THREE MILE ISLAND

ALERT

December 1992

315 Peffer Street, Harrisburg, PA 17102-1834 Telephone: 717/233-3072

SPEC. COLCTN.

Public Health Fund Provides Monitoring Network for Area

After three years of careful planning the Three Mile Island Citizens Monitoring Network, Inc. (TMI-CMN) has come up with a state-of-the-art, real-time, on-line, 24-hour-a-day, radiation monitoring network. This goal has been achieved with funds made available by the TMI Public Health Fund, a fund established in partial settlement of a citizen lawsuit against TMI's operators after the accident.

This totally independent network is made up of citizens throughout the TMI area and has as its sole purpose the monitoring, recording, and transmission of data on releases of radiation that occur from the TMI nuclear power plant. Once on-line, the network will have the capacity to monitor and record releases of Gamma, Alpha and Beta radiation.

This $1.1 million network consists of 49 remote monitoring stations (22 of which will be equipped with meteorological sensors), a central monitoring station with customized data collection and display capabilities; stand-alone weather monitoring station; and 25 Rad Alert monitors. Funding provided by the Health Fund will cover the training of all participating citizens on all the monitoring equipment being utilized.

The network will also feature remote stations located in public places showing real-time radiation levels at each location, in addition to a telephone line citizens can access for readings from each of several stations located around TMI. The funds also allow for network maintenance on a 24-hour basis, as well as a director to be available around the clock. The central station will be located in the City of Harrisburg's Emergency Management Center and will be operating and monitored 24 hours per day. A built-in alarm system at this location will trigger an alarm should radiation levels exceed a predetermined level.

Installation of the network will begin in early January and is expected to be completed in by June, 1994 at the latest, according the Debbie Baker, chairperson of TMIA's Planning Council. Baker played a key role in lobbying for and planning the network. Anyone with questions about the network may contact Debbie at 717/761-8955.

Settlement with GPU Establishes Additional Monitoring by Citizens

As part of a settlement agreement between GPUNuclear and Eric Epstein, a cooperative, citizens radiation monitoring group has been formed. The organization is known as the EFMR Monitoring Group at Three Mile Island. Included in the group's monitoring network are 60 Rad Alert monitors, five low-air (particulate) samplers, access to GPU's Reuter-Stokes monitoring system, and a paid

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subscription to the National Weather Service's Computer line. The group is trying to coordinate monitoring with the Citizens Monitoring Network.

Approximately 50 Radiation Alert have been sited. The EFMR Group is seeking at least five more sites on the West Shore. Interested parties should contact Eric Epstein at 541-1101. Training for those who have agreed to operate Radiation Alert is set for the mornings of January 16, 18, or 23. Please call Epstein to reserve a place.

50th Anniversary of Nuclear Age Noted

Yes, those familiar towers on the front page of the Wednesday, December 2 *USA Today* were Three Mile Island's cooling towers. The national newspaper did a cover story on the world's first self-sustaining nuclear reaction which took place in an underground lab at the University of Chicago on December 2, 1942.

Besides explaining the basics of how a nuclear reaction takes place, the paper recapped not only the benefits of the nuclear age (X-rays, nuclear medicine, carbon dating, smoke detectors, Carbon-14 dating, space exploration, other research, etc.), but also talks about the downside (accidents releasing deadly radioactivity; pollution o of the air, land, and water; cancer, nuclear weapons, etc.).

The paper also featured a large story headed: *Questions after TMI: 'What if?'* This featured a 4.5 x 6 inch photo of TMIA's Eric Epstein, as well as a smaller photo of Middletown Mayor Robert Reid and Middletown Borough Council President Barbara Layne. Interestingly, the story originated from "THREE MILE ISLAND, Pa."

Pennsylvania "Average" in Energy Use

Pennsylvania is average among the states in amount of energy it uses, according to a study of national energy use conducted by Public Citizen. Unfortunately, Pennsylvania ranks near the top of the list for reliance on what Public Citizen calls D^3 consumption: the use of Dirty, Dangerous, Depletable energy such as coal, nuclear and petroleum. The Commonwealth, unfortunately, ranks way down the list, 39th, in the use of renewable energy sources, deriving, for example, less than one percent of our energy from hydropower.

Congress Enacts New Protections for Nuclear Whistleblowers

In a major reversal of several Reagan/Bush-era judicial decisions, Congress has passed new whistleblower legislation greatly enhancing the protections offered private sector employees who blow the whistle on nuclear hazards. These new protections are part of the Comprehensive National Energy Act, enacted into law during the waning days of the last Congress.

For the first time, thousands of workers at U.S. Dept. of Energy nuclear weapons facilities are protected from retaliation or termination for blowing the whistle on nuclear safety problems. The new law also closes a number of loopholes in the old whistleblower law, which only protected employees at NRC-regulated commercial nuclear facilities. Under the Act, whistleblowers will have 180 days from the time of any alleged harassment, termination, or other form of discrimination in which to file a complaint with the U.S. Department of Labor, Wage and Hour Division.

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Intervention Fund Contribution: ❑ $10 ❑ $20 ❑ $50 ❑ $100 ❑ MORE (Checks in the amount of $50 or more can be made payable to the TMI Legal Fund for tax deduction purposes.

Membership: ____ $15 Regular Members ____ $50 Sustaining Membership
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____ $5 Low Income/Student ____ $200 Club Member
____ $5 Non-member newsletter subscription

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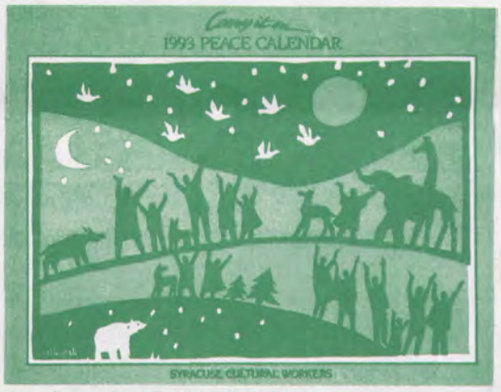
"This is a significant improvement in whistleblower protection law," said Stephen Kohn, an attorney with the National Whistleblower Center. "Congress has fixed several major flaws in the federal nuclear whistleblower act, most notably, by expanding the scope of protection to cover employees at DOE nuclear facilities and by increasing the statute of limitations," he added. For more information, contact the National Whistleblower Center, 517 Florida Avenue, N.W., Washington, DC 20001-1850; telephone, 202/667-7515.

1993 PEACE CALENDAR

Peace Calendar - Excellent Holiday Gift

The tradition continues. The 22nd edition of the Peace Calendar contains the marvelous blend of art and politics that have made the Peace Calendar one of the best selling progressive publications in the USA. The cover art, Earth Song, a bold, brightly colored progressive silk screen by Silk Oak, reminds us of our connections to and reverence for all beings. Other art celebrates African American history, women's power and choices, urban gardening, endangered species, gay pride, and the continuing struggle against militarism. People's history dates provide little-known information on US and world history. Only $10.00 each from the TMIA office, 315 Peffer Street, Harrisburg. Call 233-7897.



Cover/December - *Earth Song* by Silk Oak

Criticality A Possibility at TMI says Kaku

Dr. Michio Kaku, a professor of nuclear physics at the City University of New York, says technical documents submitted to the Nuclear Regulatory Commission by GPU shows that a criticality accident is still a possibility at TMI.

According to Dr. Kaku, "The utility admits that not only is criticality possible, but it calculates the amount of uranium necessary to reach critical mass: about 200 pounds (a fraction of the total amount of uranium left in the core). In other words, if an accident were to somehow rearrange the debris inside the core and bring 200 pounds of loose uranium together within the damaged reactor vessel, the core would go critical, and the accident at TMI would start all over again."

Kaku's remarks are in a nine-page paper he authored, "Danger of Criticality at TMI." In it he notes that there are still several tons of uranium debris in the reactor vessel and that the utility's 200 pound estimate of critical mass may be an optimistic one.

Energy Notes

•A proposed nuclear waste site at Martinsville, Illinois was canceled, simply because of the unacceptable hydrogeology. Local activist say the moral of the story is that it is possible to get an honest, clear-headed decision from an adjudicatory process.

•The Department of Transportation has pressured the Environmental Protection Agency to stop publishing a report which shows that automobile fuel efficiency standards can be "greatly improved without changing the size mix of vehicles." The EPA says that the fuel efficiency of 1992 models could be 25 percent higher with no new technology and without reducing vehicle size, if every car were as efficient as the best model in its weight class. Such improvements would reduce carbon dioxide emissions by 125 million tons.

•Instruments used to gauge the cooling water depth at 37 nuclear reactors are susceptible to error and could fail entirely, industry officials told the NRC. In the event of an emergency, water levels are raised to 10 to 15 feet above the reactor core. An instrument prone to failure or misreading could lead operators to believe water levels are higher than they actually are. An exposed core could lead to a meltdown.

•The Sacramento Municipal Utility District plans to replace 59,000 inefficient electric water heaters in its service area with solar powered models. The utility will provide rebates of $400 to $1450 and loans at a three percent interest rate for eight years, to facilitate the conversion.

•Dr. John Gofman of the Committee for Nuclear Responsibility reports that within five years of the Chernobyl accident, the rate of cancer has risen far above normal. According to researchers, children are particularly susceptible to thyroid cancer from radioactive iodine because their thyroid glands are small and concentrate the iodine they ingest. Gofman also finds that those exposed to radiation in-utero are showing a 15 point drop on IQ scores.

News Notes

•The 33rd annual Christmas Peace Pilgrimage from Nazareth to Bethlehem will be held Saturday, December 12. Doug Hostetter, of the Fellowship of Reconciliation, will be the featured speaker at the evening program. For more information call 215/691-8730.

•**Pa. Is Not a Wasteland** bumper stickers are available at the TMIA office for only $1.00. Send your check to TMIA and your bumper stickers will be mailed to you.

•More tritium is released from nuclear installations than any other radioactive contaminant. The nuclear industry insists that such releases, which are largely unregulated, pose no risks to the public; but the models used to assess its radio toxicity are suspect. An article, *Tritium - The Overlooked Nuclear Hazard* , appeared in the September/October 1992 issue of The Ecologist. Copies of the article, which say evidence links tritium emissions with birth defects and cancers, are available on request from TMIA.

Hydrogen Fuel Poised at Starting Line

by Peter Hoffman, Editor, *The Hydrogen Letter*

VPT – This fall, Congress passed the 1993 Energy and Water Appropriations bill. The bill contains a little-noticed clause with a potentially huge environmental impact: the allocation of $4.5 million for hydrogen energy research and development in the coming fiscal year.

Although tiny by Capitol Hill standards, this money almost doubles the annual amount Congress has provided for hydrogen R&D since the late 1980s. And it indicates that hydrogen energy, regarded by some as science fiction, is finally finding respect as a viable, and perhaps most promising option for clean energy technology.

Hydrogen is not an energy source. It's a chemical energy carrier: think of it as natural gas minus the polluting carbon element. Hydrogen atoms can be split off from any hydrocarbon fuel (coal, oil, alcohol, biomass, natural gas). Zapped with electric current (electrolysis), water also yields atoms of hydrogen and oxygen. Recombining or "burning" with the air's oxygen in an internal combustion engine or fuel cell, hydrogen produces energy plus water or steam (plus traces of easily suppressed NOx). Hydrogen is an elegantly non-polluting, renewable energy source, even more so if the electrolysis is powered by solar or renewable electricity.

Clean burning and abundant, hydrogen would seem the perfect fuel for the nation's vehicles except for one problem: on-board storage. Stored in metal hydrides – alloys that soak up hydrogen and release it when heated – weight and range become problems. Using this method, German carmaker Mercedes-Benz, which in the 1980s ran 10 hydrogen/hydride cars and vans several hundred thousands of kilometers in Berlin without a hitch, got around 75 miles on a tank of hydrogen in city driving.

But mated with a fuel cell, which has about three times the energy efficiency of an internal combustion engine, hydrogen-fueled vehicles can achieve ranges matching those of current gasoline-burners – or more. (Fuel cells act much like batteries, recombining chemicals, such as hydrogen and oxygen, to produce electricity silently and cleanly. Fuel cells could power a future electric car's motor.)

The costs of hydrogen-powered vehicles could be surprisingly low. A recent presentation before the U.S. Department of Energy's new Hydrogen Technical Advisory Panel estimated that electrolytic hydrogen, produced from water using 5 cents/kWh electricity, could cost the equivalent of $1.86/gallon of gasoline. But given the fuel cell's much higher efficiency, the impact on the driver's wallet would be closer to 60 cents/gallon.

Fuel cells with sufficient power and ruggedness that will also fit under the hood aren't commercially available yet. But laboratories in the U.S., Canada, Japan and Germany are racing to come up with such a cell.

To spur development, California's South Coast Air Quality Management District, the Los Angeles basin's air pollution control agency, set up a Fuel Cell for Transportation coalition this spring. Another District project is the Locomotive Propulsion Systems Task force, created to examine prospects for hydrogen-powered fuel cell locomotives to replace polluting diesels in the Los Angeles basin.

Motivated by the state's tough anti-pollution laws, foreign carmakers such as Mazda and, reportedly, Mercedes-Benz are already eyeing Southern California as the marketplace to debut their hydrogen cars.

For hydrogen-powered vehicles to make any impact on the nation's foreign oil dependence or air quality, Americans must become more serious about public-private hydrogen funding and research. Together, German industry and government spent roughly $55 million annually in recent years for hydrogen R&D. Japan's Ministry of International Trade and Industry (MITI) may spend $2.4 billion on hydrogen technology alone as part of a $12.4 billion package for innovative energy technologies over the next three decades. Demonstration projects for hydrogen powered bus fleets, trains, cars, boats and even commercial jetliners have been launched in Italy, Canada, Iceland, Ireland, Belgium, Norway and Russia.

The emerging global competitive message? Start your engines!... on hydrogen. The new Administration and Congress seem to be listening.

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