WHY NOT NUCLEAR POWER?

A review of Union of Concerned Scientists' information and information available at nirs.org gives a very dim future for nuclear power in terms of safety, security, cost and other factors. Craig Severance Industry Reports calculate the costs which are not as claimed by nuclear supporters. Other serious comprehensive calculations do not make nuclear even remotely feasible to reduce greenhouse gases (GHG's). Helen Caldicott makes the point that much is not admitted to in terms of regular radioactive releases and investigated events related to Three Mile Island (200 some claims legally sealed)... not to mention the disasters of Chernobyl and Fukishima. Ernest J. Sternglass has studied radiation dangers for many decades also. Atmospheric bomb testing was known to destroy the upper atmosphere ozone; the late Walter Russell predicted the discovery of the ozone hole decades before it was noticed, due to the use of fissile materials (nuclear power and weaponry). Newer, "safer" designs for nuclear power have never been proven "safe" and have many liabilities and dangers, such as the 'breeder' or 'fast' reactors. A very ominous quote from the Russells:

> *Radiation is the normal death principle. Everything in Nature dies normally by slowly radiating its heat. Radioactivity is the explosively quick death principle. Radioactivity is man's discovery of how the human race can die quickly, and not be able to propagate its kind for many long centuries.*
>
> *There is your complete answer in a few words. MULTIPLIED DEATH is the new boon which this age of man believes he is giving to the furtherance of life. Naturally you do not understand it, but instinct and intuition in you are strong enough to make you fear it. The reason you do not understand it is because you are not yet aware of what makes things live and what makes them die.* - Walter and Lao Russell, ***ATOMIC SUICIDE*** ***?***

Nuclear power is not affordable, safe or practical in solving our energy problems. Consider just the following: Physicist Dr. Tom Cochran (NRDC senior scientist) extrapolated from the nuclear industry calculations for its future and found that by adding 700 gigawatts of nuclear electricity to the world – double today's capacity – for the fifty years from 2050 to 2100 would entail:

- Adding about 1,200 new nuclear plants (provided they last forty years and have no meltdowns);
- Adding fifteen new uranium enrichment plants;
- Generating 0.97 million tons of high-level nuclear waste containing enough plutonium for hundreds of thousands of nuclear weapons;
- Outfitting fourteen Yucca mountains to store the waste;
- Adding fifty new reprocessing plants to extract plutonium if the Generation IV reactors were to proceed;
- Investing $1 to $2 trillion.

The effect would then be to cut the global average temperature rise by just 0.2%; far from helping to actually reduce global warming.

http://www.nrdc.org/nuclear/plants/plants.pdf (nuclear power not a solution – does not have above calcs).

A SUMMARY OF NUCLEAR POWER CONCERNS

- Damage from exposure to radioactive particles is accumulative
- Exposure to workers and public occurs at every stage of construction, mining, milling, and operating nuclear facilities
- There are regular releases of radioactive particles into air and water
- Upper atmosphere ozone depletion is known to have occurred from bomb testing; there could be radioactive particle build-up in upper atmosphere (10-12 mi. up) with many dire consequences
- Three-Mile island settled over 200 cases out of court with gag orders
- Chernobyl, Fukushima (radiation releases equivalent to 10+ Hiroshimas EVERY HOUR on-going!)
- There are no current safe proven designs for nuclear power
- There is a history of poor maintenance oversight by the NRC, including many cracks in cooling water supply lines
- Dangers from by-products and storage of fuel are multitudinous
- The cost of nuclear is prohibitive and often not completely accounted for including complete life-cycle estimates, giving higher KwHr rates than often cited, aside from the cost to the taxpayers from government subsidies
- No private insurance company will touch insuring nuclear power plants due to costs and liabilities; they can only be built with extensive government subsidies
- Greenhouse gas mitigation, if properly calculated with complete life-cycle parameters, is negligible or worse
- Pollution reduction can even be negative (worse) if all aspects of the life-cycle are accounted for

WHAT ARE THE ALTERNATIVES?

There are better solutions emerging now. Cold fusion (LENR/LANR) has been replicated for years and now appears to be in a couple of technologies coming out (http://brillouinenergy.com/ , E-Cat). Other new "over-unity" technologies are being developed... see www.projectearth.com , peswiki.com , www.globalbem.com (esp. Moray King and Mike Waters). Phi ratio geometry and better intelligent design can make magnitudes of difference (see http://world-harmony.com/max-velocity-turbine/). There should be great effort now to investigate and develop such game-changing technologies. Walter Russell (polymath/genius and contemporary of Nikola Tesla) wrote the book, ***Atomic Suicide?*** He predicted the trans-uranium elements, had a number of successful ventures, was a talent in many fields, and noted that nuclear bomb testing was known to reduce the upper atmospheric ozone. Knowledgeable atmospheric scientists such as Adam Trombly point out the dangers of on-going radioactive releases. Russell predicted the eventual destruction of oxygen, which Trombly discusses with respect to combustion processes as far as our pervasive burning of fuel for energy.

SOME BACKGROUND HISTORY OF NUCLEAR POWER

Lynn Howard Ehrle
March 20, 2009 17:45

There is a gargantuan international cover-up of human health risks from exposure to low-dose ionizing radiation. After Hiroshima and Nagasaki the U.S. Congress passed the Atomic Energy Act of 1946, which decreed that all weapons research, including uranium hexafluoride and radiation, was "born secret." It was available on a "need to know" basis, and nobody needed to know! Over 300 million pages were tucked away in warehouses. Secrecy was first justified because of national security, and it was extended throughout the entire Cold War.

After Eisenhower's "Peaceful Atom" speech nuclear reactors appeared on academic drawing boards, drawn up by atomic weapons academics who were newly minted nuclear engineers and medical physicists. No scientific papers and no environmental impact statements. Just the rosy assurance that electric power generated from these new reactors would be "too cheap to meter." Oh, by the way, what about the Nuremberg Code and its mandate requiring "informed consent?" Industry PR, campaign contributions, and intense lobbying soon tapped the taxpayer money trough.

In 1926-27, HJ Muller proved that X ray caused mutations that could be passed down generation to generation. "Yeh, but his experiments were on fruit flies! What, he was awarded the Nobel for that?" Several independent scientists attempted to get their studies published, but they were subjected to scientific shunning and denied federal grants. Some members of the International Commission on Radiological Protection (ICRP) and the U.S. National Council on Radiation Protection began to assume the role of "gatekeepers" who kept a tight lid on THE RADIATION BLACK BOX.

The nuclear industry has been joined by leaders of professional radiation associations in an effort to minimize low-dose risks. Despite publication of the BEIR VII report (2005), concluding there is no safe dose, industry promises to strengthen "safety" have not materialized. Also, nuclear advocates never mention the continuous release of xenon, krypton, and tritium nor will they acknowledge the fact that the entire life-cycle, from mining uranium to production to huge demand for cool water and burial of long-lived radioactive waste, is anything but carbon-free.

More taxpayer subsidies, escalating costs, and a 10-year construction time frame should sink any plan to build a new generation of reactors. In fact, Warren Buffett scrubbed a new reactor proposed by an Idaho subsidiary of Berkshire Hathaway because it was not economical. And when was the last time you saw media reports of hot water discharges that effect marine life or countless tons of dead fish that divers must scrape off the intake screens.

If government officials had used our funds to subsidize alternative energy research instead of high-risk nuclear projects, we would now have a profusion of reliable,safe, and cost-effective energy sources along with a coherent and aggressive conservation program.

Lynn Howard Ehrle, M.Ed., Senior Biomedical Policy Analyst, Organic Consumers Association and member of the Radiation Research Society, AAAS, APHA and AFT and NEA (ret)

FAST BREEDER REACTORS - REPROCESSING

Often touted as a "green" solution. . .

"Public Citizen" site: http://www.citizen.org/documents/FatalFlawsSummary.pdf

Reprocessing,Fast Reactors, and Transmutation
Fast reactors, in combination with reprocessing and transmutation, have also been proposed by the Bush Administration as a way to deal with the waste produced by nuclear power. Specifically, fast neutron reactors – high temperature reactors that use separated plutonium and have an inert gas or liquid metal as a coolant – have been put forth as a way to reduce the radioactivity of the waste by converting long-lived radionuclides into shorter-lived radionuclides in a process known as transmutation. But fast neutron reactors have a terrible track record in safety and are incredibly expensive. These reactor designs also have many remaining technological problems, including the difficulties of using plutonium fuels in operating reactors, low rates of transmutation, unproven fuel fabrication systems, and dangers to workers making the fuel. Even if these problems were addressed, fast-neutron reactors would not eliminate the need for a repository.

Reprocessing, the chemical process of extracting uranium and plutonium from irradiated fuel after it is removed from a reactor, also has problems. Reprocessing technology, which is an essential component of the fast reactor cycle, is extremely expensive, poses a security threat, leads to environmental contamination, and also does not eliminate the need for a repository.

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from Union of Concerned Scientists
http://www.ucsusa.org/assets/documents/nuclear_power/nuclear-power-in-a-warming-world.pdf :

The administration's proposed Global Nuclear Energy Partnership (GNEP)—which would entail reprocessing U.S. spent fuel and building large numbers of new fast burner reactors to use plutonium-based fuel—offers no waste disposal benefits and would increase the risks of nuclear proliferation and terrorism.

The proposed GNEP system of fast burner reactors will not result in more efficient use of waste repositories.
While the proposed GNEP system could, in principle, significantly reduce the amount of heat-producing actinides that would need disposal in a geologic repository, thus allowing it to accept more waste, this potential cannot be realized in practice. As the National Academy of Sciences and the U.S. Department of Energy have found, reducing the actinides by a meaningful amount would require operating a large system of nuclear facilities over a period of centuries, and cost hundreds of billions of dollars more than disposing of spent fuel directly.

The United States should eliminate its programs to develop and deploy fast reactors.

France
initially intended to use the plutonium in its **fast-breeder reactor program**. However, this program failed on performance and safety grounds (Phénix and Superphénix were plagued with liquid sodium leaks, and Phénix experienced unexplained reactivity increases). Stuck with a growing stockpile of plutonium, France required Électricité de France to start using MOX fuel made from this plutonium in its light-water reactors— even though MOX is several times more expensive than low-enriched uranium, and its use required reactor modifications and restrictions on operations. So far France has licensed only 20 of its first-generation pressurized water reactors to use MOX fuel. At today's rate of use of MOX, eliminating the 50-ton stockpile of separated plutonium will take decades. Security measures for this stockpile are inadequate. France does not employ armed guards at nuclear power plants, even plants storing and using MOX fuel. And vehicles containing plutonium and MOX traveling on French roads are poorly guarded. After extensively videotaping the trucks used to transport plutonium oxide from La Hague to MOX fuel fabrication facilities in Cadarache and Marcoule, and recording their license plates, Greenpeace activists intercepted a truck carrying 150 kilograms of plutonium and chained themselves to it. Even though this incident occurred within meters of a French military base, off-site responders took two hours to arrive and arrest the activists. Meanwhile, France has blocked implementation of binding physical protection standards by the International

Atomic Energy Agency, which could have compelled France to upgrade its security. If France were to adopt standards for protecting plutonium appropriate for the post-9/11 era, the already poor economics of its program for using plutonium would only worsen.

Fast reactors are typically fueled with either highly enriched uranium or plutonium. The limited number of public documents describing the Galena proposal are vague or inconsistent regarding the type of fuel that would be used, but the most recent documents indicate that the fuel would consist of 17–19 percent-enriched uranium **122** .

NUCLEAR POWER INFORMATION LINKS

Power Shift: The deployment of a 21st century electricity center and the nuclear war to stop it
Mark Cooper, Institute for Energy and the Environment at Vermont Law School, 6/17/15
http://www.nuclearreader.info/chapter1.html
http://www.nirs.org/
http://www.nirs.org/factsheets/routineradioactivereleases.htm (what they don't want you to know)
http://www.nirs.org/factsheets/fctsht.htm/#radiation (fact sheets)
http://www.nirs.org/factsheets/tritiumbasicinfo.pdf
"Tritium has a half life of 12.3 years which means it will be dangerous for *at least* 120 years, since the hazardous life for a radionuclide is ten to twenty times longer than its half-life." – released into cooling water regularly
http://www.ucsusa.org/our-work/nuclear-power#.VbodVrNVjsA
http://allthingsnuclear.org/ (Union of Concerned Scientists)
http://www.citizen.org/Page.aspx?pid=3306&q=nuclear
http://www.citizen.org/cmep/article_redirect.cfm?ID=13447 (Just the Facts – Five Fatal Flaws of Nuclear Power)
http://www.radiation.org/reading/ejsternglasspubs.html
http://www.helencaldicott.com/
http://www.nuclearfreeplanet.org/
http://www.energyeconomyonline.com/ (Craig Severance)
http://energyeconomyonline.com/uploads/Business_Risks_and_Costs_of_New_Nuclear_Power_Reprint_-_Jan_2__2009_Craig_A._Severance.pdf
http://www.energyeconomyonline.com/Carbon_Tax_Cornucopia.html

News articles
waste and costs raising doubts (4/22/09): http://www.indyweek.com/gyrobase/Content?oid=oid%3A393820
TMI – the truth comes out (4/22/09): http://www.indyweek.com/gyrobase/Content?oid=oid%3A393821