

NEC Newsletter

Vol I. No 1, Published by the New England Coalition, Brattleboro, Vermont — September 1, 2011

THE 40th ANNUAL MEETING

DATE: September 24, same as the 1st Annual Meeting in 1971

TIME: 4:00, same as the 1st Annual Meeting

PLACE: St. Michael's Episcopal Church, corner Putney Road and Bradley Avenue, Brattleboro, same as the 1st Annual Meeting

SPEAKER: Atty. Anthony Roisman, who spoke at the 1st Annual Meeting

Current Legal Actions

New England Coalition is unique among Vermont-based environmental advocates for several reasons. We are the only non-governmental organization (NGO), specifically involved in VY, with on-board expertise in the NRC's Reactor Oversight Process, and the only such NGO with on-board expertise in current nuclear decommissioning technology and regulation. We are the only NGO with on-board expertise in the NRC's Reactor Oversight Process that is specifically involved in VY. We are the only Vermont-based NGO able to claim a record of success in intervention at both the state and federal level. We are also the only Vermont based organization before the NRC on VY safety issues. NEC is the only Vermont based organization intervening on the Seabrook relicensing and the only one participating in NRC rulemaking.

NEC is currently active in a number of legal actions and other initiatives, often joining forces with the Conservation Law Foundation (CLF), the Vermont Public Interest Research Group (VPIRG), the International Brotherhood of Electrical Workers (IBEW), Vermont Natural Resources Council (VNRC), and the Vermont Agency of Natural Resources (ANR). These include the following:

- NEC, CLF/VPIRG and IBEW are the only NGOs granted to file *amicus curiae* (friend of the court) standing to support the State of Vermont in the Vermont Yankee federal preemption case.
- NEC, CLF/VPIRG and VNRC are the only effective intervenors in the relicensing proceeding before the Vermont Public Service Board.
- NEC (with representation from CLF) and ANR are the only entities before the federal courts appealing the NRC relicense of VY.

- The NEC has joined NGOs across the nation in several Fukushima-related safety initiatives for aggressive, targeted regulation, including shutdown, of all antiquated boiling water reactors like VY.
- The NEC has joined 24 other organizations nationwide to bring action to force the NRC to stop all licensing and relicensing for nuclear plants until the findings of the Fukushima task force are properly addressed.

For the latest news on legal actions, please see the article on page 4.

Looking Ahead

We are confident that Entergy Vermont Yankee will not run another 20 years, but the mission of the NEC does not end with closing of VY. In fact, closing VY is merely a transition to a new phase in our existence, which will also require hard work and dedication.

Our mission is partly to deal with nuclear pollution, and the danger of nuclear pollution is only slightly reduced when it is no longer being made. Preparing for and monitoring decommissioning will continue until decommissioning is over. Representing the safety and well being of the people, while the waste is stored and guarded, is a responsibility that has no end in sight.

But there is more to our mission. Our goal remains the production of safe, sustainable energy, environmental protection, and conservation of resources. In our current political climate, addressing these issues means that we need to be actively aware of other matters, such as corporate structure, law, and the economy.

In order to address the demands of the future, we will be shifting our focus somewhat. Our work in the legislature and the courtroom will continue, as it must. You will see articles on these in this and future issues of the newsletter.

New England Coalition is a 501(c)(3) non-profit organization. All contributions are tax-deductible and urgently needed. The unprecedented number of concurrent cases in which we are intervenors or amicus curiae in 2011 and the pace of developments in these cases make your contribution today so important. Donate using a credit card or PayPal at www.necnp.org or send a check to NEC, PO Box 545, Brattleboro, VT 05302-0545. Our office phone number is 802-257-0336.

Understanding Carbon Footprints

Carbon footprints are the subject of a lot of discussion these days. Unfortunately, most people do not understand them well enough to be able to distinguish fact from fiction. Many nuclear industry advocates claim nuclear power produces no greenhouse gasses, but renewable energy does, and they back their statements with misleading data that appears to be factual. Fortunately, there are objective ways of measuring carbon footprints, and these provide a path to understanding the truth.

Carbon dioxide (CO₂) is a greenhouse gas. Burning coal produces a predictable number of grams of CO₂ per kilowatt-hour of electricity (kWh). It happens that other gasses also contribute to the greenhouse effect. Methane, for example, has about 37 times the greenhouse effect of CO₂. So if we found a way to produce power that emitted a gram of methane per kWh, that power source would have a carbon footprint of equivalent to emitting 37 grams of CO₂. Carbon footprints are measured in grams of carbon dioxide, or the equivalent, per kilowatt-hour (gCO₂eq/kWh).

The carbon footprint of all sources has to be considered on a “cradle-to-grave” basis, meaning that the carbon footprint of a solar panel has to consider the emissions arising from making, delivering, installing, operating, maintaining, and disposing of the panel. In the case of a nuclear power plant, the carbon footprint has to include construction of the plant and its equipment, mining the uranium, refining, enriching, transportation, operations, waste disposal, and decommissioning, among other things.

Even given an objective analysis, estimates of carbon footprints range somewhat. The range for nuclear is particularly wide, partly because some costs are unknown, and partly because some studies are clearly faulty or even biased. The carbon footprints of various energy sources provided by Benjamin Sovacool in 2008 are in the accompanying table.

gCO ₂ eq/kWh	Power source
960-1050	Coal
778	Oil
443	Combined cycle natural gas
66	Nuclear (the range is from 17 to 200)
38	Geothermal, dry rock
32	Photovoltaic (new technology)
14-35	Biomass (various technologies)
13	Solar thermal, concentrated
10-13	Hydroelectric
11	Biogas, anaerobic digestion
9-11	Wind

Data in the chart is derived from Benjamin Sovacool's *Valuing the greenhouse gas emissions from nuclear power: A critical survey*.

The number given for nuclear power was derived from an earlier metastudy (study of many studies) on the carbon footprints of nuclear power. The range of numbers

in the raw data was extremely broad, from 1.4 to 288 gCO₂eq/kWh. Prof. Sovacool applied objective standards to the processes used for the studies and rejected most because they were improperly documented, failed to address all sources of greenhouse gasses connected to the technology, or for other reasons. The final figure, 66 gCO₂eq/kWh, is an average of those that remain. It is interesting to note that estimates of carbon footprints from nuclear power have increased over time. The most recent studies of carbon emissions from nuclear plants average at 91 gCO₂eq/kWh, so the value of 66 given here may be low.

There are certain sources of CO₂ that are never considered, even in the most careful studies. One important issue is the amount of damage done to the atmosphere arising from efforts at recovery from such disasters as Fukushima Daiichi, Chernobyl, and the Kyshtym. The amount of greenhouse gasses released from these efforts is never taken into account.

Opinion: How did the fuel get there?

by George Harvey

During an NRC conference call on July 28, both its representatives and members of the nuclear industry claimed there was no damage to spent fuel at Fukushima Daiichi. When NEC consultant Ray Shadis asked about nuclear fuel fragments found over a mile from the plant, they responded that the presence of radioactive iodine in it indicated the fragments were not from spent fuel. When Ray then asked whether they were saying that the fuel was ejected from a reactor, they answered that the study did not get into that level of detail and that answer to the question might take years or a decade to determine. When Ray pursued the point, they immediately cut him off.

Unless the fuel was somehow carried for a mile, it must have been thrown for that distance. For that to happen, it had to be accelerated to nearly the speed of sound or faster at the plant. Since we know there were explosions, this would seem the only likely possibility, but it means that something about the nature of the explosions has not been made public.

It is possible that the NRC is wrong in its assessment of the damage to the spent fuel in the pools. Distortion and overheating of the fuel there could have led to a criticality event, in which radioactive iodine was created. If the fuel underwent this sort of reaction, then the spent fuel pools are far more dangerous than anyone had imagined, as they can produce critical mass, with a resulting explosion sufficiently violent to throw fuel a mile. This is the possibility the NRC was saying did not happen.

Unfortunately, the alternative would appear to be that a reactor vessel exploded with sufficient force to eject reacting fuel. If this is the case, then it would mean that a GE Boiling Water Reactor blew up, and we have not been informed about it.

Try as I might, I cannot imagine a third alternative.

From the President-elect

It is only by the grace of God, the diligent efforts of the New England Coalition and our sister groups, the continuing generous support of our members and friends, and the good luck and honest efforts of our local nuclear reactor work force, that we are able to call a meeting at the same location where this organization held its first annual meeting, exactly forty years ago. We intend to meet here again, forty years hence, because we do not wish to evacuate our homes, our schools, our farms or our beloved churches because of deadly contamination from our corporate neighbor, Entergy Nuclear's Vermont Yankee. The possibility for unplanned, forced and permanent relocation is altogether too real.

Our world, today, labors under a false pretense: that current nuclear power technology can somehow be "safe". We who support the New England Coalition know that this is a monstrous lie. We understand the premise that nuclear power will save us from toxic emissions from coal is a false choice! We know we can have our electricity, without coal, nuclear or burning oil. In a short time, less than twenty years if political will is summoned, our society can even replace power derived from burning natural gas. We can, and we will.

But we cannot proceed toward a sustainable, livable planet future without the swift and total renunciation of the false premise that nuclear power is either safe or necessary. Nuclear power, as it is now achieved, is not and never will be safe or necessary. This is a cold war era lie that the private insurance industry never bought into, thus the necessity to pass the odious Price-Andersen Act of 1957. Nuclear power amounts to a gigantic distraction. It makes a few people fabulously wealthy, provides above average wages to a work force that is small, in terms of the size of the investment, and puts everyone in society at terrible, unnecessary risk. Commercial nuclear power should never have been developed. This is the ultimate lesson for society, stated clearly decades ago by the visionary scientist, John Gofman, in *Poisoned Power*, "Not all technologies which come along and attain financial backing should be permitted to proceed, especially if they are deemed too risky for the private insurance industry to insure, at any price."

This, my friends, is our mission, our goal and our ultimate objective: By every civil means within our power, we will shut down Vermont Yankee, and fight to make it less dangerous in the meantime. After Vermont Yankee closes, we will pursue prompt and proper decommissioning and oppose commercial nuclear power wherever else it continues. This is our solemn promise to you now, to those who went before, and to our unborn generations yet to come. It will become apparent to all who are now blind to this reality: nuclear power is an unwarranted gamble of everyone's lives and property against the short-term profits of a small number of people. And it needs to stop, now.

Sincerely yours,
Edward C. (Ned) Childs,

About Ned Childs

After graduating from Harvard College in 1979, (BA in German Studies) and then from Yale University's School of Forestry and Environmental Studies (Master of Forestry, 1983) and School of Management (MPPM 1985) Mr. Childs co-founded a forestry management and real estate sales business in Shelburne, Massachusetts. One of the forestland projects taken on during this period involved a large parcel of land along Interstate 91 in Rockingham, Vermont, which Childs continues to manage and develop as a sustainable development-model project, to this day. Ned moved into a nineteenth century farm property, in Dummerston, Vermont, in 1988. Ned comes from a long line of land use "expert-enthusiasts," as he grew up on his father's land, the Great Mountain Forest, in Norfolk, Connecticut.

Shortly after moving to Dummerston, Mr. Childs realized that the community to which he had chosen to relocate had a nuclear reactor. As Vermont Yankee was already in place, Childs resolved to stay informed on the issues but not become actively involved until such time as the nuclear reactor sought to extend its license by twenty years. In 1999, Vermont Yankee's local utility owners decided to sell the Vernon reactor, even though this violated a stipulation made at the time of the original license hearings, that Vermont Yankee would always be locally owned and controlled. Following his previous decision to oppose relicensing, and with the blessings of his wife, Anita, Ned has become an active participant in letter writing and providing testimony at hearings since the original Sale Docket up to the present. Ned hopes that his extensive local and regional contacts will help him marshal new support for NEC's vital effort to resist the relicensing of Vermont Yankee and the continuation of this existential threat to the community and bio-region he has come to know and love.

The NEC Newsletter

After a long hiatus, NEC is once more issuing a regular newsletter. Our intention is to publish it monthly, and distribute it to our community electronically, with hard copy going to those who have made donations sufficient to support it.

The content will be news items of the month, relative to nuclear power issues, alternate energy, conservation, the environment, an events calendar, and news of the NEC itself.

The newsletter is in a formative stage at present. Submissions are welcome. We are considering accepting advertising.

History of the NEC

The history of the New England Coalition's first forty years has been compiled and will be available in hardcopy at our annual meeting. An electronic version will be available for download at our website.

Breaking News on NEC Legal Actions

By Ray Shadis

- **Is VY Federal license renewal a done deal? Not quite.** After five years of “holding-the-pass” at NRC, the Coalition, joined by the Vermont Agency for Natural Resources and represented *pro bono* by Conservation Law Foundation, has filed an appeal of the NRC’s decision to renew VY’s operating license in the DC Circuit Court of Appeals. The Court has combined the VT and NEC cases into one, likely to be heard before year’s end. The issue: NRC’s failure to make sure that VY obtained water pollution permits from the state.
- **NEC, VPIRG, VNRC, and CLF are intervenors in the suspended “license renewal” application case before the Vermont Public Service Board.** NEC’s attorney, Jared Margolis, and advisor, Ray Shadis, have been charged with strategizing and laying the groundwork for a full-blown legal fight before the PSB, should the Vermont District Federal Court overrule the Legislature and throw the matter back to the PSB.
- **At the federal level, a June 2011 NEC enforcement petition regarding VY underestimated fuel temperature effects under accident conditions** (volunteered on behalf of NEC by Mark Leyse of NYC) has been morphed by NRC into a petition for rulemaking encompassing all reactors. NRC has set an extended schedule for review of this all-important topic because, as

they say: “The technical complexity and safety implications require as much technical community and public input as we can get.” At issue: During an accident, will nuclear fuel cladding begin a runaway oxidation reaction (fire) before emergency reactor core cooling systems can take effect?

- **In the meanwhile, NEC pursues the matter of VY groundwater pollution in an investigation docket now open before the PSB.** Entergy’s slow and wholly inadequate reaction to spills of process water, signaled by the appearance of tritium in the open environment is the issue. NEC contends that these managerial oversights demand a financial penalty.

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