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Sequoyah License Renewal
Comment
NRC-2013-0037

From:
Tim Anderson
Chattanooga, TN

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RULES AND DIRECTIVES
BRANCH
USNRC

Articles to be considered in the environmental review

- 1) The preparation of a plant specific supplement to the NRC's Generic Environmental Impact Statement
- 2) Any EIS Study should consider the findings of the following internationally recognized studies
- 3) Any study should include the impact of the more than thirty documented spills of radioactive material into the water and food supply that have already occurred in the Tennessee Valley by this operator
- 4) Storage of nuclear material and waste on site
- 5) Effects of waste dumps

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Add = E. Sayoc (ECS4)

Tim Anderson

**Nuclear Regulatory Commission – Docket ID NRC-2013-0037
April 3, 2013**

Re: The preparation of a plant specific supplement to the NRC's Generic Environmental Impact statement – comments Tim Anderson of Chattanooga, Tn

The citizens of the United States, have a right under the **National Environmental Protection Act of 1969 – to request that the “generic Environmental Impact Statement be thrown out and a third party comprehensive risk analysis that takes all of the elements of such risk to the community to our commerce, to the environment into account, a report that truly defines the human health effects of low dose exposures and the mental stress to the population for living under such risk, what are the true effects of cancer causing agents leaching into our environment. What are the true impacts of increase permanent storage or production of high level nuclear waste; due to the the permanent storage issue this proposed action is considered a major federal action, and therefore requires a new environmental impact statement under Section 102 [42 USC § 4332]. Authority: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), sec. 309 of the Clean Air Act, as amended (42 U.S.C. 7609) And we hereby request a new study Any study under these rules should also include a comprehensive study done to determine if this “speculative energy demand” could be met by other sources including the now viable renewable energy market, this is a critical part of any EIS provided, can we produce this energy without the constant risk of exposures to citizens within the 25 mile evac areas., the answer is yes we can, and no we don't have to have a true need to build more reactors and can certainly phase out these 25 mile evac zone “risk” over the next decades. Maybe the decision needs to be postponed for five years to re assess the needs and the dangers based upon real time up to date health studies. In any event, Im sure it's the goal and the plan of these agencies' to move forward at all cost with minimal concern of future generations. In that case -**

We demand that Any EIS Studies will include – the long term health effects of low, mid and high level radiation on the surrounding community and the health effects on humans, born and unborn, and the effects to humans on the environment now and in the future – in addition, any action by a federal agency requiring a large burden on the area water supply should provide a comprehensive study as the effects of this massive water usage, including the effects to the marine and human life associated with the “scheduled releases” of various radioactive isotopes, and proposed average water temperature increases on the surrounding water supplies and how that relates back to human consumption, rights and the long term environmental impacts.

We demand that the commission include the following internationally recognized studies as a basis for any comprehensive human health impact studies, these reports show a positive link between increased cancer rates and the release of low mid and high level releases – there are hundreds of studies regarding the fallout of Chernobyl and the TRUE effects to the population, that are not being considered, these reports even by the most conservative estimates state that over 1,000,000 additional cancer cases can be attributed to that disaster – FOR YOU EIS TO SHOW NO HARMFUL EFFECTS can't even be true due to the fact that even your own reports define an acceptable risk margin, to the population of one in 500 people therefore the fact is there are additional cancer rates that your report uses as a baseline and thus marginalizes. We just want the public to know the truth.

Any EIS Study should consider the findings of the following internationally recognized studies:

Any study cannot and will not be considered comprehensive unless it includes the results and processes of these studies among others -

The **American Academy of Sciences 2008** "Biological Effects of Ionizing Radiation" report claims that there is no safe level of radiation exposure.

The **European Committee on Radiation Risk** argues that existing risk models used by the NRC do not take internal exposure into account. High rates of internal exposure will mean a dramatic increase in cancer risk for Fukushima residents, with as many as 400,000 cases predicted by 2061.

The **Office of Science Financial Assistance Program Notice 99-14; Low Dose Radiation Research Program** states, "each unit of radiation, no matter how small, can cause cancer and most of the projected radiation exposures associated with human activity over the next 100 years will be low dose and low dose-rate radiation from medical tests, waste clean-up, and environmental isolation of materials associated with nuclear weapons and nuclear power production. "

A study commissioned by the **German Federal Office for Radiation Protection** titled "Epidemiological Study of Childhood Cancer in the Vicinity of Nuclear Power Plants" proves that young children develop cancer more frequently when they live near nuclear power plants.

The American Cancer society states "**ionizing radiation**" is a proven human carcinogen (cancer causing agent). The evidence for this comes from many different sources, including studies of atomic bomb survivors in Japan, people exposed during the Chernobyl nuclear accident, people treated with high doses of radiation for cancer and other conditions, and people exposed to radiation at work, such as uranium miners and nuclear plant workers. "They go on to say, "people living near or downwind (also known as down winders) of nuclear facilities may also be exposed to radioactive byproducts. Levels of radiation are likely to be higher near these sites, but some radioactive particles enter the atmosphere and travel great distances, landing thousands of miles away from the facility."

In addition to a comprehensive study of the effects of these reactors to the public health, commerce and environment, I call for a comprehensive action plan to be presented to the public covering risk, and instructions on how to keep our families safe, how to manage our food supply and what we can do in the event of an event - all residents within the 25 Mile Evac Zone should be included in this education process – through all forms of media and psa's

We also request an evaluation process as to whether this "proposed" increase in demand for energy could not be met with any other form of energy, such as solar or hydro, an energy source that doesn't carry the threat of a 25 mile dead zone for hundreds of years.

ANY EIS should include a comprehensive study as to the effects on the citizens, commerce and the environment of having on-site storage "above ground" storage of high level nuclear waste, specifically the dangers of such storage and the fact that the storage at the site is already three times the design capacity. The TVA does not have adequate insurance to cover a major event, nor is there a public procedure on how local and regional business will be compensated for loss of business related income, relocation of business, residents, loss of personal items, homes and cost of relocation. How does TVA propose to relocate an entire city, in the event of a major event, how do they plan on paying for a complete economic shutdown of a 50 mile EVAC zone. These are the risk we as citizens in the effected region have to burden so that the TVA can continue to generate energy through nuclear reactors – we don't have these risk with solar energy or other viable renewable forms of energy - Where do I go when I can't go home, where do I go when my bank is closed, and who notifies the elderly and disabled that they need to get out of the area? Where is your plan? Where is your money?

The World Bank Projects the evacuation of the 19 Mile radius implemented by the Japanese Government and the subsequent cost of decontamination, medical cost and cost to relocate its citizens will cost **\$225 Billion dollars**. Do you have 225 Billion is reserve for each plant that you operate?

We need a **real time public access monitoring systems**, surrounding the plant in a concentric grid, showing the actual real time readings of radiation in the area, this needs to be done via the internet, through local government agencies and concerned citizens, in this manner we will not rely on the board or brass of TVA to let us know when there is an event or a release. There should be billboard size signs place on major thoroughfares that shows real time radiation levels for that sign location, so that daily commuters can become aware as to what's the background levels and when there are unsafe levels in the area.

While we're on the subject of notification, we would like the TVA and the NRC to provide an org chart and a process chart so that the citizens have full knowledge as to the process and the actually people at these agencies that have the authority to disclose or not disclose, release information to the public, also who makes the call to evacuate and how quickly is that decision made. We want to know who has that power over the citizens and have a right to know.

In accordance with NEPA and Section 309 of the clean air act, we ask for an evaluation of alternative modes of facility operations, including answering the question, can a portion or even all of this "proposed" energy demand be met more cost effective with environmentally friendly renewable energy, and ask that you evaluate alternative technologies and mitigation measures, and the environmental impact of these alternatives.

We need a detailed report as to the entrainment and impingement impacts on marine life; the impacts of the cooling water discharges and thermal backwash operations and fish return systems, we ask that you look at retrofitting the current open loop cooling systems to mitigate these impacts. We also request an impact statement from the United States Department of the Interior as and the department of justice as to the legitimacy of the generic impact study and we consider these actions a major event which would constitute and more through study under **Section 102 [42 USC § 4332]. Of NEPA.**

The NRC's environmental review process must calculate the environmental effects of not having a permanent storage facility; to properly examine future dangers and key consequences" of prolonged on-site nuclear waste storage.

At the end of the day the with the expiration of the operating license set to expire in 2020 and 2021, I feel these actions are premature, and are being aggressively pushed upon the citizens without adequate time for discussions, without time to study the health and impacts of fukishima, and therefore again request additional public hearings on this issues as well as, something other than a generic impact study that hasn't been updated properly since like 1940

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Any study should include the impact of the more than thirty documented spills of radioactive material into the water and food supply that have already occurred in the Tennessee Valley by this operator.

A local history of radioactive leaks into the groundwater and Tennessee River

20100407 **Browns Ferry** Unit 3 Approximately 1,000 gallons of radioactively contaminated water leaked from Condensate Storage Tank No. 5 as workers were transferring water between condensate storage tanks. A worker conducting routine rounds observed water leaking from an open test valve near the top of CST No. 5.

20080105 **Browns Ferry** Unit 3 The condensate storage tank overflowed due to failed tank level instrumentation. The spilled water flowed into the sump in the condensate piping tunnel, triggering a high level alarm that prompted workers to initiate the search that discovered the overflow condition. Some of the spilled water may have permeated through the pipe tunnel into the ground.

20060700 **Sequoyah** Unit 1 An investigation to identify sources of tritium in groundwater found detectable levels of tritium in the Unit 1 and Unit 2 refueling water storage tank moat water.

20060700 **Sequoyah** Unit 2 An investigation to identify sources of tritium in groundwater found detectable levels of tritium in the storage tank moat water.

20060200 **Browns Ferry** Unit 3 A soil sample taken from underneath the radwaste ball joint vault (located outside the radwaste doors) indicated trace levels of cobalt-60 and cesium-137.

20060200 **Browns Ferry** Unit 1 A soil sample taken from underneath the radwaste ball joint vault (located outside the radwaste doors) indicated trace levels of cobalt-60 and cesium-137.

20060200 **Browns Ferry** Unit 2 A soil sample taken from underneath the radwaste ball joint vault (located outside the radwaste doors) indicated trace levels of cobalt-60 and cesium-137.

20051100 **Browns Ferry** Unit 1 Tritium levels greater than baseline values were detected in an underground cable tunnel between the intake structure and the turbine building. Samples taken in January 2006 identified gamma emitters in addition to tritium (beta emitter).

20051100 **Browns Ferry** Unit 2 Tritium levels greater than baseline values were detected in an underground cable tunnel between the intake structure and the turbine building. Samples taken in January 2006 identified gamma emitters in addition to tritium (beta emitter).

20051100 **Browns Ferry** Unit 3 Tritium levels greater than baseline values were detected in an underground cable tunnel between the intake structure and the turbine building. Samples taken in January 2006 identified gamma emitters in addition to tritium (beta emitter).

20050000 **Watts Bar** Unit 1 The radwaste line was discovered to be leaking.

20050300 **Browns Ferry** Unit 1 A leak in a pipe elbow on the east side of the cooling tower and an overflow of the cooling tower basin caused by malfunction of the system level indicators resulted in radioactive contamination of the concrete pad and ground around the tower.

20050300 **Browns Ferry** Unit 2 A leak in a pipe elbow on the east side of the cooling tower and an overflow of the cooling tower basin caused by malfunction of the system level indicators resulted in radioactive contamination of the concrete pad and ground around the tower.

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20040000 **Watts Bar** Unit 1 The radwaste line was discovered to be leaking.

20030000 **Watts Bar** Unit 1 Beginning in 2003, tritium leaching into the ground from the plant has been found in site monitoring points.

20020400 **Sequoyah** Unit 1 Prior to excavation for the steam generator replacement crane foundation, sampling identified contaminated soil surrounding the Unit 1 refueling water storage tank moat drain.

20010100 **Browns Ferry** Unit 3 Tritium levels greater than baseline values were detected in an onsite monitoring well west of the Unit 3 condenser circulating water conduit in the radwaste loading area.

19981200 **Watts Bar** Unit 1 Radioactively contaminated soil was discovered beneath the concrete

radwaste pad. 19980100 **Sequoyah** Unit 2 Radioactively contaminated water overflowed the Unit 2 additional equipment building sump and out the doorway to the ground outside.

19970500 **Sequoyah** Unit 1 Approximately 3,000 gallons of radioactively contaminated water spilled from the modularized transfer demineralization system when a conductivity probe failed. An estimated 600 to 1,000 gallons flowed through the railroad bay door to the ground outside.

19970500 **Sequoyah** Unit 2 Approximately 3,000 gallons of radioactively contaminated water spilled from the modularized transfer demineralization system when a conductivity probe failed. An estimated 600 to 1,000 gallons flowed through the railroad bay door to the ground outside.

19950500 **Sequoyah** Unit 2 Workers identified contaminated soil at the outfall of the Unit 2 refueling water storage tank moat drain pipe.

19850000 **Sequoyah** Unit 1 Radioactively contaminated water leached through a concrete wall of the condensate demineralizer waste evaporator building into the ground.

19850000 **Sequoyah** Unit 2 Radioactively contaminated water leached through a concrete wall of the condensate demineralizer waste evaporator building into the ground.

19830116 **Browns Ferry** Unit 3 A leaking tube in a residual heat removal heat exchanger allowed radioactive water from the reactor coolant system to be released to the river at levels exceeding technical specification limits.

19780715 **Browns Ferry** Unit 1 After the unit was shut down for maintenance, the residual heat removal system was placed in operation to assist shut down cooling of the reactor vessel water. Workers determined that a residual heat removal heat exchanger had a tube leak and that radioactively contaminated water was being discharged to the Tennessee River "at a rate above permissible limits."

19770104 **Browns Ferry** Unit 1 A leak in a residual heat removal heat exchanger allowed radioactive water to be released to the river at levels exceeding technical specification limits.

19731019 **Browns Ferry** Unit 1 About 1,400 gallons of liquid radwaste of unknown, unanalyzed concentration was inadvertently discharge to the river due to personnel error. The liquid radwaste tank was intended to be placed in recirculation mode but was mistakenly placed in discharge mode. *Source; Union of concerned scientist and NRC*

15-16 January 1983

Nearly 208,000 gallons of water with low-level radioactive contamination was accidentally dumped into the Tennessee River at the Browns Ferry power plant.

August 1979

Highly enriched uranium was released from a top-secret nuclear fuel plant near Erwin, Tennessee. About 1,000 people were contaminated with up to 5 times as much radiation as

would normally be received in a year. Between 1968 and 1983 the plant "lost" 234 pounds of highly enriched uranium, forcing the plant to be closed six times during that period.

1983

The Department of Energy confirmed that 1,200 tons of mercury had been released over the years from the Y-12 Nuclear Weapons Components Plant at Oak Ridge, Tennessee, the U.S.'s earliest nuclear weapons production plant. In 1987, the DOE also reported that PCBs, heavy metals, and radioactive substances were all present in the groundwater beneath Y-12. Y-12 and the nearby K-25 and X-10 plants were found to have contaminated the atmosphere, soil and streams in the area.

December 1984

The Fernald Uranium Plant, a 1,050-acre uranium fuel production complex 20 miles northwest of Cincinnati, Ohio, was temporarily shut down after the Department of Energy disclosed that excessive amounts of radioactive materials had been released through ventilating systems. Subsequent reports revealed that 230 tons of radioactive material had leaked into the Greater Miami River valley during the previous thirty years, 39 tons of uranium dust had been released into the atmosphere, 83 tons had been discharged into surface water, and 5,500 tons of radioactive and other hazardous substances had been released into pits and swamps where they seeped into the groundwater. In addition, 337 tons of uranium hexafluoride was found to be missing, its whereabouts completely unknown. In 1988 nearby residents sued and were granted a \$73 million settlement by the government. The plant was not permanently shut down until 1989.

July 2000

Wildfires in the vicinity of the Hanford facility hit the highly radioactive "B/C" waste disposal trenches, raising airborne plutonium radiation levels in the nearby cities of Pasco and Richland to 1,000 above normal. Wildfires also threatened the Los Alamos National Laboratory in New Mexico and the DOE's Idaho National Engineering and Environmental Laboratory. In the latter case, the fires closely approached large amounts of stored radioactive waste and forced the evacuation of 1,800 workers. [See also 1986 and May 1997.]

Any EIS study should include the effects of storing nuclear material and waste on a site that is well over its design capacity, it should include a study as to how much the "background" radiation of the area will be increased based upon the increase in waste material and what is the long term and short effects as for the air, drinking water and food supply. In addition the study should include the health risk of and security risk of transporting the materials to other locations.

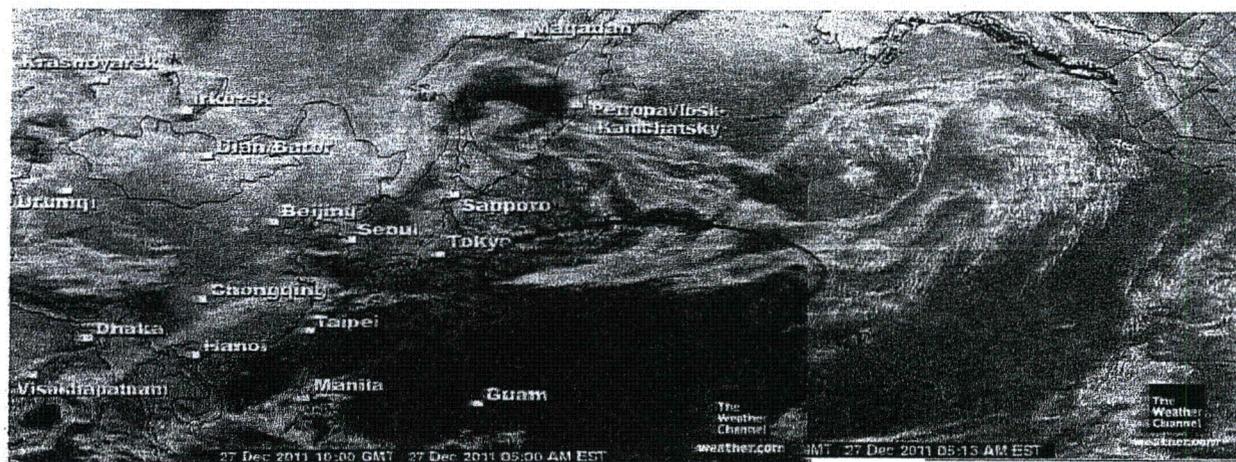
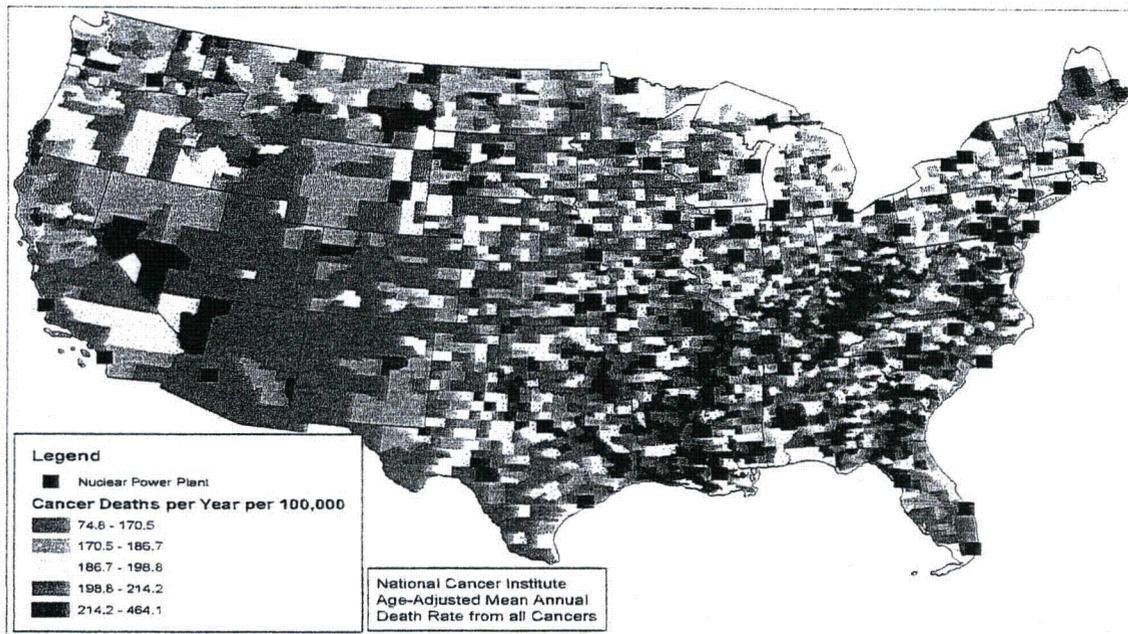
From 1946 to 1970 approximately 90,000 canisters of radioactive waste were jettisoned in 50 ocean dumps up and down the East and West coasts of the U.S., including prime fishing areas, as part of the early nuclear waste disposal program from the military's atomic weapons program. The waste also included contaminated tools, chemicals, and laboratory glassware from weapons laboratories, and commercial/medical facilities

(Any study should include the effects that these waste dumps have had on the water, air and food supply including any physiological changes to any human, mammal or sea faring creature.

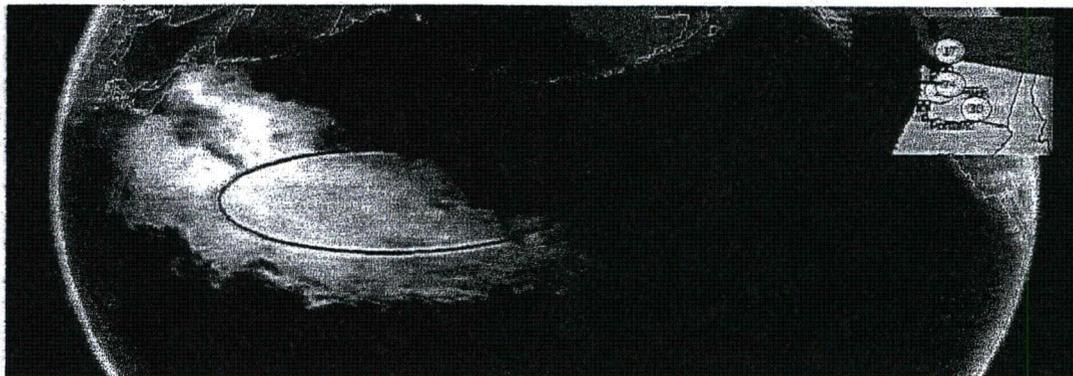
How It Doesn't Work – Risks and Dangers of Nuclear Energy

- *Proliferation Risks*
 - Plutonium is a man-made waste product of nuclear fission, which can be used either for fuel in nuclear power plants or for bombs.
 - In the year 2000, an estimated 310 tons (620,000 pounds) of civilian, weapons-usable plutonium had been produced.
 - Less than 8 kilograms (about 18 pounds) of plutonium is enough for one Nagasaki-type bomb. Thus, in the year 2000 alone, enough plutonium was created to make more than 34,000 nuclear weapons.
 - The technology for producing nuclear energy that is shared among nations, particularly the process that turns raw uranium into lowly-enriched uranium, can also be used to produce highly-enriched, weapons-grade uranium.
 - The International Atomic Energy Agency (IAEA) is responsible for monitoring the world's nuclear facilities and for preventing weapons proliferation, but their safeguards have serious shortcomings. Though the IAEA is promoting additional safeguards agreements to increase the effectiveness of their inspections, the agency acknowledges that, due to measurement uncertainties, it cannot detect all possible diversions of nuclear material. (Nuclear Control Institute)
- *Risk of Accident*
 - On April 26, 1986 the No. 4 reactor at the Chernobyl power plant (in the former U.S.S.R., present-day Ukraine) exploded, causing the worst nuclear accident ever.
 - 30 people were killed instantly, including 28 from radiation exposure, and a further 209 on site were treated for acute radiation poisoning.
 - The World Health Organization found that the fallout from the explosion was incredibly far-reaching. For a time, radiation levels in Scotland, over 1400 miles (about 2300 km) away, were 10,000 times the norm.
 - Thousands of cancer deaths were a direct result of the accident.
 - The accident cost the former Soviet Union more than three times the economical benefits accrued from the operation of every other Soviet nuclear power plant operated between 1954 and 1990.
 - In March of 1979 equipment failures and human error contributed to an accident at the Three Mile Island nuclear reactor at Harrisburg, Pennsylvania, the worst such accident in U.S. history. Consequences of the incident include radiation contamination of surrounding areas, increased cases of thyroid cancer, and plant mutations.
 - According to the US House of Representatives, Subcommittee on Oversight & Investigations, "Calculation of Reactor Accident Consequences (CRAC2) for US Nuclear Power Plants" (1982, 1997), an accident at a US nuclear power plant could kill more people than were killed by the atomic bomb dropped on Nagasaki.
- *Environmental Degradation*
 - All the steps in the complex process of creating nuclear energy entail environmental hazards.
 - The mining of uranium, as well as its refining and enrichment, and the production of plutonium produce radioactive isotopes that contaminate the surrounding area, including the groundwater, air, land, plants, and equipment. As a result, humans and the entire ecosystem are adversely and profoundly affected.
- *Nuclear Waste*
 - A typical reactor will generate 20 to 30 tons of high-level nuclear waste annually. There is no known way to safely dispose of this waste, which remains dangerously radioactive until it naturally decays.
 - The rate of decay of a radioactive isotope is called its half-life, the time in which half the initial amount of atoms present takes to decay. The half-life of Plutonium-239, one particularly lethal component of nuclear waste, is 24,000 years.
 - The hazardous life of a radioactive element (the length of time that must elapse before the material is considered safe) is at least 10 half-lives. Therefore, Plutonium-239 will remain hazardous for at least 240,000 years.

Cancer Maps and Nuclear Plants You decide?



Will Underground Living be the only option for the future of the United States?



Unlike Comment

PACIFIC OCEAN RADIOACTIVE SLICK, AS ESTIMATED FOR DECEMBER 11th, Top Photo