

IS IT HOT ENOUGH FOR YOU?

Global warming has apparently started, and will go even faster if this new group, Citizens Against Nuclear Waste in Utah, can block interim storage of spent nuclear fuel (SNF) in Utah. Why is that? Because people will not willingly go without power, and without more nuclear power they will certainly demand more fossil-fueled power, which will further accelerate global warming.

Making a big problem out of storage of spent nuclear fuel is a roadblock by which environmentalists seek to shut down nuclear power in the U.S., just as they seek to stop other forms of affordable electricity (see editorial).

The truth about moving and storing SNF is that it can be done safely, much more safely than the energy-equivalent amount of coal. According to the 1996 Encyclopedia Americana, mining and moving enough coal to fuel power plants involves "several hundred deaths per year," while if we had a thriving nuclear industry, the transportation of SNF would cause less than one death *per century*. The same article "Power from Fission" estimates other risks, with the conclusion that coal causes far more pollution and sickness, including cancer deaths.

All of our energy comes from nuclear burning. Nuclear fusion keeps the sun shining, leading to biomass energy, fossil-fuel energy, solar-cell energy, wind power, hydroelectric power, and the energy of our food. From radioactive elements in the earth we get geothermal and nuclear power. Without nuclear energy, there would never have been any life on earth.

When we fly in commercial airplanes, we get extra cosmic ray radiation, as much per hour as is allowed for nuclear power plant workers. On the average, pilots and flight attendants get 50 percent more radiation per year than nuclear power plant workers, but still not enough to seriously threaten their health.

Standing near a transportation cask loaded with SNF is four times as hazardous as flying the friendly skies, if a person is only one meter (3.3 feet) away from the cask. The safe thing is: don't stand there very long. At five meters the risk is the same as flying, and at 10 meters one could safely spend 24 hours per day. The non-moving storage casks are safer still because of their extra concrete shielding.

The shipping casks are built and tested to not break in 30 mph train wrecks against an unyielding concrete structure, followed by a 30 minute gasoline fire and 8 hours under water. If a train did wreck at the allowed speed of 30 mph, it would be no difficult task to keep the public back at a safe distance until the shipment could resume.

It is ludicrous to assert, as some environmentalists do, that transportation of SNF across our state would jeopardize the health and safety of every person in the state. It would be equally in error to say that the storage of SNF would hurt anyone not working at the site. At the site, the workers would be monitored with radiation badges to assure their individual safety, and exposure levels would ordinarily be far lower than the maximum safely allowed.

ER105 03

With our hot summers we would already be having more brown-outs and power failures if a certain energy company had not been buying up inefficient and neglected nuclear power plants and getting them working again at good efficiency. Nuclear power provides over 20 percent of our electricity, but no new power plants are being built because of the political uncertainties, not even coal plants. Even though we have no nuclear plants in Utah, our electric power, as shared on the power grid, is about five percent nuclear.

Why in Utah? Utah currently has the only two applications before the Nuclear Regulatory Commission for interim storage of SNF. (Utah thus becomes the focus of the environmentalists' misguided efforts.) We have some ideal locations, where there are no other effective uses of the land, but where jobs and the local economy can receive a great boost from helping this industry, which is vital to our country. Storage of SNF can be done as safely and profitably as storage of low-level wastes at Envirocare (which has given campaign contributions to our Governor and many legislators, and seems to enjoy their favor).

Global warming is almost universally acknowledged by scientists, with its hotter summers, melting of icecaps in Greenland and Antarctica, rising sea level, weather disruptions, and future extinctions of species. Nuclear power offers the only affordable, plentiful supply of energy that can reduce global warming. Until we develop other energy sources, it is extreme folly to fight against the cleanest, most environmentally friendly, and safest energy supply we have.

Now I'd like to reply to two issues raised yesterday by Dr. Marvin Resnikov in an anti-nuke meeting. He presented a biased, one-sided view. He focused on worst possible cases, while I prefer to focus on what steps must be taken to assure the greatest possible safety.

For example, he talked about maximum flame temperatures for such chemical fires as acetone, diesel, propane, and gasoline. Afterwards he admitted that such fires could be almost entirely avoided by: (1) PFS accepting long-haul shipments only by railroad and (2) using either a dedicated train or empty buffer cars on both sides of the cask car. The buffer cars could even contain fire fighting equipment and a trained operator, to put out any fires if the train wrecks, further improving safety.

Exposure for people along the train route can be calculated. A chest x-ray (like four hours of flying) gives 10 milirems of exposure. If a person lives next to a RR track and leans against the fence every time an SNF canister goes by, the person is at least two meters away for 0.3 seconds of exposure (for a 30 mph train). To get the equivalent of one chest x-ray, he would have to stand there while 19,000 canisters go by, more than exist in the whole country. So no bystander in the whole country could get as much exposure as one chest x-ray.

It is hard to respect when such tiny exposures are exaggerated beyond all reason and called science. Thank you.

Steve Barrowes, Ph.D., Member
Scientists for Secure Waste Storage
Phone 801-467-0354, dated 7/27/2000