

SHUT SAN ON OF RE

No more inadequate seismic studies

No more incomplete tsunami studies

No more promises of improvements

*No more lubricating oil fires, transformer explosions,
bent turbine shafts, tritium leaks, dropped cranes, dead
batteries, contaminated fuel oil, rusted power cables,
stuck valves, cracked tubes or SCRAMs...*

No more all-new subcontractor teams

No more spent nuclear fuel piling up

No more “performance matrices”

No more “lessons learned”

No more falsified records

No more near-misses

No more hearings

No more delays

No more lies

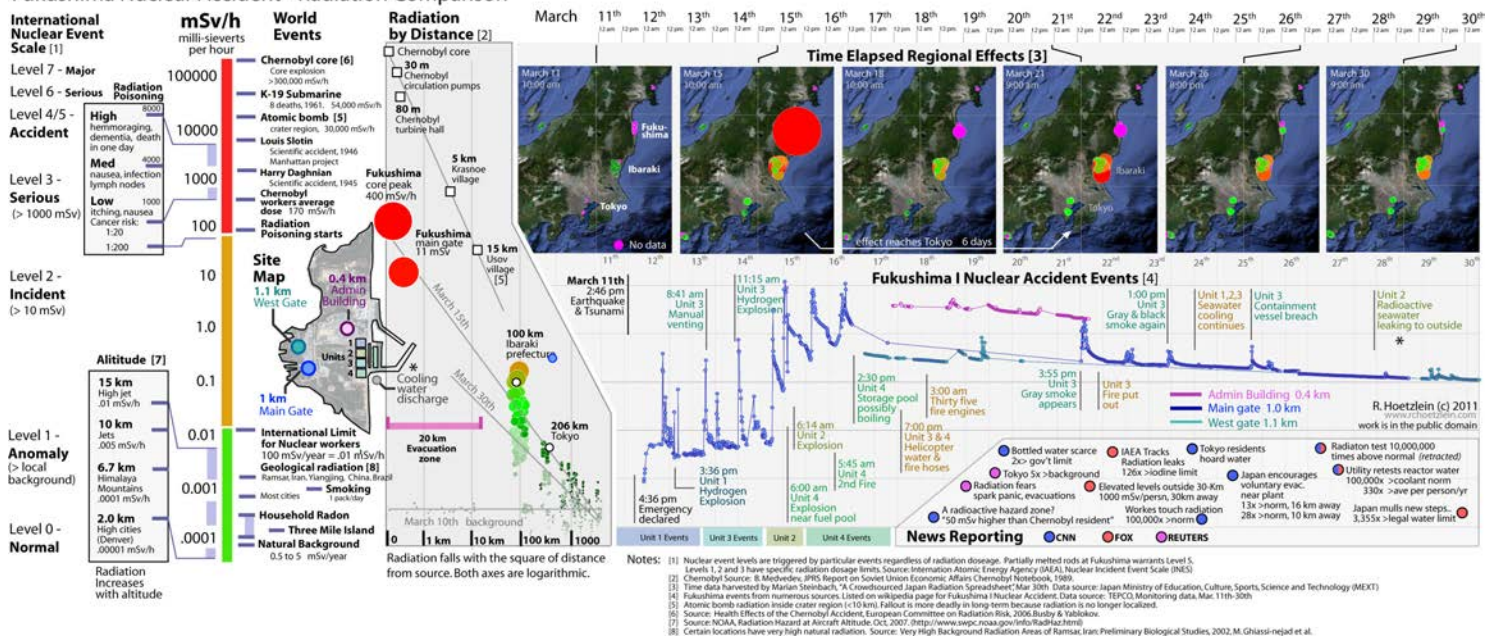
No more.

SHUT SAN ON OF RE

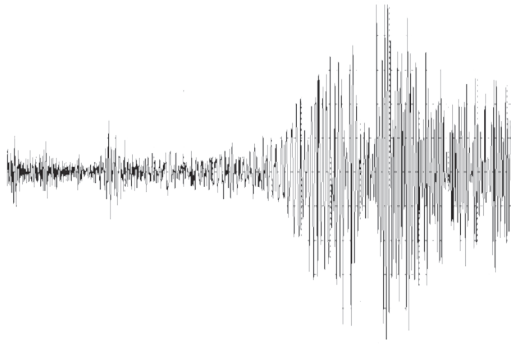
Who needs nukes? *Not US!*

Huge storage containers for contaminated (radioactive) water in Fukushima.
Only a tiny fraction of the total are shown here.

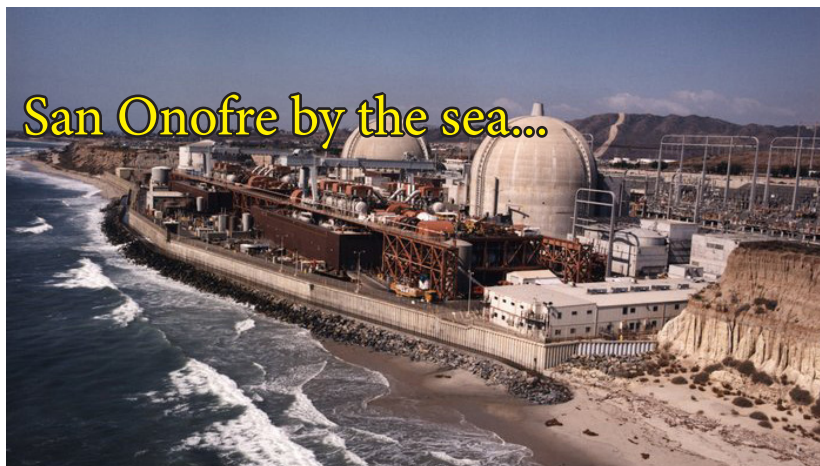
Fukushima Nuclear Accident - Radiation Comparison



Fukushima Radiation - Comparison Map. Created by R.Hoetzlein, March 2011.
Images are in the Public Domain. From: <http://www.rchoetzlein.com/theory>



Japan, March 11th, 2011:
First the earthquake strikes,
then the tsunami strikes,
then calamity strikes...



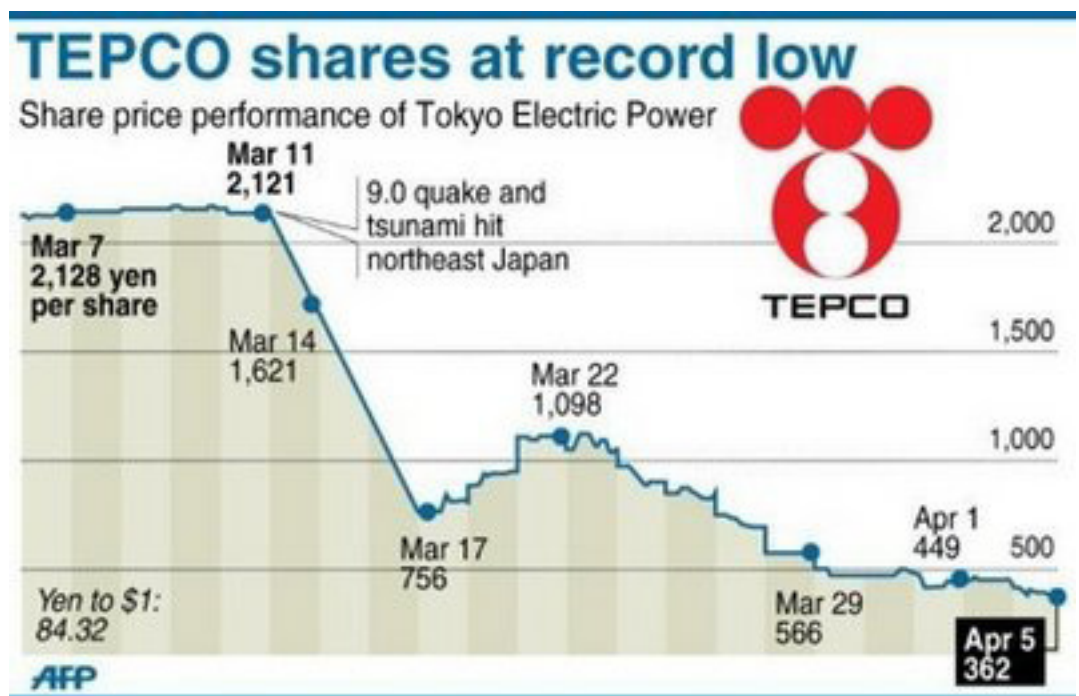
This sea wall is only 14 feet above mean high tide! Since at least 2004, everyone except SCE and the NRC has known it's not nearly high enough or strong enough.

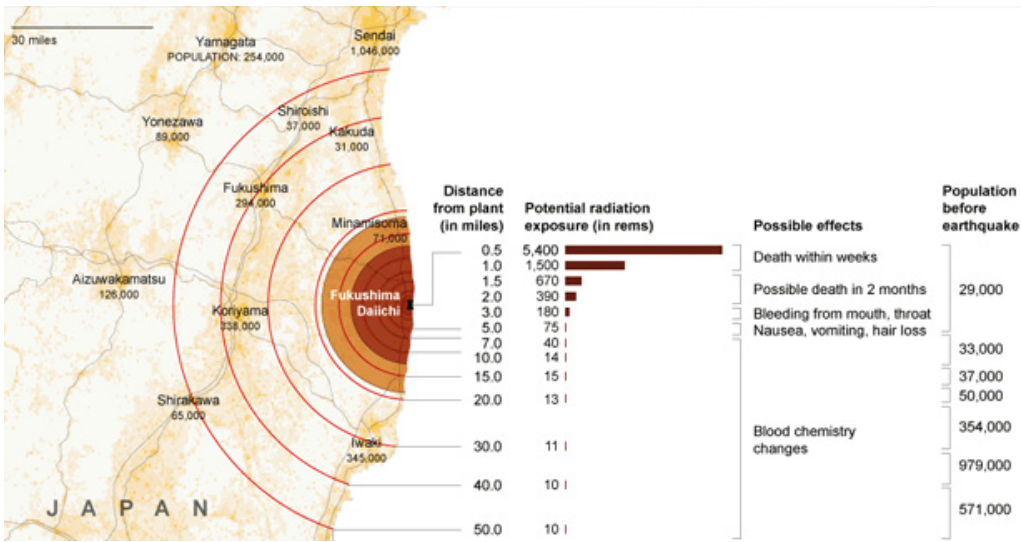


*Fetuses are as much as a thousand times more susceptible to radiation's effects than adults...
... but they can't vote!*

TEPCO
is (was)
the largest
utility company
in the world...

*San Onofre:
MADE IN JAPAN:
Steam Generators
Turbine shafts
Electronics, etc. etc...*





Life expectancy in the areas around Chernobyl plummeted after the accident there.

G.E. Mark 1 BWR.
There are 23 like it in America... our regulators want to keep them all operating, just like Japan's did!

Radiation Exposures

4,000 mSv

Lethal dose (50% chance of death)

250 mSv NEW cumulative limit for Japanese nuclear workers

100 mSv OLD cumulative limit for Japanese nuclear workers

50 mSv

US radiation workers annual limit

20 mSv NEW annual limit for ALL Japanese people -- including babies

20 mSv

EU airline crew annual limit

10 mSv

Full body CT scan

6 mSv

Background— One year in Idaho

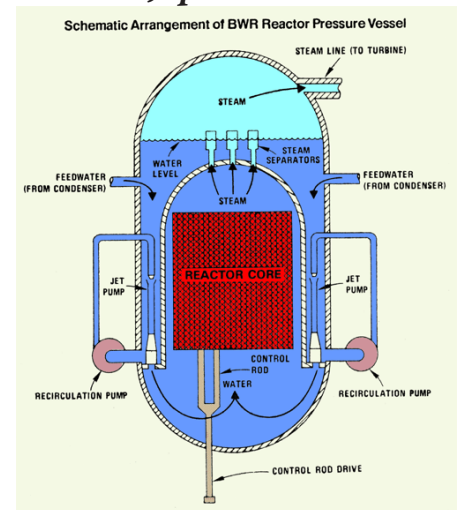
2 mSv

Background— One year at sea level

1 mSv OLD annual limit for ordinary Japanese people

0.08 mSv

Chest X-ray

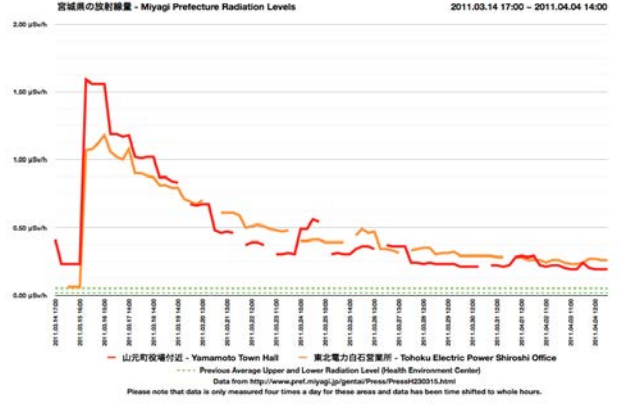
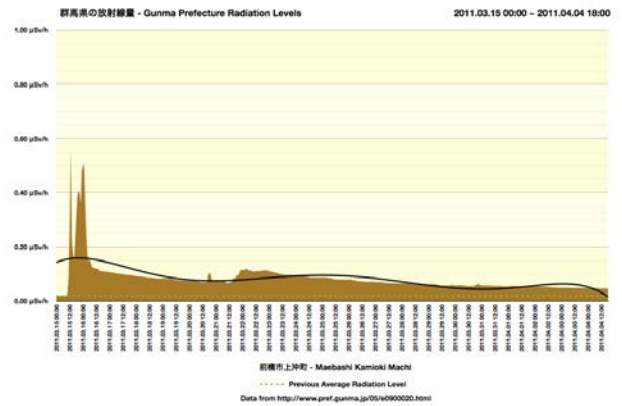


Shown below: Pouring poisons into the oceans at Fukushima.
Standard Operating Procedure every day at ALL nuke plants.



What exploded HERE?





栃木県の放射線量 - Tohri Prefecture Radiation Levels

2011.03.15 00:00 - 2011.04.04 00:00

2.00 μ Sv/h

1.50 μ Sv/h

1.00 μ Sv/h

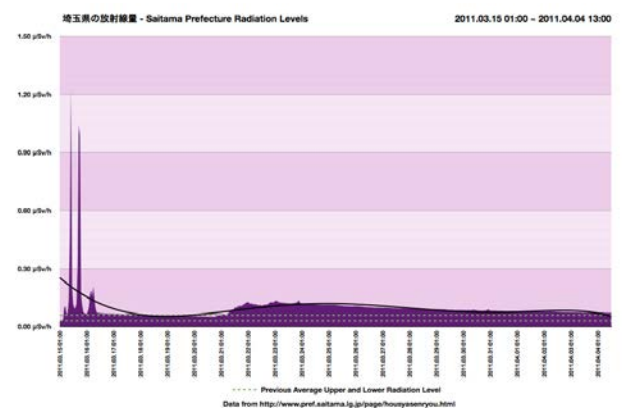
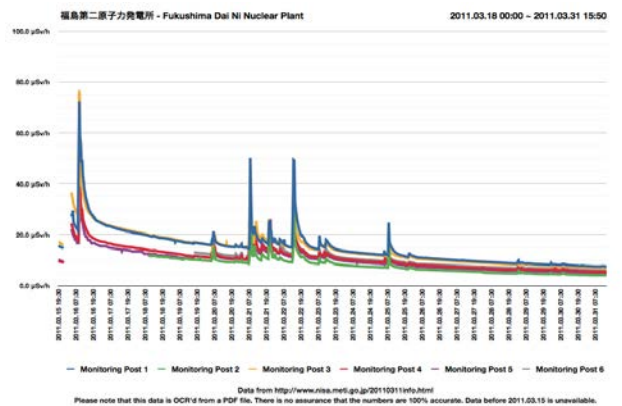
0.50 μ Sv/h

0.00 μ Sv/h

2011.03.15 00:00 2011.03.16 00:00 2011.03.17 00:00 2011.03.18 00:00 2011.03.19 00:00 2011.03.20 00:00 2011.03.21 00:00 2011.03.22 00:00 2011.03.23 00:00 2011.03.24 00:00 2011.03.25 00:00 2011.03.26 00:00 2011.03.27 00:00 2011.03.28 00:00 2011.03.29 00:00 2011.03.30 00:00 2011.03.31 00:00 2011.04.01 00:00 2011.04.02 00:00 2011.04.03 00:00 2011.04.04 00:00

宇都宮市・Utsunomiya 那須市・Nasu 日光市・Nikko 真岡市・Mooka 小山市・Oyama 那珂川町・Nagakawa Machi

Data from <http://www.pref.tochigi.lg.jp/kinhyu/houshasan.html>

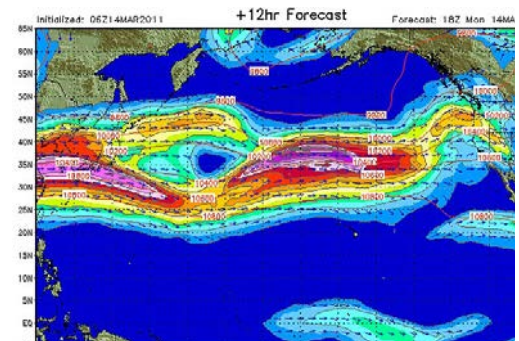
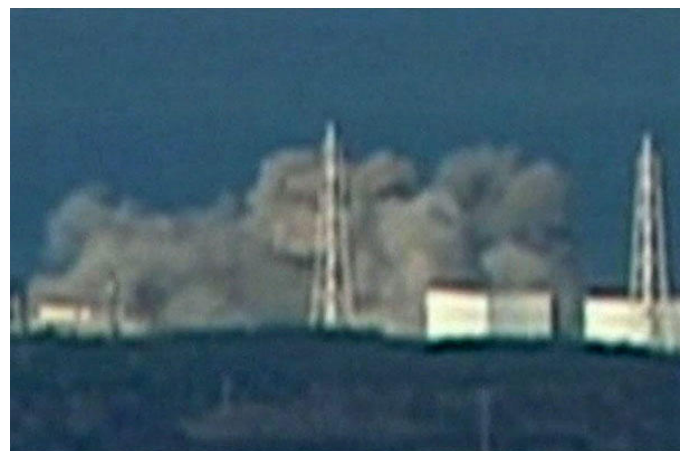
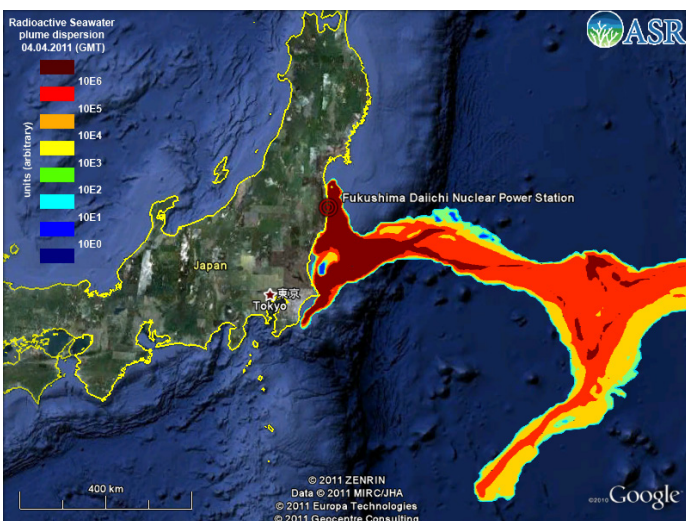
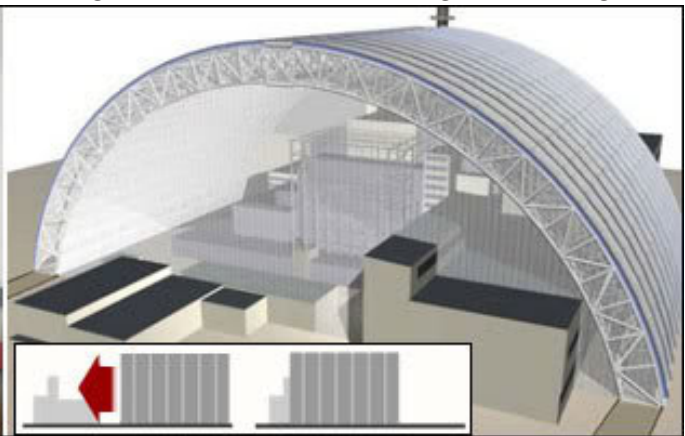




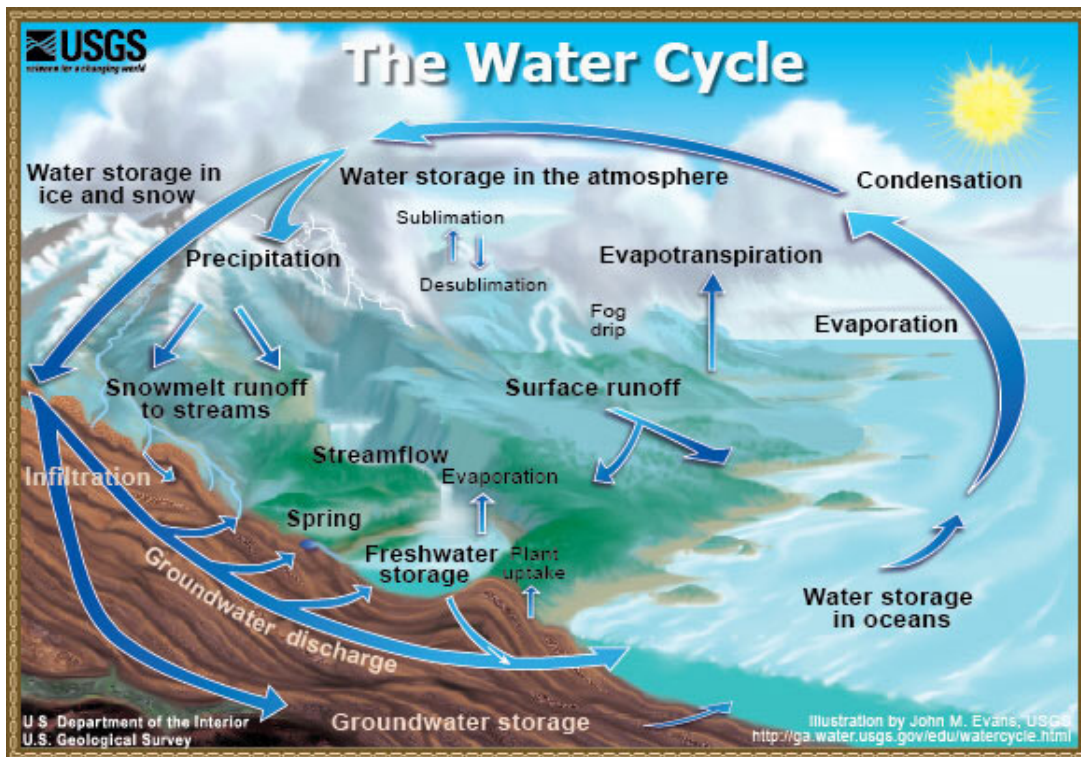
Using a cement pump to cool the reactor! The “experts” don’t have ANY idea about what to do at Fukushima Daiichi.

Why should we trust them here?

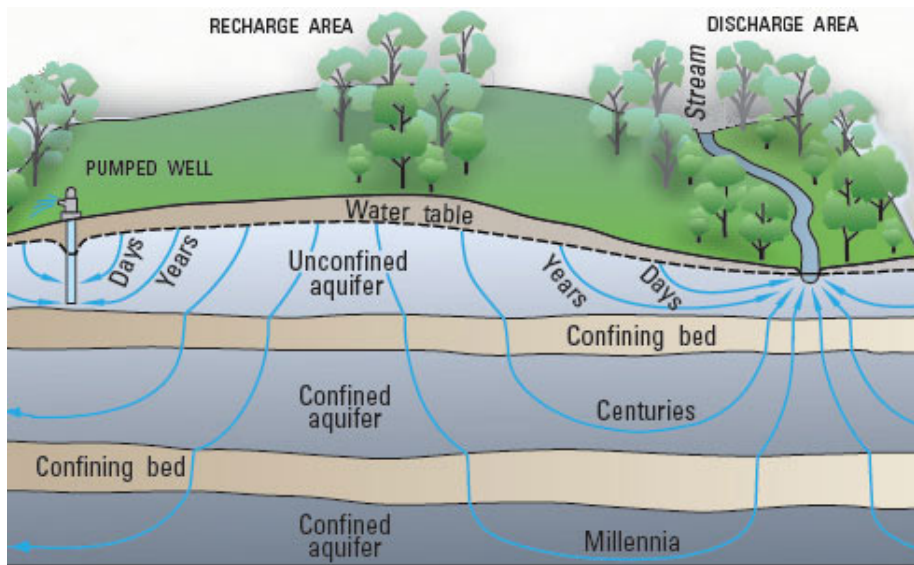
Chernobyl as it is, and the planned new sarcophagus (the old one wasn’t good enough)



Plumes...



*All water
is
precious
and
should
not be
wasted on
nuclear
power!*

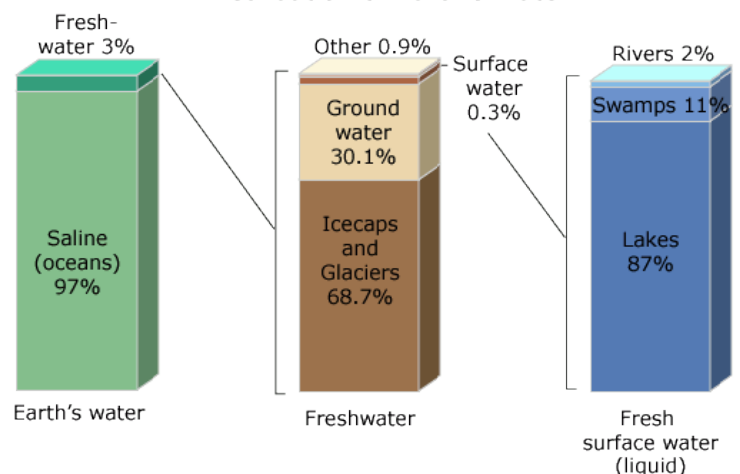


Every nuclear power plant uses billions of gallons of water every day, raising its temperature significantly, destroying fish larvae and other living organisms, and irradiating it "below legal limits" (which were set to allow the plants to operate -- NOT for public safety!). Fukushima has measurably and dangerously irradiated the entire planet.

San Onofre's spent fuel pools, dry casks, and two operating reactors contain millions of pounds of spent fuel -- just like Fukushima Daiichi.



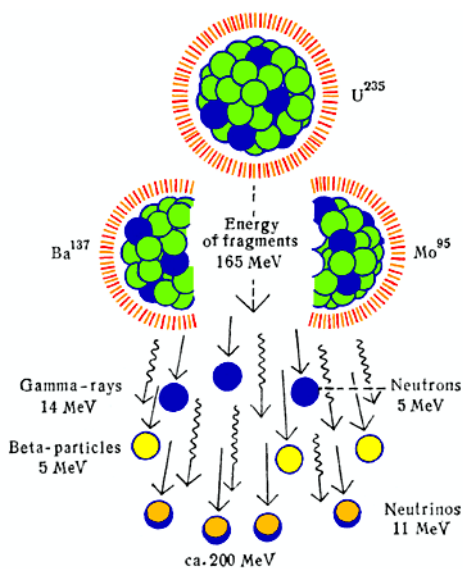
Distribution of Earth's Water



Reactors vs. nearby populations:



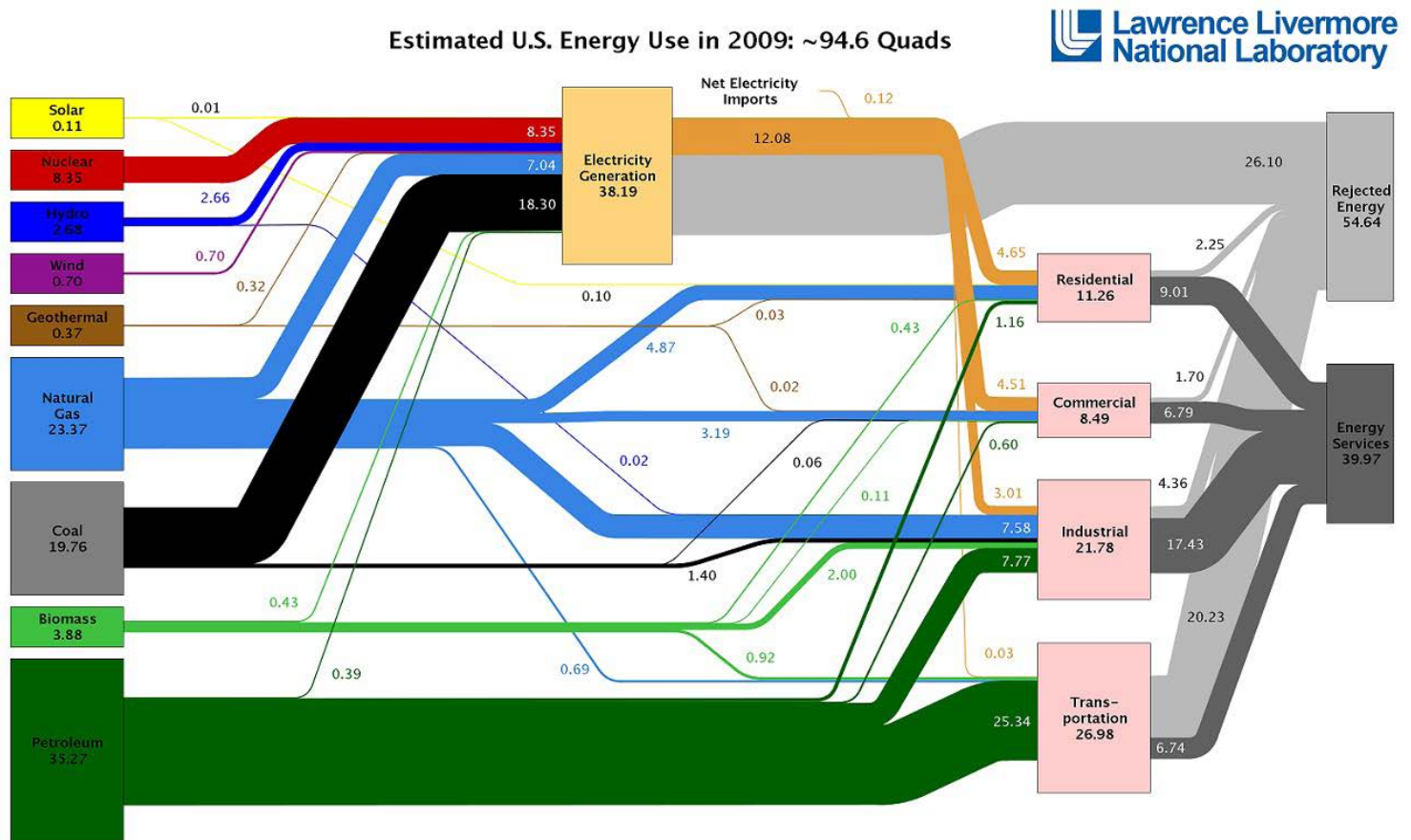
Ships pushed inland, bottled water shortage in Tokyo, hosing down Fukushima, splitting the atom, banned vegetables from Fukushima Prefecture.



From: The Atom from A to Z



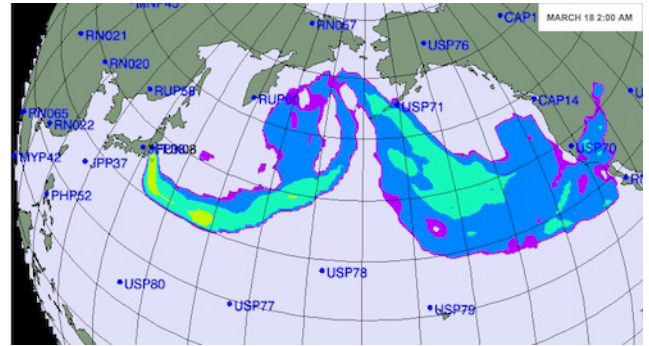
There is enough excess capacity and waste to allow closing ALL nuclear power plants in the USA



Source: LLNL 2010. Data is based on DOE/EIA-0384(2009), August 2010. If this information or a reproduction of it is used, credit must be given to the Lawrence Livermore National Laboratory and the Department of Energy, under whose auspices the work was performed. Distributed electricity represents only retail electricity sales and does not include self-generation. EIA reports flows for non-thermal resources (i.e., hydro, wind and solar) in BTU-equivalent values by assuming a typical fossil fuel plant "heat rate." The efficiency of electricity production is calculated as the total retail electricity delivered divided by the primary energy input into electricity generation. End use efficiency is estimated as 80% for the residential, commercial and industrial sectors, and as 25% for the transportation sector. Totals may not equal sum of components due to independent rounding. LLNL-MI-410527

**Tsunami
strikes
Fukushima
Daiichi
March 11,
2011**





**1200+ square miles
contaminated by
Chernobyl.**

One million dead.

**Expect at least as
large a “forbidden
zone” from
Fukushima.**

**And at least as
many dead.**

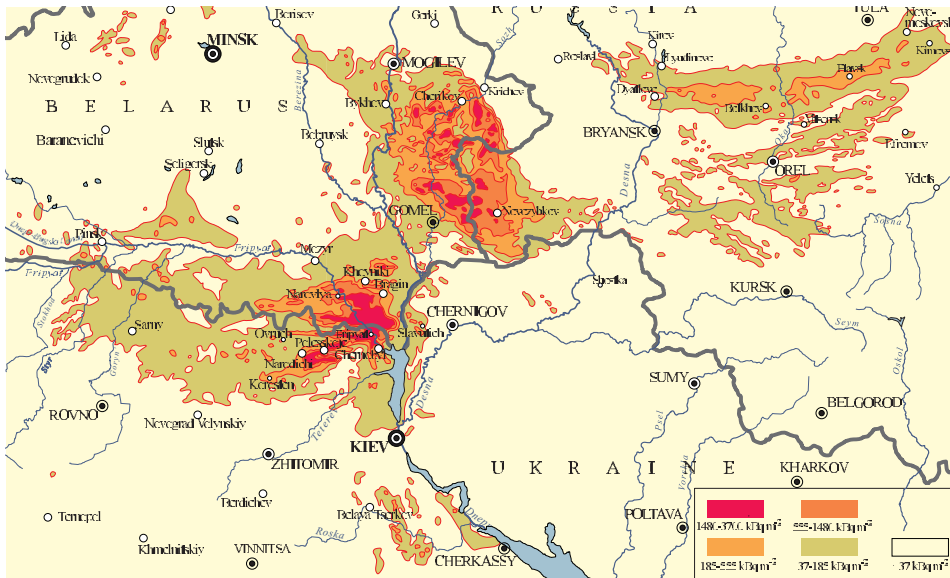


Figure VI. Surface ground deposition of caesium-137 released in the Chernobyl accident [11, 13].

**On April 26th, 2011, Physicians for Nuclear
Responsibility stated that the U.S. 10-
mile evacuation plan was inadequate and
should be extended to 50 miles.**

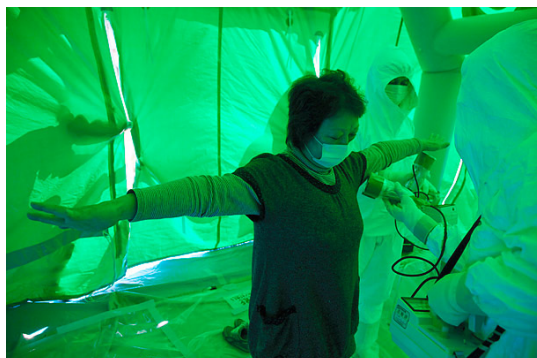
***One-third of the U.S. population lives
within 50 miles of nuclear power plants.***



**Got
Radiation?**



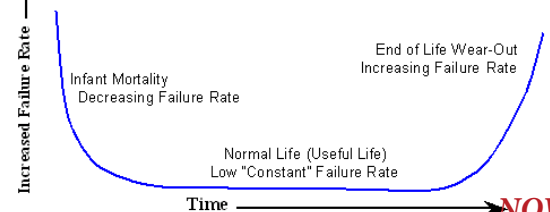
**No country
is ready for
a nuclear
disaster.
No country
can be.**



**This curve applies to *all* large industrial
products and most small ones, too.**

The Bathtub Curve

Hypothetical Failure Rate versus Time





Large boats were pushed far inland by the tsunami that devastated Japan and inundated the Fukushima Daiichi nuclear reactors. San Onofre is surely just as vulnerable, or even more so.



"Curly"



"Moe"



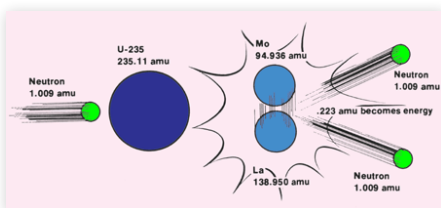
"Larry"



Explosions, radioactive steam, spent fuel pools burning... boats on land... houses in the sea...



Cancer rates in Japan will rise.



Remember THIS epic failure,
just one year earlier?

Fukushima Daiichi is far worse!

Renewables are the *only* solution!



The region's most populous areas are crisscrossed by faults capable of delivering jolts of magnitudes equal to or greater than the 1994 Northridge earthquake, which measured 6.7. Below, the latest fault map released by the California Geological Survey is coupled with earthquake scientists' estimates of the maximum magnitude of potential quakes on those faults.



Sources: United States Geological Survey, California Geological Survey, Uniform California Earthquake Rupture Forecast, Southern California Earthquake Center
Graphics reporting by DOUG SMITH, THOMAS SUH LAUDER

Los Angeles Times



What about the waste?

“No place for waste: On Saturday [1/31/1998], the Federal government is supposed to start taking nuclear waste from U.S. power plants, but it’s not ready. If a permanent storage site can’t be found, Americans could be facing energy costs and serious environmental problems.” -- Bill Salisbury, Washington Bureau, January 30th, 1998, Page 1A, St. Paul Pioneer Press (MN) (From newbank archives)

“The science is incomplete, unsound, and it is clear that Yucca Mountain is not a safe site for storing nuclear waste. The Yucca Mountain project has been on life support for a long time, and I am working hard to finally put an end to it. The Yucca Mountain project is decades behind schedule and tens of billions of dollars over budget. . . . Instead of wasting up to \$100 billion to construct a nuclear waste dump in Nevada, I am working to require nuclear power plants to store waste on site where it was produced.” -- Senator Harry Reid, in a letter to constituent Nikoli McCracken, June 23rd, 2008

So shut them down already!

Once a nuclear power plant is shut down, it doesn’t create a NEW lethal dose of spent fuel at an average rate of about 250 pounds per day. There will never be a safe way to store the waste because ionizing radiation destroys its containers. And for every atom split for energy, TWO fission products are created, and sometimes a plutonium atom or a tritium atom, as well. Then, sooner or later, something like Fukushima Daiichi happens and they all get released.

Just for electricity, which we can get from clean wind turbines offshore, and dozens of other safe ways? No way!

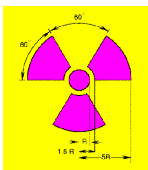
Shut-down is the **ONLY** option: The only thing that will work. Not stricter licensing, tsunami wall improvements, new batches of better workers, more inspections, or anything else. Just shut ‘em down.

In response to Fukushima, Southern California Edison says that San Onofre’s emergency diesel generator’s fuel tanks are underground, so they can’t wash away like in Japan. They say the generators themselves, on the other hand (the ones they forgot to test periodically, the ones that were wired wrong, the ones that wouldn’t start, etc. over the years -- THOSE generators) are high above any possible tsunami. But what happens when mountains of water and debris tear apart everything in-between, or gets into the diesel generators because they **AREN’T** high enough, and fouls the underground fuel tanks, and the batteries and cross-feeds weren’t connected right in the first place (even if they passed the rigged tests that were finally done...)... what happens THEN?

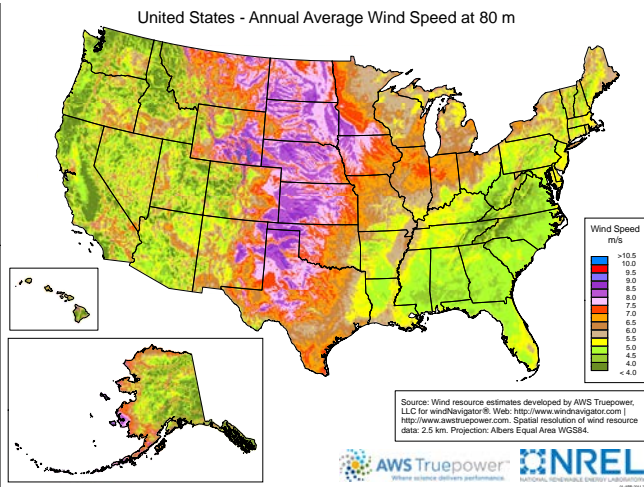
What happens when a jumbo jet smashes into everything? Really: Does ANYONE need another report before they decide they’re for shutdown?!?!

What about poor workmanship? That can make it impossible for even the best “experts” to stop a meltdown from occurring. Sabotage? Terrorists have been threatening to attack our nuclear plants for decades. Natural disasters? A swarm of tornadoes on the U.S. East Coast shut down FIVE reactors in just one week in April (2011)! NONE were shut down voluntarily: In *every* case, the utilities waited until offsite power was actually lost to “SCRAM” (insert the control rods into) the reactors. That’s more profitable than taking precautions.

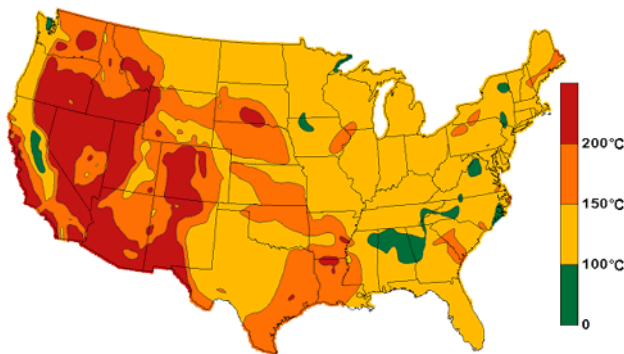
Offsite power CAN be lost. Damage to roads can make timely repairs impossible. Phone lines can be down, cell phone communication too. So the idea that the plant’s operators will always be able to call in anything they need “next time” is preposterous. It might be that no one even knows they’re in trouble! It might happen so fast, or so inexorably, that nothing can be done to stop it.



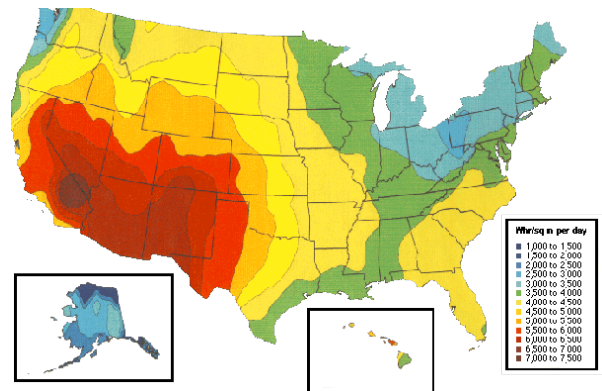
**Support a clean,
sustainable energy
policy for our children,
for our planet, and for
ourselves!**



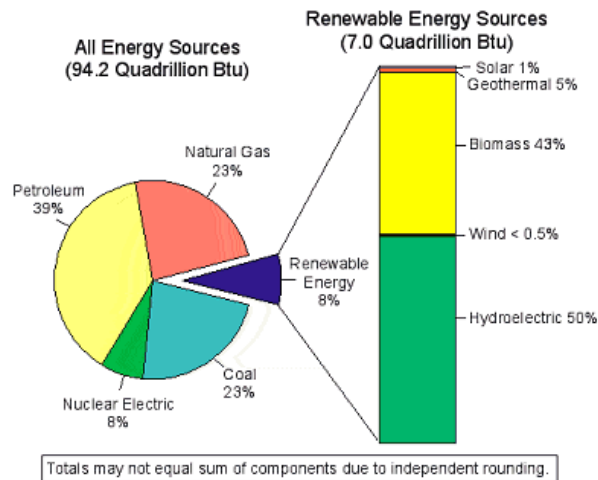
Wind potential in America...



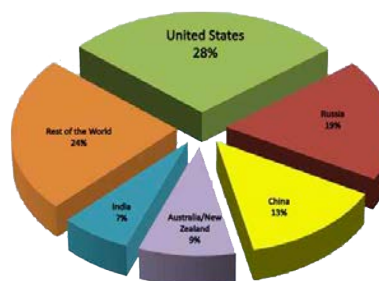
Geothermal resources in America...



Solar power is abundant in SoCal!



World Coal Reserves



Although coal is plentiful in many countries, we don't need to keep burning coal, either! It's a lot easier to let the breeze turn a wind turbine, or to install solar panels, than it is to dig coal! And it's a lot better for the environment, too!

**Energy from the sun!
Now, tomorrow, and forever!**



Wind energy: Clean, efficient, safe...



Is the U.S. nuclear industry any better than Japan's or Russia's? No!

"[In 2002] the Davis-Besse reactor, near Toledo, missed bringing Chernobyl to the Great Lakes by a mere fraction of an inch of deteriorating metal. Boric acid ate through six inches of solid steel and left only a warped shard between the superheated core and unfathomable catastrophe. "

-- The Hole-in-the Head Nuke: Will They Restart Davis-Bessie? by Harvey Wasserman, CounterPunch, July 7, 2003: <http://www.counterpunch.org/wasserman07072003.html>

Are dry casks a safe way to store used reactor cores? No!

"NCI calculations show penetration of up to 6 feet of reinforced concrete by jumbo jet engine is plausible... NRC should disown NEI's fraudulent claim that the Sandia video of the F-4 crash test into a concrete wall "speaks for itself."

-- Post-9/11 Security At Nuclear Power Plants, Paul Leventhal, Nuclear Control Institute, NRC Regulatory Information Conference, Washington, DC, March 5, 2002

Can nuclear power ever be made safe? No!

"With the 25th anniversary of the Chernobyl nuclear plant catastrophe having arrived, and with the disaster at the Fukushima nuclear complex still unfolding--and radioactivity continuing to spew from those plants--some people are asking: can nuclear power be made safe. The answer is no. Nuclear power can never be made safe."

-- Karl Grossman, Investigative Reporter, April, 2011

Spent Fuel: A growing hazard for all:

"Nuclear expert Robert Alvarez, advisor to Clinton, wrote in mid-March that a single spent fuel-rod pool -- as in Fukushima number 4 or Shearon Harris -- holds more caesium 137 than was deposited by all atmospheric nuclear-weapons tests in the northern hemisphere combined; an explosion in that pool could blast 'perhaps three to nine times as much of these materials into the air as was released by the Chernobyl reactor disaster'... nuclear power's entire history has been the methodical breaching of supposedly reliable safeguards... In political terms, nuclear power has always been a war on the people "

From Alexander Cockburn, New Left Review, May 2011

Does ANYONE presume San Onofre might be a terrorist's target?

"David Edge, county administrative officer and emergency services director for the San Luis Obispo area, explained why it is unlikely terrorists would attack the nearby Diablo Canyon Nuclear Power facility: 'I wouldn't put it high on the list because we are a low population area ... We've got 250,000 [people] around Diablo. They've got 8 or 9 million around San Onofre.'"

-- September 12, 2001 article by Jerry Bunin, reporter for The Tribune, San Luis Obispo, Calif.

... And how does THIS make you feel?

"A worker trained to watch for fires at the San Onofre nuclear power plant falsified records and skipped hourly rounds on 'numerous occasions' for more than five years, federal regulators said Monday."

-- Craig TenBroeck, NC Times, Regulatory agency orders changes to address 'safety culture' issues, Tuesday, January 15, 2008 1:06 AM PST

Reports like that have surfaced year after year...

**DESPITE threats of retaliation against
whistleblowers who expose such secrets!**



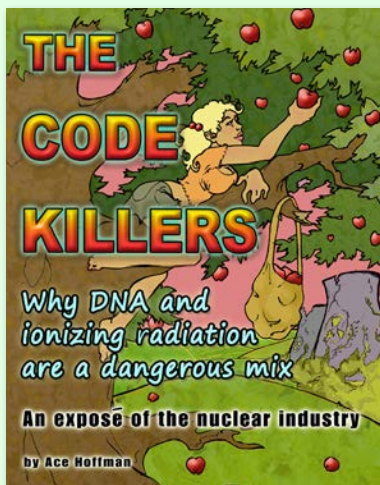
You can send this entire document -- with a cover letter explaining your reasons for doing so -- to your favorite (or least favorite) elected representative(s), to inform them about the dangers and to show community support for closing San Onofre Nuclear Generating Station.

Please contact the author for additional copies of this document, or it can be printed from his web site:

To learn more:

THE CODE KILLERS

Why DNA and ionizing radiation are a dangerous mix



The controversy about so-called low-level radiation, (greatly simplified: Cancer, for example, isn't the only "effect").

Effects (cancer risk)

known effects

supralinear

linear

quadratic

Area of Controversy

Radiation Exposure (dose)

Source: National Cancer Board Study, Edited by Kaku & Tanabe, 1982, p.30

Biological Half-life

The biological half-life of an element (the point in time when half of a foreign substance once in the body is no longer in the body) is NOT the same as the radiological half-life. After 20 radiological half-lives, only 2^{-20} of a substance will remain (about one millionth of the original amount). But when, for example, tritium poisons the body, some of it will bind "permanently," masquerading as a stable, useful hydrogen atom, until the moment of radioactive decay.

Written, designed, and colorized by Ace Hoffman (2008) *May be freely copied* www.acehoffman.org