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The Half-Life of the Lesser Evil

Dr. Chu's Nuclear Prescription

By KARL GROSSMAN

The reaction from safe-energy advocates is mixed to the proposed appointment of Steven Chu as U.S. energy secretary by President-Elect Barak Obama. Mixed is a charitable response to the prospects of Chu being in charge of the U.S. Department of Energy.

Although he has a keen interest in energy efficiency and solar power and other clean forms of renewable energy, Chu is a staunch advocate of nuclear power.

“Nuclear has to be a necessary part of the portfolio,” declared Chu, the director of the Lawrence Berkeley National Laboratory, at an economic gathering last March in Palo Alto, California organized by Stanford University.” http://news.cnet.com/8301-10787_3-9888608-60.html

“The fear of radiation shouldn’t even enter into this,” he said in comparing nuclear and coal. “Coal is very, very bad.” Chu, a physicist, repeated a claim of nuclear proponents that coal plants produce more radioactivity than nuclear plants—a contention based on coal containing trace amounts of uranium and thorium. But the claim—and Chu—ignore the huge amount of radioactive products created by fission or atom-splitting in nuclear plants, the gaseous ones routinely released, and the many tons that are left, classified as nuclear waste and needing to be isolated, some virtually forever. The claim—and Chu—also ignore the potential of a catastrophic nuclear plant accident discharging much or all of these lethal radioactive fission products into the environment as occurred in the Chernobyl nuclear plant accident, a potential for which there is no comparison with coal.

Moreover, why compare life-threatening nuclear power to dirty coal? Why not compare it to the safe, clean renewable energy technologies that Chu insists he also backs.

To the question put to him in a 2005 interview done by the public relations office at Lawrence Berkeley National Laboratory—“Should fission-based nuclear power plants be made a bigger part of the energy-producing portfolio?”—[Chu stated](#):

“Absolutely. Right now about 20 percent of our power comes from nuclear; there have been no new nuclear plants built since the early 70s. The real rational fears against nuclear power are about the long-term waste problems and [nuclear] proliferation. The technology of separating [used fuel from still-viable fuel] and putting the good stuff back in the reactor can also be used to make bomb material. And then there’s the waste problem: with future nuclear power plants, we’ve got to recycle the waste. Why? Because if you take all the waste we have now from our civilian and military nuclear operations, we’d fill up Yucca Mountain [under consideration as a long-term storage facility for spent nuclear fuel]. So we need three or four Yucca Mountains. Well, we don’t have three or four Yucca Mountains.”

Here Chu shows an understanding of the proliferation problem of nuclear power—that all nuclear plants produce the plutonium from which atomic weapons are made—and reprocessing or separating out parts of nuclear waste allows plutonium to become readily available. But he then repeats the claim of nuclear proponents that “we’ve got to recycle the waste.”

This theory has resulted in radioactive material from nuclear technology being spread—in the name of “recycling” and “reuse”—for such purposes as using radioactive Cesium-137 from reactor waste for food irradiation and depleted uranium for bullets and shells, hardening them but making them radioactive at the

same time. In fact, “recycling” and “reuse” of nuclear garbage ends up spreading poisons that cause cancer, genetic damage and other causes of premature death.

Asked in that Lawrence Berkeley interview to respond to the statement that “all of a sudden the risk-benefit equation looks pretty good for nuclear,” Chu said: “Right now, compared to conventional coal, it looks good—what are the lesser of two evils?”

But is this the choice? What about the safe, clean renewable energy technologies?

Although Chu has directed the 4,000-employee Lawrence Berkeley National Laboratory into research into solar and biomass and other work in renewable energy technologies since becoming its director in 2004, it’s not as broad in its approach as the Department of Energy’s lone laboratory dedicated to all forms of clean, sustainable energy, the National Renewable Energy Laboratory in Golden, Colorado (with a staff of 1,000).

“He’s trapped in that nuclear mindset,” says Jim Riccio, nuclear policy analyst for Greenpeace USA., of Chu. “He thinks we’re acting on fear, not reason. Why environmentalists oppose nuclear power is reason, not fear. And it is reason, not fear, why we say nuclear power can’t address global warming. In the time frame necessary, it would be prohibitively expensive and drive out the real solutions.” Riccio notes Chu has “backed alternatives” but he is concerned about what room there’ll be for them “in the portfolio” of the Department of Energy because of Chu’s nuclear power attachment.

Similarly, Ralph J. Herbert, professor of environmental studies emeritus at Long Island University and author of books on energy efficiency, speaks of “what’s called ‘opportunity cost’ in economics—that if you spend on one thing, you can’t spend on another. If you put money into solar, wind and other green energy technologies, you can’t at the same time put it into nuclear.” Herbert says there “has to be a vision here, not an accommodation,” and “a full commitment to green energy.”

Paul Gunter, director of the Reactor Oversight Project of Beyond Nuclear, asks whether Chu “can afford to squander his commitment to renewables by pouring all these resources down the nuclear rat hole. You can’t have both worlds—particularly in the economic depression we’re sliding into. We’re at a crossroads and we have to make definitive choices.” Gunter says it’s “time to leave 20th century mistakes” such as nuclear power “behind and commit to renewables.”

“He’s really big on efficiency and renewables,” says Michael Mariotte, executive director of the Nuclear Information and Resource Service, of Chu. But he is “looking at nuclear as well. He and President-elect Obama are not anti-nuclear, and not perhaps as versed on it as they should be.” Mariotte has a major concern that “they will accede to demands to fund nuclear power made by Congress”—awash in contributions from the nuclear power industry and with many members loyal to the national nuclear laboratories in their districts.

Nuclear power is largely an outgrowth of some of these early laboratories set up in the Manhattan Project to build atomic bombs during World War II, and their wartime corporate nuclear contractors, notably Westinghouse and General Electric. The Lawrence Berkeley Laboratory, then called the Radiation Laboratory, participated in the Manhattan Project. It describes itself as the first national laboratory.

With war’s end, the Manhattan Project became the U.S. Atomic Energy Commission in 1946. It and its component national laboratories built more and bigger atomic weapons—soon the hydrogen bomb—and pushed to further perpetuate the vested interest in atomic technology created during the war by promoting nuclear energy for civilian uses. Among these were nuclear power plants for electric generation, using radioactivity for food irradiation, reactors to power airplanes and spacecraft, using atomic devices for excavation including the creation of harbors by blasting vast holes on land, and so forth.

This establishment is still at it pushing nuclear technology. Indeed, the directors of the national laboratories—including Chu—joined together in August in issuing a statement titled “A Sustainable Energy Future: The Essential Role of Nuclear Energy.”

It said the “directors of the Department of Energy national laboratories strongly believe that nuclear energy must play a significant and growing role in our nation’s—and the world’s—energy portfolio.” The statement signed by Chu also called for the “maximum use of the current ‘fleet’ of operating light-water reactors,” including giving the existing nuclear plants in the U.S. “extensions” on their 40-year operating licenses and permission to “uprate” or increase their power output. The statement further called for building new nuclear plants.

Is there any chance that Chu might be educated about nuclear power? Or will he, going from the directorship of Lawrence Berkeley National Laboratory to the innards of the Department of Energy, become an even stauncher nuclear power advocate. Part of the mission of the department he would head is to promote nuclear power, a mission it took over from the U.S. Atomic Energy Commission after it was dismantled and the Department of Energy formed.

There are precedents for change. Admiral Hyman Rickover, the “father” of the U.S. nuclear navy and manager of construction of the first commercial nuclear plant in the U.S., in Shippingport, Pennsylvania, in the end concluded that the world must “outlaw nuclear reactors.”

Rickover, in a farewell address, told a committee of Congress in 1982: “I’ll be philosophical. Until about two billion years ago, it was impossible to have any life on earth: that is, there was so much radiation on earth you couldn’t have any life—fish or anything. Gradually, about two billion years ago, the amount of radiation on this planet and probably in the entire system reduced and made it possible for some for some form of life to begin.”

“Now,” Rickover went on, “when we go back to using nuclear power, we are creating something which nature tried to destroy to make life possible...Every time you produce radiation, you produce something that has life, in some cases for billions of years, and I think there the human race is going to wreck itself, and it’s far more important that we get control of this horrible force and try to eliminate it.”

Unfortunately, it took Rickover decades to figure it out.

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