, like many other major earthquakes in California over the last 50 years, did not occur along the major San Andreas Fault, but was instead generated by secondary fault traces.

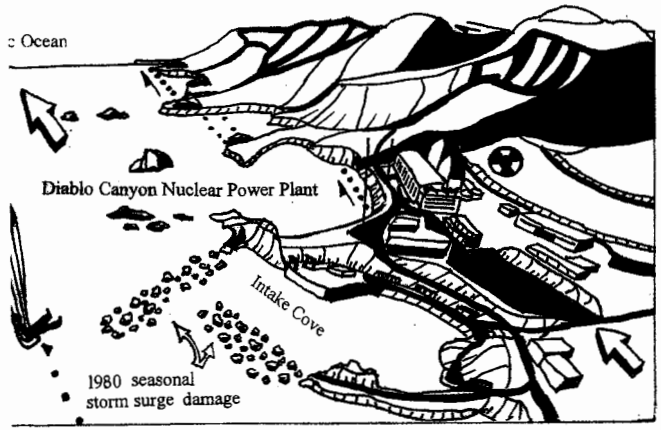


The 1992 Landers 7.3 M Earthquake ruptured 40-miles of desert floor in Southern California, offsetting ground surface by upwards to 20 feet.

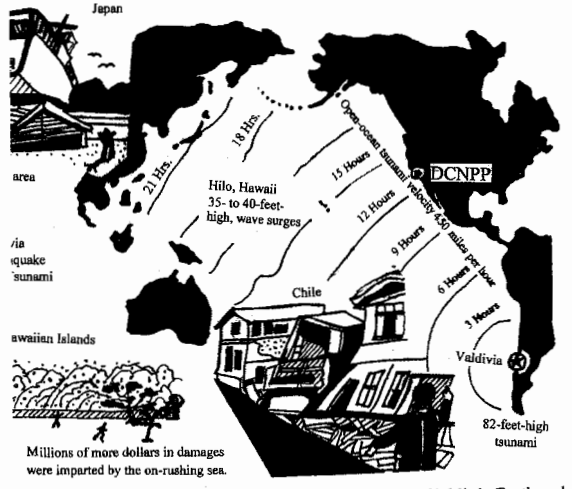
dog-leg section of the Greater San Andreas Transform System between splintering microplates (Irish Hills, Shoreline) that are undercut by a sub-horizontal, sole fault at 10- to 13-kilometer depths and that are being propelled to the northwest by an upper mantle, thermal-convection cell. As such, the fault reminds us of four, end-to-end fault splays that merged into one, 40-miles-long, transform, right-lateral rupture with up to 20 feet of vertical offset in SOCAL's Mojave Desert during the M 7.3 Landers Earthquake in 1992. Of course, if the Shoreline and its bounding neighbors move in conjunction or concomitantly with the Hosgri Fault less than five-miles west of the DCNPP – and with the underlying sole fault at a little over six-miles depth below the plant, one can expect an even larger seismic event, perhaps even exceeding M 8.0 magnitude. After all, Mother Nature can really "kick" sometimes and as Shel Silverstein once told his children, "Anything can happen, anything can BE!"

With regards to tsunami dangers, PG&E states that the DCNPP is safe sitting top an 85-feet, wave-cut terrace. Unmentioned are the vulnerability of nuclear plant's reactor cooling-water intake and outflow facilities at and below sea level, including jetties that have already required costly repair after being pounded by seasonal storm waves around Intake Cove. Historical tsunamis recorded around Diablo Canyon include one in the early 1900s during a quake near the southeast end of the Shoreline Fault that sent a wave

Irish Hills Microplate

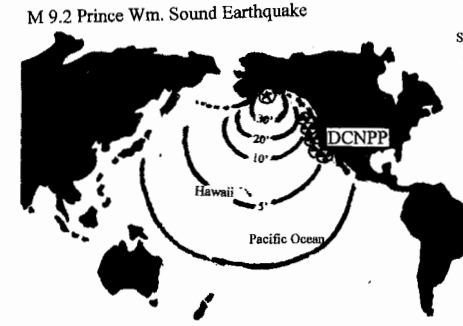


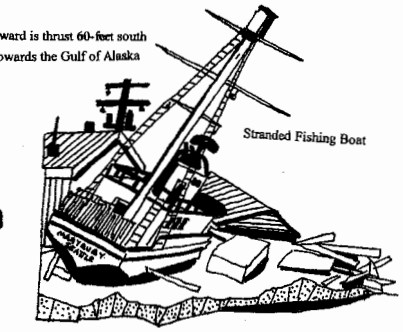
n Luis Obispo Bay; one in 1960 following the M 9.5 Valdivia Earthquake in 1964 after the M 9.2 Prince Wm. Sound Earthquake in Alaska; one in 2010 rated by a M 8.8 temblor offshore Chile; and yet another 2011 following the u Earthquake that destroyed the Fukushima NPP in Japan. None of the s were over six-feet high around the DCNPP and damages were limited ts, piers and offshore navigation buoys.



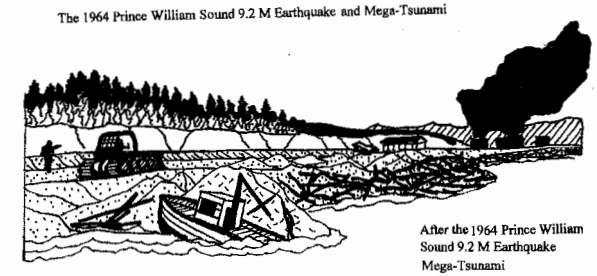
M 9.5 Valdivia Earthquake

M 9.2 Prince Wm. Sound Earthquake



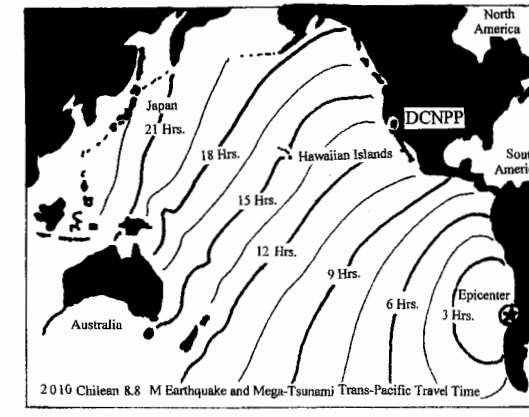


The 1964 Prince William Sound 9.2 M Earthquake and Mega-Tsunami



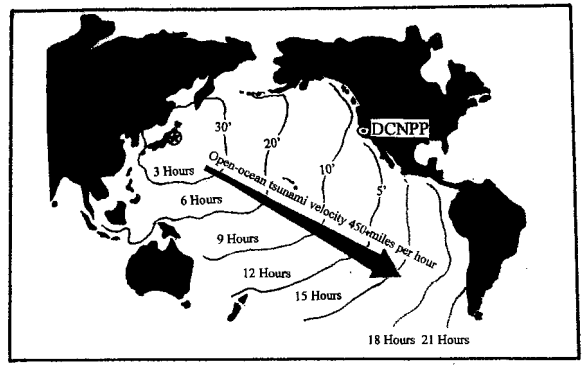
After the 1964 Prince William Sound 9.2 M Earthquake Mega-Tsunami

In total, the 1964 Prince William Sound Earthquake and Mega-Tsunami imparted more than $100 million dollars in damages to Pacific bays and ports across the Western U.S., while almost breaching a new, nuclear power plant at Humboldt Bay, California, too. The nuclear power plant's foundation had been placed near water's edge at Humboldt Bay.

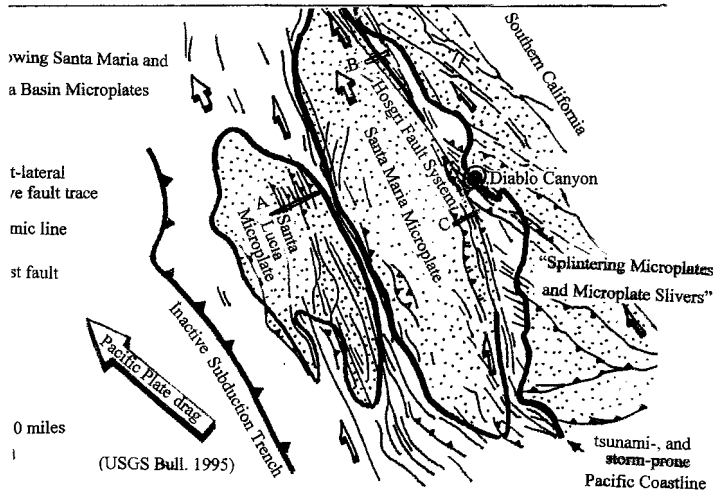


2010 Chilean 8.8 M Earthquake and Mega-Tsunami Trans-Pacific Travel Time

2010
M 8.8 temblor
offshore Chile



Naturally, any active fault in the region is capable of generating tsunamis, be it by ting submarine slides and debris flows in offshore basins or by vertical as well as ontal components of transform motion. Offshore seismic lines suggest that anta Lucia Basin has the most potential for generating the largest "local" tsunamis,



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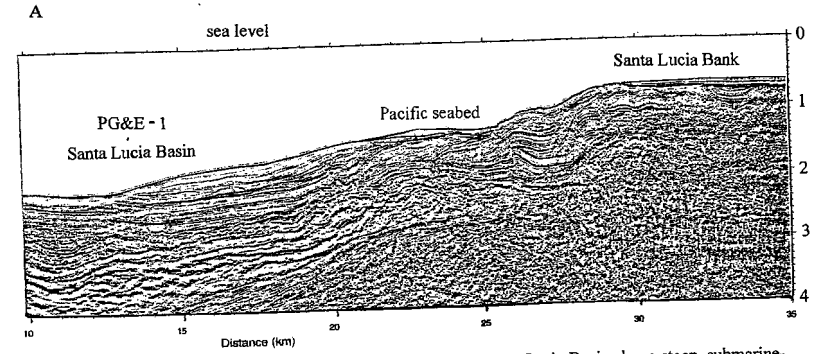
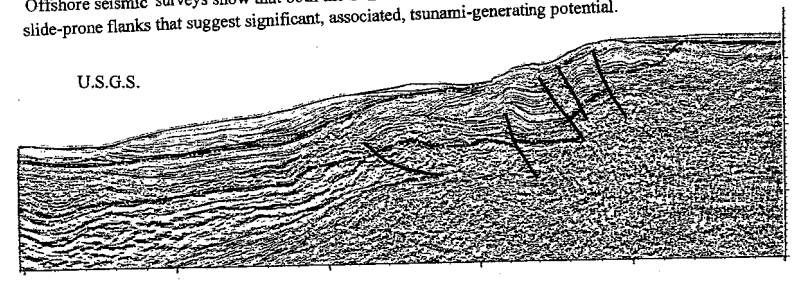
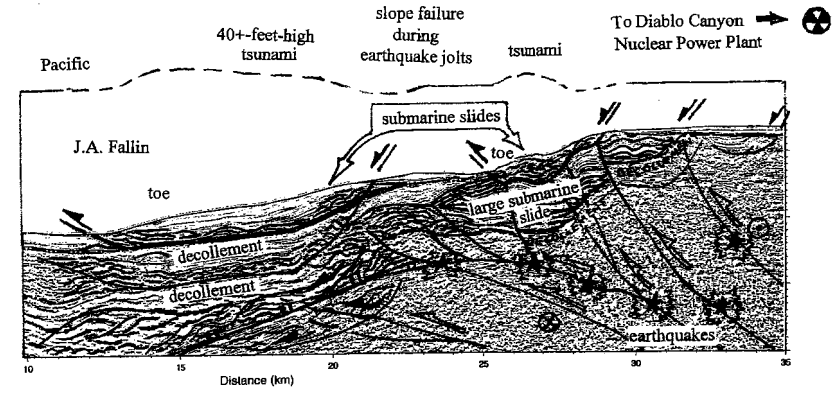
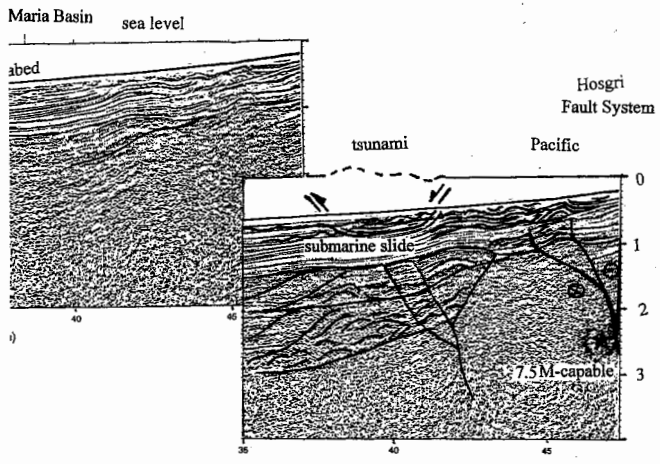
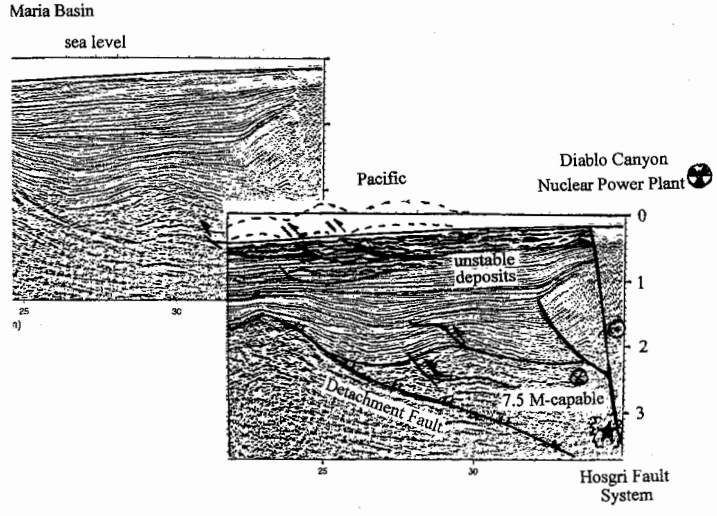


Offshore seismic surveys show that both the Santa Maria and Santa Lucia Basins have steep, submarine-slide-prone flanks that suggest significant, associated, tsunami-generating potential.



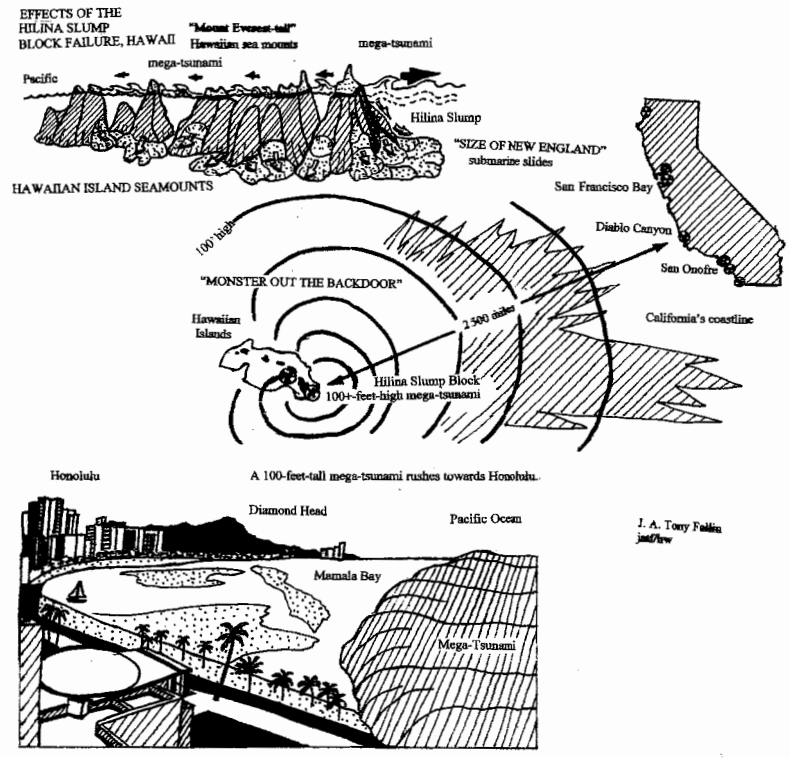


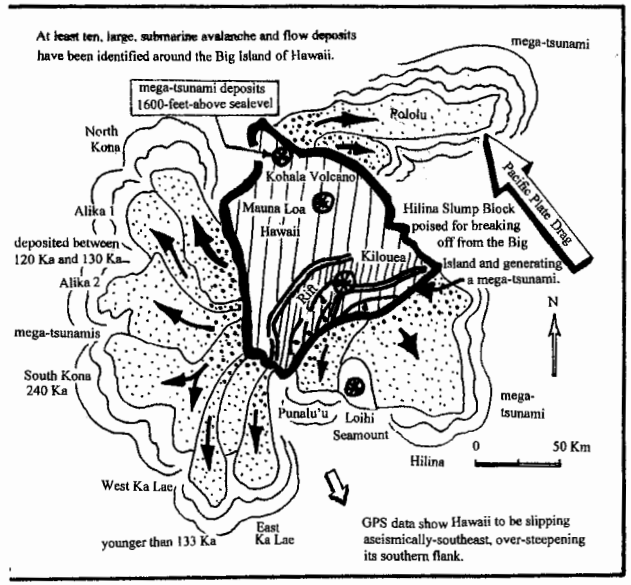




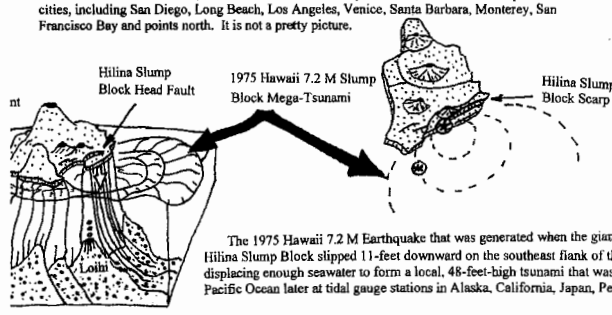
especially by large debris flows off Santa Lucia Bank. Smaller submarine slides in Santa Maria Basin are also documented on seismic lines along the Hosgri Fault System trace opposite Point Buchon.

More ominous are the mega-tsunami generation potential in the Hawai'ian Islands and along Cascadia Trench in the Pacific Northwest. Field surveys and computer models suggest that the Hilina Slump Block is dangerously close to breaking off the flank of the big island of Hawai'i, especially with an active volcano generating M 5 earthquakes at its base and the island's plate tectonic motion tilting the block seaward to the southeast. When the block does slump or break free, it has been calculated that it has the potential to generate a tsunami well over 100-feet high. Not only will such a surge destroy Honolulu completely at near-sealevel elevations, but it will also shoal catastrophically to 80- or even 100-feet heights along the West Coast of California by many estimates.

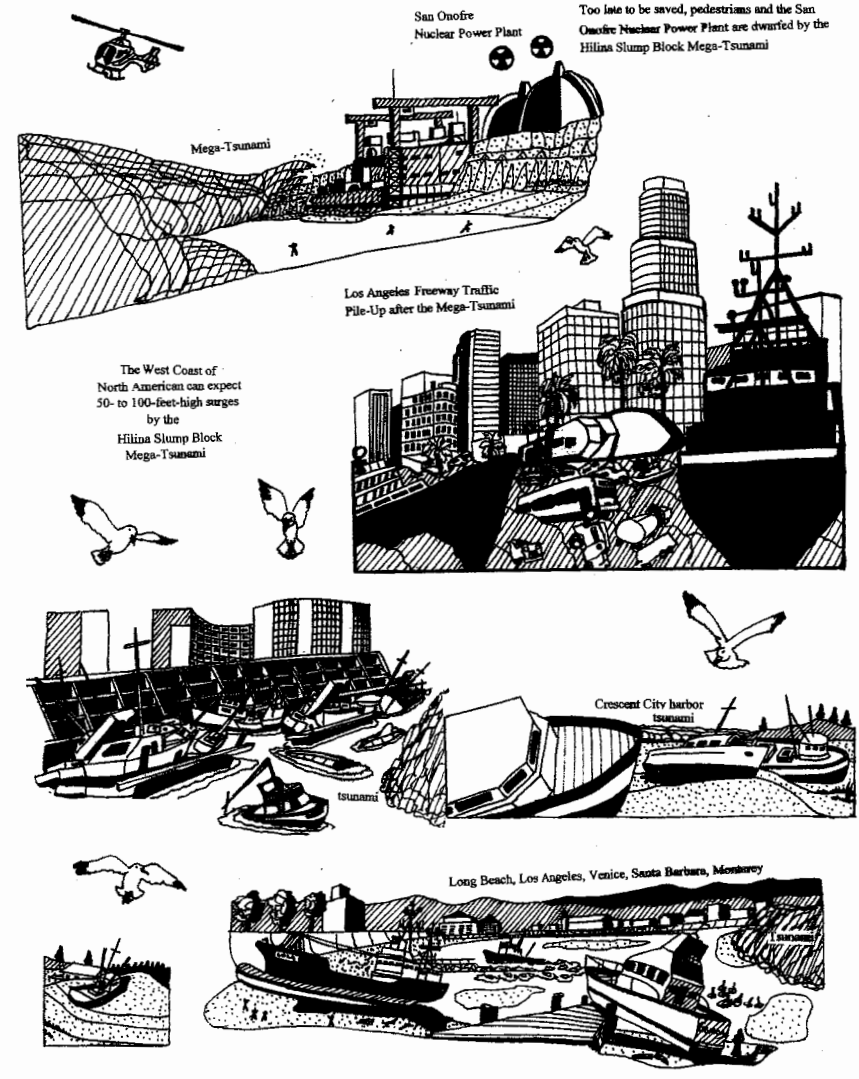




Computer simulations show that the 10,000-cubic- kilometers Hilina Slump Block will most likely generate at least a 100+-feet-high mega-tsunami if it does break off and slide down the over-steepened flank of the Big Island, displacing enormous surges of seawater towards both North and South American coastlines. On the Islands themselves, it will be "Goodbye" to Honolulu within 30 minutes as the giant surges enter Mamala Bay and wash up to 16 miles inland via Pearl Harbor and other Oahu inlets, killing hundreds of thousands of people. Similarly, the West Coast of North American can expect 50- to 100-feet-high surges by the mega-tsunami that will not only destroy ocean-front nuclear facilities like ones at Trident Submarine Base Point Loma, San Onofre and Diablo Canyon, but that will also swamp whole cities, including San Diego, Long Beach, Los Angeles, Venice, Santa Barbara, Monterey, San Francisco Bay and points north. It is not a pretty picture.

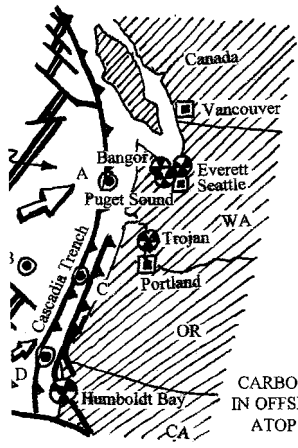


The 1975 Hawaii 7.2 M Earthquake that was generated when the giant Hilina Slump Block slipped 11-feet downward on the southeast flank of the Big Island, displacing enough seawater to form a local, 48-feet-high tsunami that was recorded around the Pacific Ocean later at tidal gauge stations in Alaska, California, Japan, Peru and Chile.

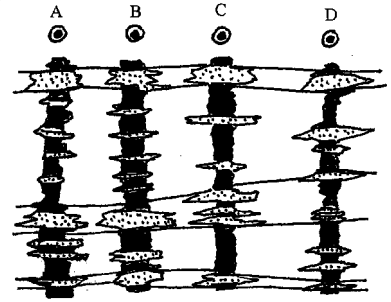


Similarly, Pacific Plate subduction and associated over-thrusting in Cascadia rench off Oregon and Washington are overdue to generate another "Fukushima-type" ega-tsunami that would easily be more than 99-feet high by researchers' current redictions. Such a surge will impart catastrophic damage not only along the West Coast f North America but in Japan and other parts of Asia as well. Of course, PG&E makes ttle, if any, mention of such scenarios. It just isn't good for business! And besides, it akes Diablo Canyon Nuclear Power Plant look like the clear and present danger that it to ALL, PG&E included!

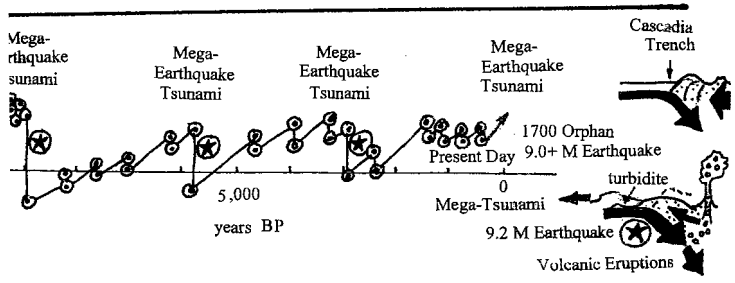
LDING UP STRESS FOR AN OVERDUE MEGA-EARTHQUAKE AND TSUNAMI
ATOP CASCADIA SUBDUCTION TRENCH IN THE PACIFIC NORTHWEST



After Goldfinger, C., Ikeda, Y. and Yates, R., 2013, Earth Magazine/Oregon State University

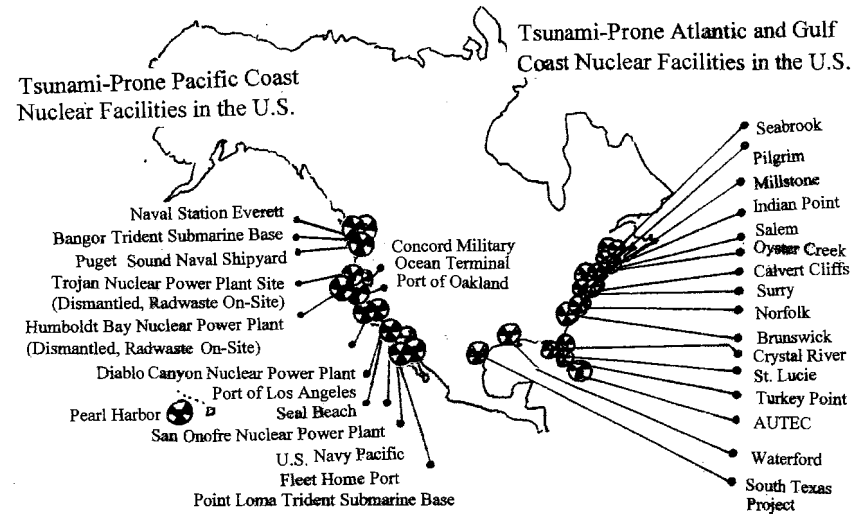


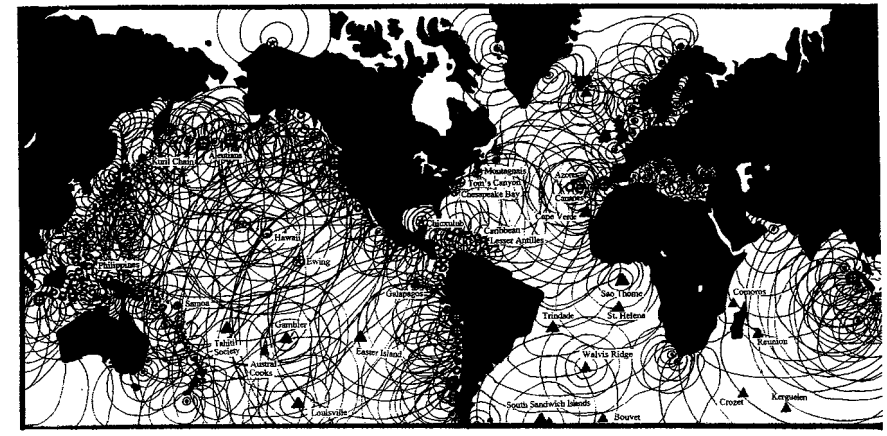
CARBON-14 AGE-DATING OF MEGA-TURBIDITE SEQUENCES IN OFFSHORE CORES CHRONICLE PAST MEGA-EARTHQUAKES ATOP CASCADIA TRENCH IN THE PACIFIC NORTHWEST



Tsunami-Prone Pacific Coast Nuclear Facilities in the U.S.

Tsunami-Prone Atlantic and Gulf Coast Nuclear Facilities in the U.S.



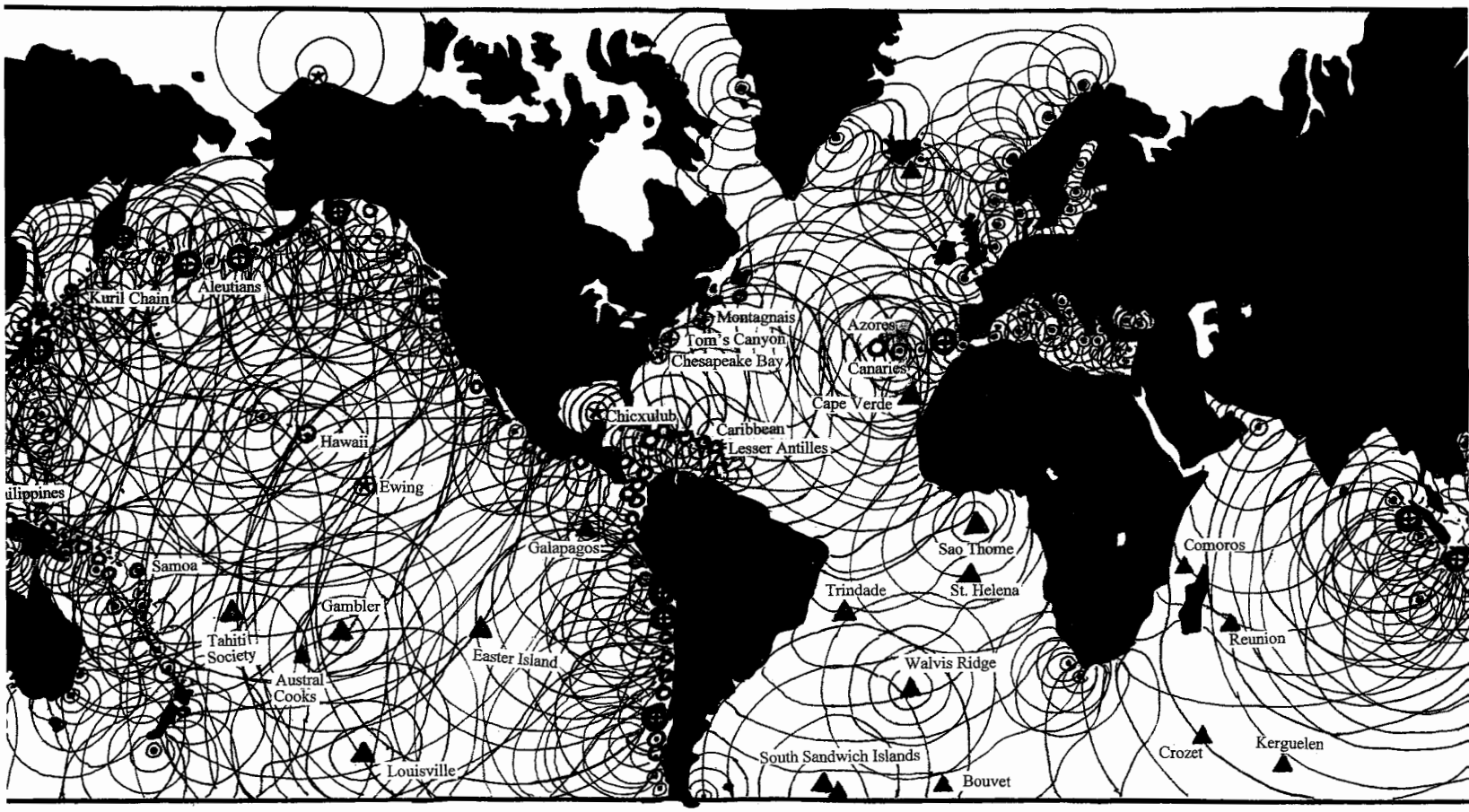


EXPLANATION

- Trans-Ocean Mega-Tsunami
- Regional Tsunami With Recorded Deaths
- Volcanic Eruption
- Tsunami
- Impact Site

Map showing the location of selected tsunamis and tsunami-generation points worldwide , 1900 – 2012

ips



ION

Trans-Ocean Mega-Tsunami

Regional Tsunami With Recorded Deaths

Volcanic Eruption

Tsunami

Impact Site

Map showing the location of selected tsunamis and tsunami-generation points worldwide , 1900 – 2012

J.A. Tony Fallin

on Nuclear Power Plant Time Line

- Early 1960s

: Coast and other public utility companies

: for places to build nuclear power plants

eral Government relegates control of

nuclear research and development of

gy to private industry in 1954. With no

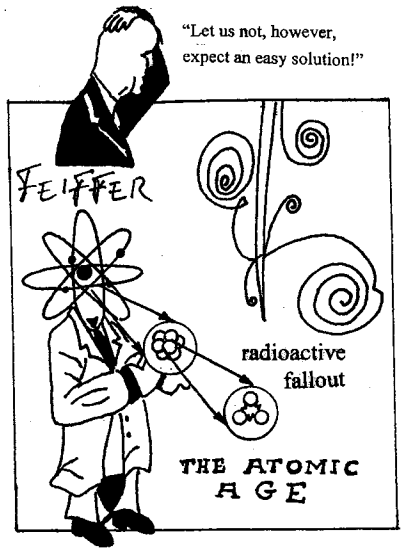
uclear arms proliferation or of problems

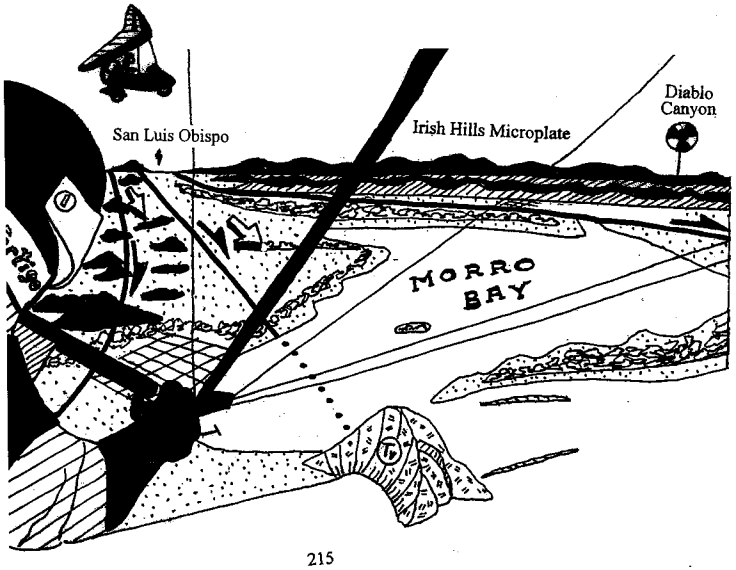
lwaste disposal, nuclear accidents, unwise

g, and nuclear plant mismanagement, both

stry and the Government promote atomic

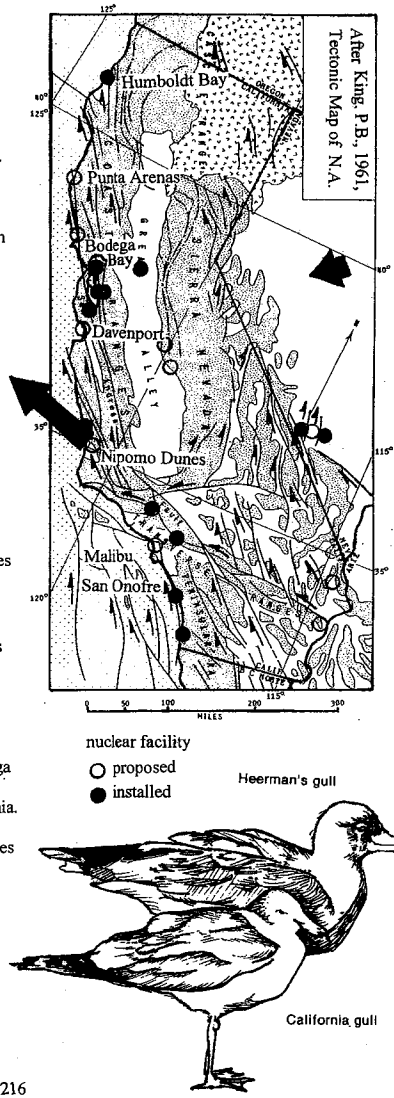
lean, cheap, and abundantly available".





In California, proto-type sodium-cooled reactors at Santa Susana Field Lab and a water-cooled reactor at Vallecitos Radiation Lab help generate some of the first "Atomic Age" electricity in the United States. P.G. & E.'s Humboldt Bay Nuclear Power Plant siting and construction follows, with electric energy production beginning in 1963. However, the plant's unconfined reactor, plus associated radiation leaks, and its tenuous geologic setting over an active fault and earthquake corridor beside the tsunami-prone Pacific Coastline all lead to an early closure after it is cited as being one of America's "... dirtiest and most dangerous" nuclear facilities.

Still, P.G. & E. and other public utility companies continue to propose West Coast nuclear power plant sites, with almost all located in the Greater San Andreas Transform Fault System atop shallow, fresh-water aquifers along the tsunami-prone Pacific Coastline. The proposed sites include ones at Punta Arenas, Bodega Bay and Davenport near Monterey in Northern California. Further south are the San Onofre, Malibu, Nipomo Dunes and Diablo Canyon sites. The Diablo Canyon site is selected last with the Sierra Club's participation after the proposed Nipomo Dunes area becomes a State Parklands candidate.



ruction begins on Diablo Canyon Unit No. 1,

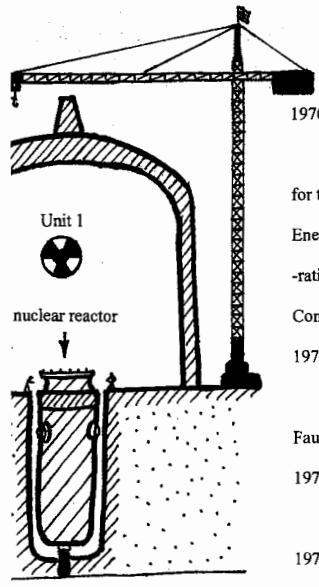
ra Club requesting that thermal pollution and

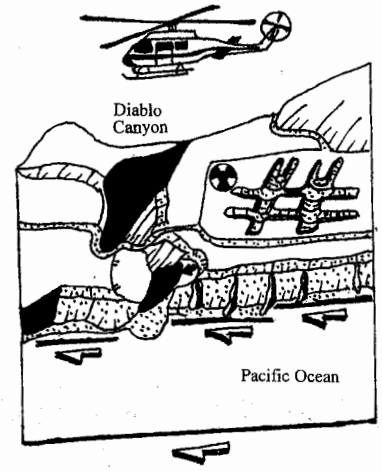
structions be kept to a minimum in the scenic

Plant cost estimate: $320 million.

Oil Company geologists report the discovery

e Hosgri Fault within five miles of the Diablo





1970

Outside consultant recommends a structural up-grade for the plant to withstand a 7.3 M earthquake. The Atomic Energy Commission (AEC) adopts a 6.75 M earthquake -rating standard just before the Nuclear Regulatory Commission is formed to handle oversight duties.

1971

E.G. Hoskins and J.R. Griffiths profile the Hosgri Fault in A.A.P.G. Memoir 15.

1972

P.G. & E. acknowledges the Hosgri Fault.

1973

U.S.G.S. maps detail the geology of the Diablo Canyon area as FUGRO geologist J.A. Fallin calls

attention to low-tide and seafloor bathymetry lineations defining possible fault traces next to the nuclear plant site.

1974

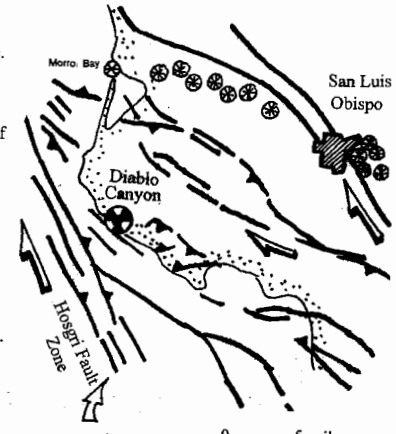
Outflow from Unit No. 1 reactor kills thousands of abalone during initial start-up tests, prompting protests by the Pacific fishing industry, Sierra Club and others.

1975 – 1976

U.S.G.S. labels the Hosgri Fault 7.0 M-capable, then 7.5 M-capable, as P.G. & E. initiates plant up-grades. New plant cost estimates exceed $600 million.

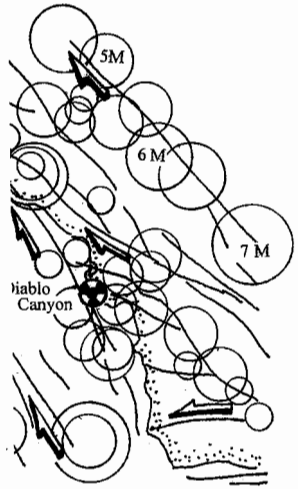
1977 – 1978

Organized protests against the Diablo Nuclear Power Plant begin in earnest, with 500 out of 5000 protestors being arrested for civil disobedience. Stanford's Ben Page publishes geotectonic cross sections of the Diablo Canyon area in "Geology".



1969
Shell Oil Company
discovery

1979

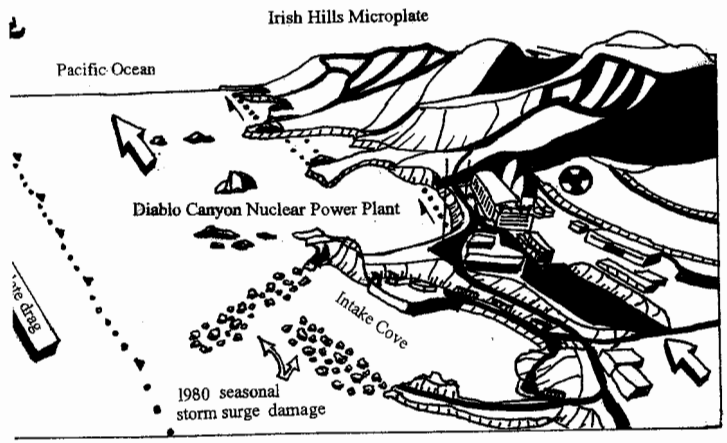


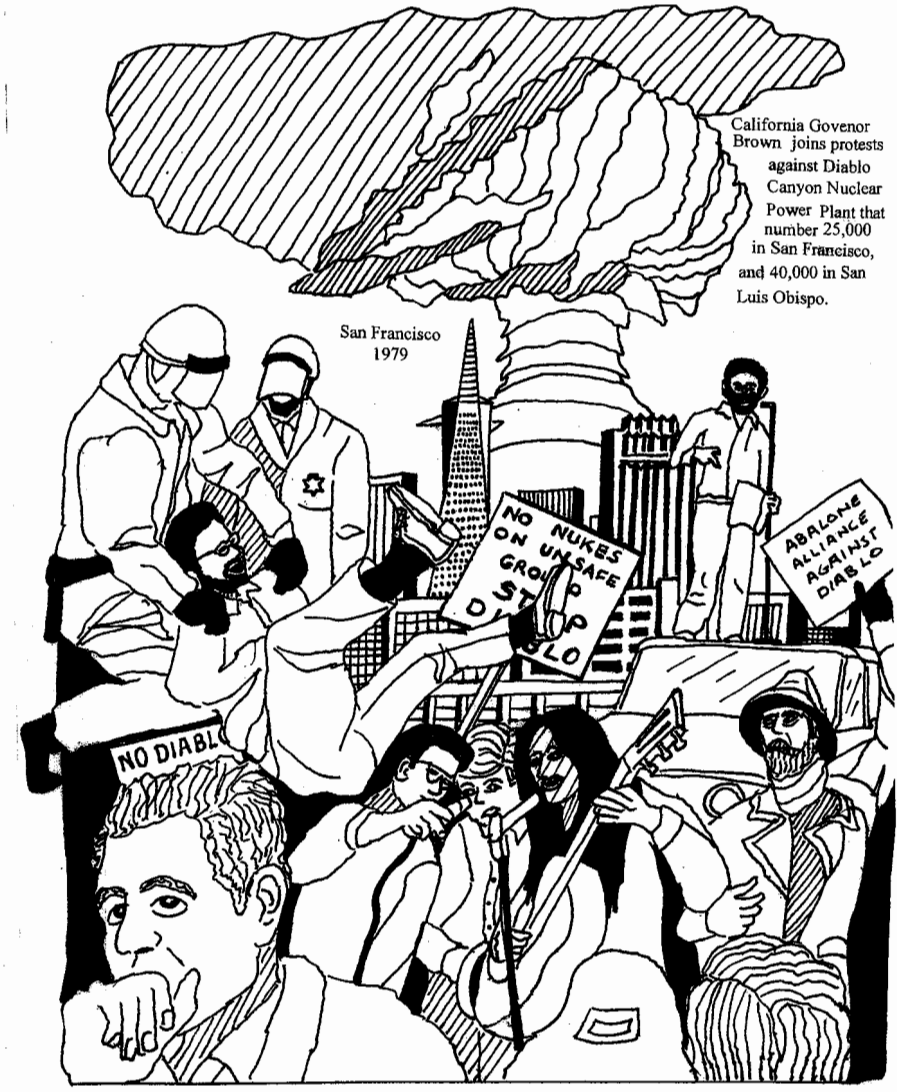
Greater San Andreas Transform Fault System earthquakes

Three Mile Island reactor core meltdown accident stalls new nuclear power plant design and construction nationwide. California Govenor Brown joins protests against Diablo Canyon Nuclear Power Plant that number 25,000 in San Francisco, and 40,000 in San Luis Obispo. The Nuclear Regulatory Commission (NRC) claims the Diablo Canyon facility is "earthquake-proof", then withdraws its claim when the structure is shaken shortly afterward by a Hosgri temblor.

1980 – 1981

Civil protests against the Diablo Canyon facility continue, before winter storm surges destroy most breakwater jetties surrounding Intake Cove.. Estimated



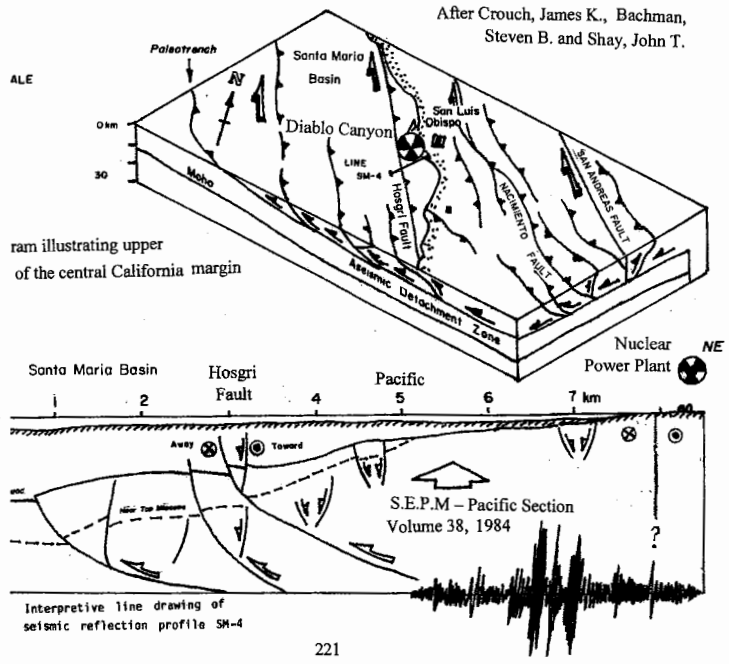


to $1 billion as the NRC accepts the
l-capable rating of Hosgri Fault. Abalone
:hers stage a two-week-long blocade
rotestors, leading to the largest mass
fornia history.

: E. raises estimated plant costs sharply
n as civil protests continue against it.

again to $5.3 billion as the Unit No. 1 reactor runs at only 2 percent. Thousands protest plant construction, nuclear dangers, and rising costs, with more than 500 being arrested for civil disobedience. James Crouch, et al., publish seismic reflection profiles and interpretations of the Hosgri Fault System in S.E.P.M – Pacific Section Volume 38, suggesting shallow-soled thrust faulting below the Diablo Canyon site, and associated earthquake corridor.

: E. estimated plant costs are raised yet



After Crouch, James K., Bachman, Steven B. and Shay, John T.

ALE

ram illustrating upper
of the central California margin

1985

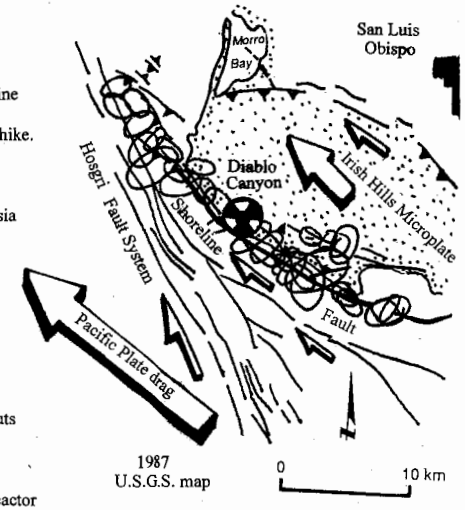
The Diablo Canyon Unit No. 2 goes on-line as P.G. & E. requests a $1 billion consumer rate hike.

1986

Chernobyl reactor core meltdown in Russia releases 100+ million Curies of radiation into a a cloud that circles the globe.

1987

Fire and hydraulic leaks shut down Unit No. 1 reactor, before excessive turbine steam shuts down Unit No. 2 reactor. Fifteen workers are irradiated as radiation also escapes outside the reactor containment vessels. Seismic tremors are recorded along the Shoreline Fault Zone bordering the plant, allowing investigators to better determine its overall character.



1987
U.S.G.S. map

1988

Unit No. 2 reactor is shut down by electrical failures as investigators report that evacuated water from the Rancho Seco Nuclear Power Plant in the San Joaquin Valley affects 90 percent of the East San Francisco Bay residents' drinking water supply.

1989

Unit No. 2 reactor is shut down for turbine problems, as the Rancho Seco plant is closed by public voters, who then elect to draw their electric power from the Diablo Canyon Nuclear Power Plant.

1990

Mechanical problems with Unit No. 1 reactor prompt a N.R.C. investigation.

1991

Technician error leads to a reactor shutdown. A Unit No. 2 reactor cooling-water pipe then breaks, releasing several hundred gallons of radioactive water into the reactor's containment vessel.

osgri Fault Zone 4+ M earthquake epicenter is recorded within 10 miles of Diablo Canyon.

: No. 1 reactor shut down due to an over-heating water pump.

i. Clark, et al., profile active fault and seismic corridors around Diablo Canyon in G.S.A.
er 292, delineating at least 10 periods of jolting, marine terrace uplift in the region, and
iewly-mapped, near-shore thrust bounding the nuclear power plant.

: No. 1 reactor shut down for water pump problems.

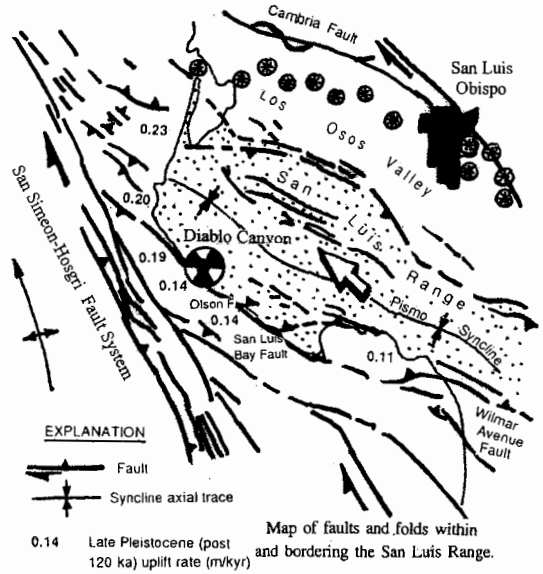
& E. fined $14 million for lax security at Diablo Canyon.

& E. fined $14 million
o meet State and Federal
r Act Laws.

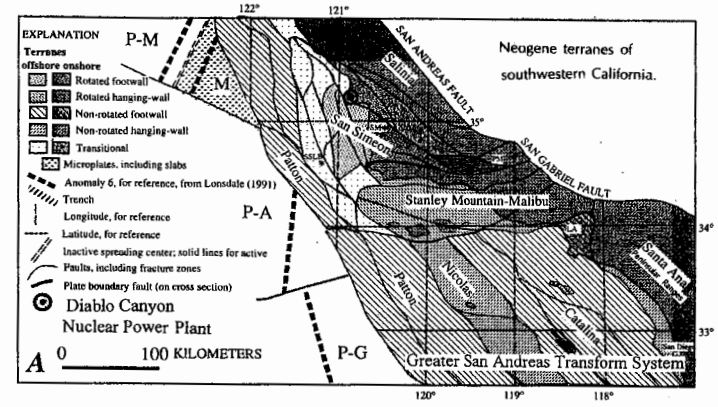
9

fornia Public Utility
n says consumers are
for all of Diablo Canyon's
nuclear power plant costs.
:n, et al., in the Crustal
inch of U. C. –
ara, and others co-author
ulletin 1995 that
:ctonic terranes and

D. G. Clark, et al., 1994
G.S.A. Special Paper 292



Map of faults and folds within and bordering the San Luis Range.



microplates, plus offshore seismic structures bounding Diablo Canyon Nuclear Power Plant.

2000

P.G. & E. is found to have withheld data addressing the damaging effects of cooling-water inflow and outflow at Diblo Canyon over a 20-year period, including mention of the catastrophic obliteration of abalone and other marine life in Pacific waters fronting the nuclear power plant.

2001

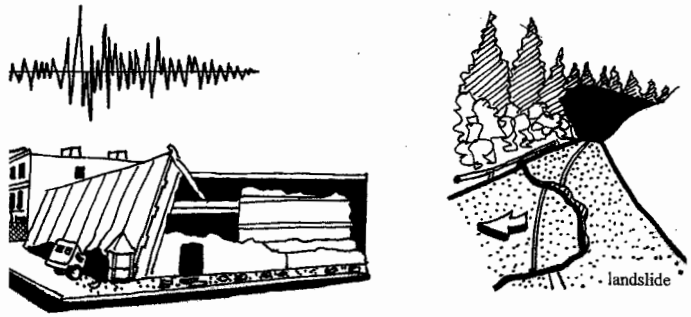
Plans to store dry casks of high-level radwaste at Diablo Canyon are revealed to the public. Terrorist attacks at New York City's Trade Center Towers, and the Pentagon in Washington, D.C.

2002

Diablo Canyon and numerous other nuclear facilities across the nation are found to be exceedingly vulnerable to terrorist attacks.

2003

The 6.5 M San Simeon Earthquake jolts the Diablo Canyon plant strongly, with more than 1000 aftershocks also stressing the facility's structures. The quake's epicenter is approximately 35-miles north of the plant, with at least one epicenter aftershock epicenter recorded essentially on-site.



2003 San Simeon 6.5 M Earthquake

late San Simeon Earthquake aftershock sets off alarms at Diablo Canyon as the Sierra Club environmental groups protest high-level radwaste storage in the active seismic corridor.

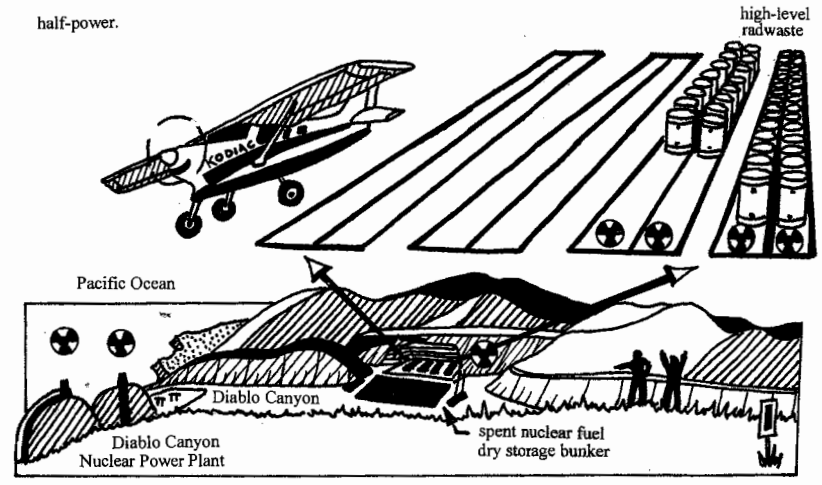
preliminary environmental assessment of the Diablo Canyon plant by J. A. Fallin, U.S.G.S. – ernational, shows the facility to be located on the tectonically-active Irish Hills Microplate in er San Andreas Transform Fault System, with Pacific Plate drag pulling the microplate slowly d. Operational releases of radiation from the nuclear facility since start-up are estimated to be alf million Curies, half of which are considered to be bioactive. Annual radiation releases lear facility are estimated to peak at 26,000 Curies, with 13,000 Curies being bioactive. The en operating fully, circulates approximately 2.5 billion gallons of seawater daily, inducing l thermal pollution via outflow into the Pacific.

07

ie N.R.C. continues a systematic review of dry cask, high-level radwaste storage at Diablo s the power plant is shut down for re-fueling. U.S.G.S. Geologist Tom Brocher reports on the Fault bounding the Diablo Canyon site.

2008

The N.R.C. certifies a proposed, high-level, dry cask radwaste storage site in Diablo Canyon upstream from the nuclear power plant. Thousands of basketball-size Moon Jellyfish clog cooling-water intake filters at the facility, shutting down one reactor, and reducing the other reactor to half-power.



2009

The Nuclear Operations Chief at Diablo Canyon quantifies the nuclear plant's annual radiation releases for Nuke Speak. Unit No.1 and Unit No.2 reactors are both shut down to replace steam generators at a cost of $700 million. California Assemblyman Sam Blakeslee lobbies for high-definition, 3-D seismic surveys of the Shoreline Fault at Diablo Canyon.

2010

U.S.G.S. Geologist Jeanne Hardebeck, Menlo Park, California, reports on the Shoreline Fault in the June 2010 "Bulletin of the Seismological Society of America" article entitled "Seismotectonics and Fault Structure of the California Central Coast". P.G. & E. downplays the Shoreline Fault's dangers, but commits $17 million to a seismic study of the structure.

J. A. TONY FALLIN
P.O. BOX 1624
BOULDER, CO 80306

THE BEST THINGS IN LIFE ARE FREE!
HAPPY BIRTHDAY, ALLISON!

TO: ALLISON MACFARLANE
U.S. NUCLEAR REGULATORY COMMISSION
MAIL STOP O-1664
WASHINGTON, D.C. 20555-001

This packet addresses a Post-Fukushima report by Pacific Gas and Electric (PG&E) on the tectonically-active, Shoreline Fault Zone that is located beside the Diablo Canyon Nuclear Power Plant (DCNPP) in Southern California. The report is currently under review by the U.S. Nuclear Regulatory Commission's Atomic Safety and Licensing Board Panel in Rockville, Maryland, and is believed to have over-looked important aspects of the nuclear facility's geotectonic and physiographic setting *vis a vis* the earthquake-generation potential of a major sole fault that runs under the plant at 10 km depth and the catastrophic dangers of mega-tsunamis hitting the West Coast after being generated by the Hilina Slump Block's failure in Hawai'i or overthrusting in the Pacific Northwest's Cascadia Trench. The information included in this packet is not intended to be the final word on anything but is simply a warning that other things may yet need to be considered about DCNPP's geotectonic and physiographic setting.