

Three Mile Island Alert

The Newsletter of Three Mile Island Alert

June 1997

TMI Not Prepared For An Emergency

from a May 1, 1997, Harrisburg Patriot-News article and a March 17, 1997, Inside N.R.C. article

GPU Nuclear's (GPUN) Three Mile Island is the only U.S. nuclear plant ever to declare a general emergency, so one might think the emergency response staff there would be particularly attuned to the conditions that lead to one.

Apparently, they aren't. During a March 5 emergency drill at the plant, the GPUN response team failed to recognize that conditions at the plant had deteriorated to the point where a general emergency should have been declared, NRC said.

In fact, the NRC team reviewing the emergency exercise found enough flaws to warrant issuing GPUN a confirmatory action letter (CAL) that directs the company to deal with the weaknesses found during the exercise. It is the second CAL GPUN has gotten in two weeks. In addition to failing to recognize that a general emergency should have been declared, the GPUN team at first incorrectly evaluated steam generator tube leakage, NRC said.

An NRC team which evaluated the TMI exercise determined there were four areas of weakness: 1) during the drill, the emergency response organization did not recognize conditions at the facility had

degraded to the point that it was necessary to declare a "general emergency"; 2) initially, the response organization incorrectly evaluated steam generator tube leakage; 3) the technical analysis of the simulated accident conditions provided to response organization managers by the technical support staff was inadequate; and 4) the response organization staff did not assess the need for protective action recommendations to off-site officials when dose projections appeared to indicate protective action guidelines would be exceeded beyond the 10-mile emergency planning zone.

Analysis of the simulated accident conditions -- done by the technical support staff and given to response organization managers -- was also inadequate, the NRC review team found. Finally, the agency concluded that although dose projections appeared to indicate that protective action guidelines would be exceeded beyond the 10-mile emergency planning zone, the GPUN team didn't assess the need for getting protective action recommendations to off-site officials.

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TMIA Celebrates Twenty Years

On March 26 TMIA celebrated its 20th anniversary with an evening of dinner, music, and speeches. About 50 members, former members, and friends enjoyed an evening of delicious food, music, and short, informative speeches. Along with thanking those who attended the celebration, TMIA wishes to thank all those members who took the opportunity to renew their memberships and those who sent a special contribution.

In addition to the front page coverage of the celebration in the Patriot-News, Harrisburg Mayor Stephen Reed declared March Three Mile Island Alert Month. In an official proclamation, the mayor said that "the city of Harrisburg extends its fervent regard and appreciation to Three Mile Island Alert and its legions of supporters for their policies and the positive contributions they have made to our community, state, and nation." The Pennsylvania House of Representatives presented TMIA with a citation "celebrating the momentous occasion of its twentieth anniversary of service to the community."

TMIA wishes to thank all of its members, past members, friends, and political allies.

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Three Mile Island Alert

Three Mile Island Alert (TMIA) is a non-profit citizens' organization dedicated to the promotion of safe-energy alternatives to nuclear power, especially the Three Mile Island nuclear plant.

Formed in 1977 after the construction and licensing of TMI Unit-1 and the construction of the infamous Unit-2, TMIA is the largest and oldest safe-energy group in central Pennsylvania.

TMIA members interested in specific aspects of nuclear power are encouraged to join one of TMIA's committees. These committees include:

- Radiation Monitoring
- Low-level Radioactive Waste
- Health Effects of TMI
- Nuclear Plant Security

TMIA Planning Council

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This newsletter is published approximately 6 times per year.

Publisher - Kay Pickering
 Editor - David Raeker-Jordan

Three Mile Island Alert
315 Peffer Street
Harrisburg, PA 17102
Phone: (717) 233-7897
FAX: (717) 233-3261

TMI May Have Harmed Neighbors: UNC Researcher's Results Finally In Print

*from a February 24, 1997, The News and Observer (Raleigh, NC) article
 By Tinker Ready, Staff Writer*

Ever since the 1979 nuclear plant accident at Three Mile Island, the conventional wisdom has been that it was regrettable and costly - but that no one was hurt. For two years, University of North Carolina researcher Steven Wing has been trying to make the case that the conventional wisdom is wrong. No one would listen. Three scientific journals refused to print his paper; a judge threw the findings out of court, and some of his fellow epidemiologists dismissed him as an anti-nuclear activist who let his personal views cloud his objectivity.

Today, Wing's contrarian assessment of the nation's worst nuclear plant accident will finally see the light of day. His paper appears in the current issue of Environmental Health Perspectives, the journal of the National Institute of Environmental Health Sciences in Research Triangle Park. Wing has concluded that certain forms of cancer have increased substantially among people who were downwind of the plant in central Pennsylvania when the accident caused the release of radiation into the atmosphere. "I think our findings show that there ought to be a more serious investigation of what happened after the Three Mile Island accident," he said.

At General Public Utilities, the company that operates Three Mile

Island, a spokesman said further review is not necessary, because Wing's peers have dismissed his work as biased. Reviewers at Environmental Health Perspectives say, however, that Wing's work is scientifically sound.

Disagreements are not unusual in science. Legitimate studies have produced conflicting findings on the health risks of breast implants, high-voltage power lines, birth control pills and coffee. But Wing's unsettling report - which could reverse years of thinking about the accident - seems to have touched a nerve.

The 'incident':

On March 28, 1979, Pennsylvania officials informed residents that there had been an "incident" at Three Mile Island, a nuclear power plant next to the Susquehanna River south of Harrisburg, but that there was "no danger to public health and safety." A second announcement the same day said the situation was "more complex" than previously believed. Since that day, the power plant's neighbors have been told the amount of radiation released by the plant would not harm them. Many, such as Eric Epstein - who now runs a radiation watchdog organization called Three Mile Island Alert -

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don't buy it. They've seen too many cancers and odd illnesses. In Epstein's view, the plant operators "got away with murder." He tells of neighbors who vomited and lost hair after the accident - symptoms of radiation poisoning. Trees and farm animals died or produced mutated offspring, he said. Then came the miscarriages, he said, and finally the cancers. "What you see are alarming cancer clumps - leukemia, melanoma, things that you wouldn't expect in younger people."

As harrowing as they sound, stories such as Epstein's bear no weight in the world of science. They are called anecdotal evidence, and they are disregarded unless they can be backed by numbers.

Before Wing completed his work, the definitive study on Three Mile Island, published in 1990, found a 30 percent increase in lung cancer risk among a group of neighbors who were downwind during the intense radiation releases. The Columbia University scientists who performed the study concluded, however, that other environmental factors were far more likely to be responsible. The study also concluded that there was no increase in adult leukemia as a result of the accident.

Essentially, the study concluded that no one got sick from the Three Mile Island accident. That is where Wing, who had published a study on increased cancer rate among nuclear workers, came in. Lawyers representing 2,000 plant neighbors

who claimed accident-related health problems invited him to take another look at the data. Wing initially declined, saying he held the authors of the Columbia study in high regard. "I had no reason to think that there was any rationale for doing a re-analysis," he said. "I subsequently decided I was wrong."

A different approach:

Wing had his change of heart after looking closely at the way the Columbia team had chosen and analyzed the available data. He thought there were better ways to accurately measure the accident's impact. Working with the same data but taking a slightly different statistical approach, Wing reached a different conclusion. "Lung cancer went up stepwise in relation to exposure to the plume," he said, referring to the cloud of radioactive vapor that escaped the plant.

Where the Columbia study found a 30 percent average increase in lung cancer risk among one group of plant neighbors, Wing found an 85 percent increase for the same group. But he also looked at different configurations of residents - based on their proximity to the escaping radiation - and found some locations with lung cancer rates four to six times higher than the local average.

Wing also found a different result on leukemia. The original study found little or no increase in adult leukemias and a statistically unreliable increase in childhood cases. Wing, however, concluded that people who were downwind

during the most intense radiation releases were, on the average, eight to 10 times more likely to get leukemia than others living within a 10-mile radius of the plant.

But when Wing submitted his findings to journals for review, he was told the conclusions were impossible. Years earlier, scientists had settled upon a working estimate of how much radiation was released during the accident, and that amount was too low to cause cancer or any other disease. "It is difficult to believe that a presidential commission, Pennsylvania health physicists, and local scientists all erred in estimating the radiation release from TMI," wrote one of the anonymous reviewers who help journal editors decide what to publish.

'Can't be wrong':

Rejections came in from the New England Journal of Medicine and the Journal of the American Medical Association. Those journals are the biggies; they reject good studies all the time. But Wing's paper was also rejected by a journal in his own field, The American Journal of Epidemiology. Some of the journal reviewers were positive, he said. Others were outraged. "Basically, they say all these people can't be wrong," Wing said. "I don't know if they are wrong."

What he does know, he said, is that his study showed that the incidence of cancer goes up in direct relation to estimated radiation exposure levels. "We cut the numbers a bunch

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Consumer and Environmental Groups Unite In Opposition to the PUC's PECO Decision

from a May 22, 1997, PR Newswire article

Pennsylvania State Senator Vincent J. Fumo (D-Philadelphia) joined today with Philadelphia area consumer organizations and state environmental groups in harshly criticizing the decision of the Pennsylvania Public Utility Commission (PUC) to permit PECO Energy Company to recover \$1.1 billion in unprofitable investments from its customers.

"Today's decision by the PUC to disregard the strongly worded opinion of Administrative Law Judge Louis Cocheres and award PECO \$1.1 billion at the expense of ratepayers is offensive and without justification," Fumo said. "The commission has yet to grasp the concept that electric competition was intended to provide meaningful rate relief to Pennsylvania consumers. It was never designed to eliminate shareholder risk for the benefit of Wall Street!"

Consumer activist Lance Haver stated that "for too long this commission has ignored the needs of Pennsylvania consumers, and now, when faced with an opportunity to uphold the well reasoned recommendation of Louis Cocheres to reject PECO's bailout request, the commission turned its back on consumers again."

On April 14, PUC Administrative Law Judge Louis Cocheres recommended that the PUC deny

PECO's application to recover \$3.7 billion in so-called "stranded costs" from its current customers. Cocheres ruled that it would be inappropriate for PECO to receive approval to recoup its costs under an expedited 120-day process, as the company had requested. The judge also pointed out that the 3-percent rate reduction being offered by PECO was not "a meaningful break for consumers," as intended by the deregulation law. Cocheres forcefully stated that the expedited proceeding "was so compressed in time as to make it impossible to render a well reasoned decision which is fundamentally fair to customers and in compliance with the Act."

"The facts, the law and common sense all pointed to a rejection of PECO's bailout request," said Andrew Altman of the Clean Air Council. "Unfortunately, politics got in the way. Now PECO will get a war-chest from consumers, giving it an unfair competitive advantage over new, less polluting energy suppliers. This is bad news for consumers, for air quality, and for the public," Altman added.

If left unchallenged, today's decision will allow PECO to charge its ratepayers for the construction and operation of its unprofitable nuclear power plants, even if customers choose to purchase their electricity from other providers. This would

deny the meaningful benefits of a competitive market to PECO's current customers.

Haver noted that, despite the representations of the PUC to the contrary, it is important for observers to realize that there was not a single party to these proceedings, with the exception of PECO, that objected to the recommendation of Judge Cocheres to reject the securitization request of PECO. All the PUC had to do was uphold the recommendation of one of its most experienced and trusted judges, and reconsider PECO's request as part of the company's comprehensive restructuring filing that is now pending before the PUC. PECO would have lost nothing other than the opportunity to ram a billion dollar request through the PUC in 120 days.

"Even the judge's alternative recommendation that PECO only be permitted to recover \$328 million is generously tripled by this decision of the PUC," Haver observed. Senator Fumo, the consumer groups and the environmental organization all vowed to continue their opposition to PECO recovering any money from ratepayers.

"We anticipate that many of us will appeal today's decision. There are serious questions supported by the

(Continued on page 11, column 2)

Utility Groups Plan to Lasso Customers

from a March 14, 1997, Central Penn Business Journal article

This summer, in a few Dodge Cities across the state, the highly regulated market of local electric monopolies will start turning into the Wild West of utility deregulation. Dozens of companies are expected to ride into town with a variety of strategies for cutting electric costs. But with less than one-third of electric bills actually at stake, residential customers may find that once the dust has settled, their bills look about the same.

On the other hand, commercial companies that use larger amounts of electricity could benefit, said Irwin Popowsky, state consumer advocate. Small businesses fall in between: They will likely see more savings than residential customers but less than big manufacturing companies. The state's pilot program to allow competition in some areas could be of interest to them. "For small-business customers it's worth looking into," said Popowsky. Overall, though, deregulation is not a panacea.

"The immediate savings may not be all that great. It could be somewhat less than 5 percent," said Frank Cassidy, president and CEO of Energis Resources, an Edison, N.J., company which plans to sell electricity in Pennsylvania by mid-year. "It could be a decade or more until you see lower rates," said Popowsky.

Local utility Pennsylvania Power &

Light Co. recently announced plans to let 54,350 of its 1.2 million customers choose their electricity suppliers as early as July. But only charges to generate the electricity (on average 2.4 cents out of a 7.5 cents per kilowatt hour rate) will be up for grabs on the free market, said Dan McCarthy, PP&L spokesman in Allentown.

In similar fashion, GPU Energy, parent of Met-Ed and Penelec, will allow 23,000 of Met-Ed's customers and 28,000 of Penelec's customers to choose their own energy source, offering an average credit of 3.05 cents per kWh if customers say they are about to switch to an alternate supplier.

The two plans are part of a mandatory, statewide pilot program in which 250,000 customers from all the major investor-owned electric utilities will have the opportunity to choose their electric supplier. It will end in 1999, when one-third of the state will be deregulated; two-thirds will become deregulated in the year 2000, with the entire state deregulated in 2001.

Yet just how many customers will opt to join the pilot programs and subject themselves to potential dinner-time calls from telemarketers remains to be seen. "You tell most consumers about utility deregulation and they'll say, 'Oh no, not that,'" said Jamie Wimberly, vice president of the Consumer Energy Council of

America Research Foundation. Some customers could save up to 40 percent of their generation costs (13 percent of their total power bill), said Wimberly, who worried, nonetheless, that customers might not be savvy enough to shop for the best deal, or know it when they see it. He's pushing to create a standardized bill which would show the various hidden charges factored into utility rates.

One such hidden charge would be "stranded costs"--expenses for such things as construction of nuclear-power plants, which utilities are allowed to recover through a competitive transition charge (CTC) added to all customers' bills, regardless of which electric supplier they choose. Both PP&L and GPU say they have stranded costs which they plan to recover through CTCs--measures which GPU spokesman Ray E. Dotter said help to "level the playing field."

But Popowsky noted that the savings for customers will depend on how much the state Public Utility Commission allows local utilities to charge customers for recovering those stranded costs. Hardest hit by deregulation could be rural-electric cooperatives. Nationwide, they have on average only six customers per every mile of line, compared to suburban and urban companies' 35 customers per mile of line, said Chris Mele, manager of state

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Senate Votes on S. 104 - Veto Margin Maintained!

from an April 15, 1997, Critical Mass Energy Project Action Alert

Today's 65-34 Senate vote passing S.104 shows that the nuclear industry's dangerous radioactive waste shipping and dumping scheme still lacks the votes to override a presidential veto. The bill as it now stands can not be enacted.

The bill would mandate transportation of highly toxic irradiated fuel from the nuclear reactors that generate it across 43 states by truck and rail through densely populated communities to a new "interim" storage dump in Nevada. S.104 would also weaken health, safety and environmental rules for a potential permanent repository under study at Yucca Mountain, Nevada. Since evidence shows that Yucca Mountain probably can not meet the standards required for a repository, the nuclear industry is trying to change the standards. S.104 would park radioactive waste above-ground in Nevada even if Yucca Mountain is found unsuitable as a repository. Then the waste would either have to be moved again, or would remain in "interim" storage indefinitely without the safeguards of a permanent repository.

President Clinton, Vice-President Gore, the Department of Energy, Environmental Protection Agency, Council on Environmental Quality and Office of Management and Budget have correctly opposed this legislation. S.104 would jeopardize

public health and safety in order to bail out nuclear utilities.

There is no legitimate rationale for moving highly irradiated nuclear fuel away from operating reactors. Storing the waste at the reactors is seven times less expensive than the "interim" storage proposed by Sen. Murkowski's bill, and on-site storage avoids the risks of needless transportation of radioactive waste.

The bill's supporters now turn to the House of Representatives, which will likely consider nuclear waste legislation soon. H.R. 1270, the Nuclear Waste Policy Act of 1997 was introduced for the nuclear industry on April 10 by Fred Upton (R-MI).

While there is cause for optimism, we should not breathe easily yet. The nuclear lobby will no doubt try to place pressure on the President, the House, and the swing senators, and we need to exert a countervailing force. Please call your Representative and ask him or her to oppose H.R. 1270, S. 104's House counterpart, and any similar legislation.

The Capitol Switchboard number is (202) 224-3121. Direct line and fax numbers as well as E-mail addresses for Representatives and Senators can be found on Critical Mass' voting index (<http://www.essential.org/CMEP>).

GPU Adds TMI-1 to Auction

from A May 6, 1997, *The Electricity Daily* ARTICLE

Is it a bull market for sellers of electric generating capacity? GPU Inc. thinks it might be, based on the interest generated by its offer of the Oyster Creek plant in New Jersey. [see story, page 16]. GPU said last week that, in light of the interest it has had in the elderly, relatively high-cost nuke, it is also willing to entertain bids for Three Mile Island 1, the undamaged plant that is the sister to TMI 2, which melted down in 1979.

Unlike Oyster Creek, TMI is a low-cost plant that is not scheduled for possible early retirement. The possible sale reflects a bit of a change in GPU's corporate strategy. "There is so much surplus power out there," said spokesman John Fidler, "that it is no longer a high concern for us where we get that



We May Be Two Steps Away From a Nuclear Accident

by Scott D. Portzline, TMIA Planning Council

The most troublesome safety issue of "retail wheeling" may be that it creates a situation where nuclear plants are only two steps from a serious accident. These concerns are currently being voiced by Nuclear Regulatory Commission Chairman Dr. Shirley Jackson.

Here's how it can happen:

The electrical grid may become unreliable because the intricacies of transmission of electrical power have not been completely worked out. When the grid fails, a nuclear plant shuts down (unless operating at low power). The reactor trips and the plant stops producing electricity. But, because the grid has failed, there is no offsite source of power to operate the equipment necessary for bringing the reactor to a safe shutdown.

Nuclear plants rely upon their own diesel generators in such a situation. However, these generators are unreliable. For example, just a few years ago Three Mile Island's diesel generators were inoperable for three months and nobody knew it.

Even without diesel generators, coolant can be circulated by steam-powered pumps. A bank of batteries supply power to the control room and the valves that will permit that operation. The batteries will only last four hours. At the end of that time, if power on the grid is not restored, the reactor will go completely out of control

and experience a "beyond design basis accident."

Just last year, a huge part of the western United States electrical grid totally collapsed for more than 10 hours. Four nuclear plants were automatically shut down. Two experienced complications. Fortunately the diesel generators supplied power for the time needed to restore the grid.

Here is what NRC Chairman Shirley Jackson says about the dangers:

"Another area of concern to the NRC is electrical grid reliability, or security. NRC reviews in recent years have left no doubt that a Station Blackout at a nuclear power station is a major contributor to reactor core damage frequency. Events of this type are defined as Loss-of-Offsite-Power events, coupled with the inability of the onsite emergency diesel generators to provide power to necessary plant safety equipment. Although Station Blackout events have been extremely rare to date, there have been a number of Loss-of-Offsite-Power events. There also have been instances where diesel generators at plants have not been operable for periods of time.

"In 1996, two electrical disturbances (within a five-week period) on the Western Grid caused 190 plants to trip off-line, including several nuclear units. Nuclear plants

are designed to withstand unexpected trips. However, events of this type cause unnecessary challenges to plant safety systems.

"In reviewing these events, the Western Systems Coordinating Council listed the following contributing factors: high Northwest transmission loads; equipment out of service; inadequate maintenance of right-of-way; operation in a condition in which a single failure would overload parallel lines, triggering cascading outages; communication failures to neighboring utilities, prior to the disturbances; and no response to earlier events.

"Therefore, the NRC is convinced that economic deregulation must proceed with a sensitivity to, and an understanding of, the vulnerability of nuclear plants to Loss-of-Offset-Power events. This means that transmission network governance structures must reflect that standards of performance, operational criteria, and training of personnel are critical oversight issues, which all must be factored in, and properly addressed, as deregulation proceeds. Whatever form network governance structures assume, their authority needs to be strong enough to assure that these considerations are enforced."

[For more information on safety and deregulation see the TMIA web site: www.envirolink.org/orgs/tmia.]

Critics of Maine Yankee Say There Is Still The Problem of Nuclear Waste

from a May 29, 1997, Portland Press Herald article

By Clarke Canfield, Staff Writer

Longtime opponents of the Maine Yankee nuclear power plant are confident the plant will never again produce power - but they aren't celebrating yet. Critics say tons of nuclear waste must still be disposed of and worry that a company could still buy the Wiscasset plant at a bargain price and bring it back online. [see story, page 9]. They plan to continue being the nuclear watchdogs they have been for years, working with little public fanfare in the anti-nuclear battle.

"I think it's more than likely that they're all done," said William Linnell, spokesman for Maine Safe Energy, an anti-nuclear group. "But we don't intend to let them up until we know they're dead."

The eight utilities that own Maine Yankee announced Tuesday that they will shut down the troubled Maine Yankee plant unless a buyer can be found. The plant, which has not operated since December, was deemed too costly to repair and run safely. Nuclear critics said the incessant scrutiny they placed on the plant forced the public, the Nuclear Regulatory Commission and Maine Yankee itself to take a long look at how the plant was run. In the end, concern about the cost of correcting safety problems was the overriding factor in the plant's demise, nuclear opponents said.

In fact, said Stanley Tupper, a Boothbay lawyer and former congressman, the plant's problems might have been worse had there not been advocacy groups keeping a keen eye on Maine Yankee. "I think it would have been far worse had we not spoken up over the years," he said.

Ray Shadis, a vocal opponent of Maine Yankee since 1979, when he helped organize a referendum drive to ask voters whether they wanted to shut down the plant, said Maine Yankee's announcement lends "authenticity to what we've been trying to tell people for a long time." But Shadis and others don't plan to relent from their approach just because the plant will probably close. "Our job wouldn't be over even if the owners took a gun, shot a hole in the reactor and said, 'This is it, it's over,' and handed the deed to the state of Maine," said Shadis.

The anti-nuclear power movement in Maine goes back to the 1960s, when the Atomic Energy Commission began issuing construction permits for the Maine Yankee plant. The opposition in Maine and nationwide reached new heights after a radiation leak at Three Mile Island nuclear plant in Pennsylvania in 1979. More than any other, that event lit a fire under the anti-nuclear movement and

spurred the first of three referendum drives that asked voters in 1980, 1982 and again in 1987 whether Maine Yankee should be shut down for good.

Although the measures failed, the nuclear opposition endured. Judy Barrows of Richmond, who helped form Safe Power for Maine in the 1970s to oppose a proposal to build a nuclear plant on Sears Island, said power companies would try to get away with shortcuts unless they were under constant scrutiny. "It's knowing that unless you keep an eye on them and that they know someone's watching, that - and this sounds a bit dramatic - they'll get away with murder," she said.

Much of the opposition to Maine Yankee over the years has come behind the scenes. Demonstrations and marches in Maine never reached the level they did in New Hampshire, where 2,000 chanting protesters 20 years ago stormed the site where the Seabrook power plant was being built. A small army of National Guardsmen and police made 1,414 arrests, locking up protesters for two weeks and making New Hampshire the focus of national attention.

In Maine, many of the nuclear opponents have worked quietly and

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without fanfare or attention. Rather than perform acts of civil disobedience, they have tracked cancer rates in Lincoln County, monitored radiation levels, created models showing decommissioning costs and gathered information.

Tupper characterizes Maine's nuclear opposition as "sensible, moderate opposition." Although much of the work was done out of the public spotlight, it was effective, he said. Even with Maine Yankee conceding it can no longer operate safely and efficiently, nuclear critics say they'll continue keeping an eye on the plant and preaching the shortcomings of nuclear power.

Maria Holt of Bath, a former state legislator, said she'll keep her Geiger counter in her house to monitor radiation levels in the area. And she'll continue to lecture against nuclear power. "In the long run it will end up being the most costly form of power man has ever devised," she said. "And it kept us from developing cleaner, safer forms of power." Linnell said there will always be a need for nuclear watchdogs. It's the nature of the industry, he said.

PECO Looking To Buy Old Nukes

from a May 26, 1997, *Engineering News-Record* article
By Paul Kemezis

Philadelphia-based PECO Energy Co. jolted the electric utility industry earlier this month by announcing that it has begun talks to buy the problem-plagued Maine Yankee nuclear plant in Wiscasset, Maine. If the sale occurs, it would be the first time any group has purchased an operating U.S. nuclear plant.

As electricity deregulation approaches, most utilities see the 110 nuclear plants in the U.S. as liabilities that will be hard to sell off but equally difficult to operate competitively. But PECO, the former Philadelphia Electric Co., has taken the opposite tack. Relying on proven nuclear engineering skills and energy trading capabilities, it says it is looking for bargains on nuclear capacity to support its national power marketing business.

The key to the strategy, says PECO spokesman Bill Jones, is to obtain the nuclear assets at a low price that matches actual market conditions. He says PECO is still evaluating the 25-year-old, 920-Mw Maine Yankee plant, closed since last December for safety violations.

Maine Yankee owners say that due to increasing safety costs, the plant's long-term economics are questionable. CMP President David Flanagan also warned shareholders to be "realistic" and accept a deal favorable to PECO.

Maine Yankee went through a \$40-million steam generator repair job in 1995 and its safety problems appear fixable in the short term. Also, it is located in the New England market which is set to be fully deregulated by mid-2000 and has become a magnet for power sellers looking to buy old plant capacity or build new projects. In Maine itself, two new independent power projects totaling 500 Mw have been announced since January and two mothballed units will be reactivated in June.

PECO is already brokering energy from the Seabrook plant in New Hampshire under a marketing contract and observers say that under the right conditions selling nuclear energy in a competitive environment is feasible. "It can be done," says Dan Allegretti, New England manager for Enron Corp. "But you have to get the plant to run well."

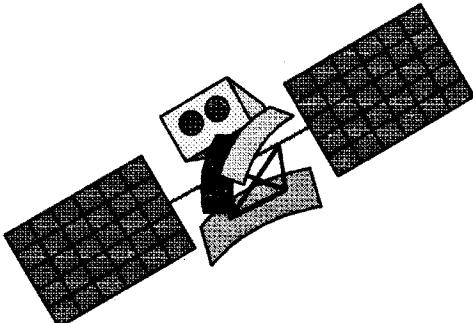
One recent report by a gas industry group claims that 40% of the 96,000 Mw of nuclear capacity in the U.S. will be at financial risk in an open market situation and could be shut down in favor of new gas capacity. Also recently put on the block by utility GPU Inc. are its Oyster Creek and Three Mile Island Unit 1 plants in New Jersey and Pennsylvania, respectively.

Space Nuke Set to Fly

from April/May 1997, War & Peace Digest

Activists who have long opposed NASA's planned launch of the Cassini space probe this October took their protest to Europe in March in an attempt to build pressure from abroad and prevent a possible catastrophe. The probe will be launched by a Titan IV rocket and will carry 72.3 pounds of plutonium-238, the largest amount of nuclear material ever used in space. The Titan IV has malfunctioned in the past, including an occasion in 1993 when it exploded, destroying a \$1 billion spy satellite system.

In 1999, if everything goes right, the Cassini will orbit Venus, swing back toward earth, and then slingshot around the earth, gaining sufficient speed to reach Saturn. In the unlikely event that the probe erroneously re-enters the earth's atmosphere and disintegrates, however, NASA predicts that the plutonium-238 would expose half the world's population to radiation hazards.

**Refrigerator Efficiency to Increase**

from a May 3, 1997 Sustainable Energy Coalition update

On April 23, Department of Energy Secretary Pena announced "a strong new [refrigerator] standard supported by environmentalists, efficiency advocates, state energy officials, utilities, and manufacturers." according to the American Council for a Energy Efficient Economy (ACEEE).

"The new agreement provides for a 30% improvement in the energy efficiency of the most popular models of refrigerators. ... [T]he administration has been under considerable pressure from some manufacturers to publish a final standard that would delay the effective date of the rule until the year 2003."

In a 2-page news release issued by ACEEE and others, supporters praised Secretary Pena "for issuing forward-looking energy-efficient standards for new refrigerators that will reduce pollution and save consumers money." It added that the new energy-efficient refrigerators to be produced after July 1, 2001 "will eventually save U.S. consumers over 25 billion kilowatt-hours of electricity every year, equivalent to the power typically supplied by eight large (500 MV) baseload power plants."

News Notes

► **The Pennsylvania Wildlife Federation** will hold its 4th Annual Environmental Congress on October 25 and 26, 1997, at Dickinson College in Carlisle, PA. The Congress is an educational symposium for the environmental and conservation community. For further details, contact the PWF at (717) 232-3480.

► **Quotable Quote** -- A TMIA member in York, PA sent us a commentary from her local newspaper. The commentary, which made reference to a new study showing increased cancer rates resulting from the 1979 TMI accident [see story, page 2], criticized TMI for blaming its recent problems on poor press coverage. "What is at issue here", wrote Warren Evans, a resident of Wrightsville, PA, "is not negative press coverage or conflicting cancer studies but a dying industry trying to defend an outdated technology that can be unforgiving in the case of serious accident or a terrorist threat."

► **Media Directory**: The SUN DAY Campaign has just published the 4th edition of its "National Directory of Sustainable Energy Periodicals" which provides an annotated list of 800 periodicals that report on renewables, energy efficiency, and related environmental issues. In addition to addresses, most entries include a brief description of the periodical as well as phone and fax numbers. Many entries include an e-mail address or a website address. The 75-page directory is \$15/copy (including postage) from the SUN DAY Campaign, 315 Circle Avenue, #2, Takoma Park, MD 20912.

(Continued from "Lasso customers," page 5) relations with the Pennsylvania Rural Electric Association.

As such, they can ill afford to lose their revenues as energy providers, explained Jim Corrigan, a partner of Agnew & Corrigan, the Lancaster advertising agency developing PREA's marketing and advertising campaign. PREA's 13 members in Pennsylvania aren't required to launch pilot programs, but have already started an ad campaign to build customer loyalty spots. But members don't yet know who'll be in their own markets. "You don't know who the 'enemy' is," Mele said.

Obviously, existing utilities will compete with one another. Both PP&L and GPU Energy say they plan to spin off companies to go after each other's customers. And some PREA members may try to lure customers away from neighboring companies, said Corrigan.

Natural-gas companies and suppliers are also moving into the electricity market. For example, Pittsburgh-based Consolidated Natural Gas Co., which distributes natural gas to 1.8 million customers in Ohio, Pennsylvania, Virginia and West Virginia, has been snatching up interests in power plants in the Northeast and California in an effort to transform itself into a one-stop, energy-services shop, according to Hoover's company profiles.

Enron Corp., the country's second-largest buyer and seller of natural gas, is in the process of purchasing electric utility Portland General, making it the country's largest wholesaler of electricity, said Mark Palmer, Enron's director of public relations. The Houston-based company captured 15 percent of the market share in a 15,000-customer pilot program in New Hampshire, said Palmer. It reduced generation costs from 3.5 cents per kWh to 2.29 cents.

A third breed of companies, energy brokers, will buy electricity on the wholesale market, then sell it to customers in value-added package deals. One such broker, Energis Resources, hopes to capture market share by simplifying the deregulated market for customers. The new company plans to offer energy-efficiency consulting services, so customers can save on their overall electricity bills, said President/CEO Frank Cassidy.

In a similar Massachusetts pilot program, 30 percent of the market went to companies selling "green energy." Enron found that more than 70 percent of customers would opt for renewable energy, even if it cost a little more, said Palmer. GPU's Dotter, however, cautioned that emerging companies may offer unreasonably low rates just to capture market share. Palmer countered, "A lot of times programs designed by utilities are just that--pilot programs designed by utilities."

(Continued from "PUC's PECO Decision," page 4) judge's opinion -- about the lack of adequate time to responsibly review this case and about the irrevocable nature of the decision," Altman said. "This is not the final word on this matter, but instead is the beginning of a long and unfortunate process forced on Pennsylvania consumers."

Haver said that PECO still has the option of ending this matter quickly by committing to a meaningful rate reduction, which would halt the opposition. "As far as I am concerned, it is up to PECO whether or not ratepayers will realize any real benefit from the deregulation act," Haver said.

The Pennsylvania environmental organizations who have opposed the securitization request of PECO are: the Clean Air Council, the Sierra Club, Citizen Action, the Pennsylvania Public Interest Research Group, the Grass Roots Alliance for a Solar Pennsylvania, Philadelphia Solar Energy Association, Trout Unlimited and the Nonprofit Energy Savings Investment Program.

For more information, please contact Gary Tuma of Office of Senator Fumo, 717-787-5662, or Lance Haver of Philadelphia Consumer Groups, 215-424-1441, or Andrew Altman of State Environmental Groups, 215-567-4004.

(Continued from "UNC Researcher," page 3)
of different ways and always came up with the same findings," Wing said.

Still, his work failed to persuade a judge to consider a lawsuit filed by Harrisburg residents who said they had become sick after the accident. The judge called Wing's work "marginally scientifically reliable." The judge subsequently threw out the suit, but the plaintiffs appealed. Others have suggested that Wing's work is tainted by having been financed by the litigating neighbors.

"His reinterpretation was done to help the plaintiffs win the lawsuit," said Laura Karinch, a spokesman for General Public Utilities. Wing said his personal views and source of support made him more skeptical. He noted that some of his critics have accepted funds from the nuclear industry.

"My opinion is that nuclear power is a bad idea," Wing said. "However, I feel that high technical standards are particularly important for anybody who challenges the accepted wisdom about issues that are dear to the scientific establishment, because we will be scrutinized far more than those whose findings do not depart from what is expected."

The reviewers at Environmental Health Perspectives found that Wing's work held up under scrutiny. Journal chief Gary E.R. Hook said three reviewers "considered the data scientifically sound and the article worthy of publication." The author of the study that Wing reinterpreted

disagrees, and her comments also appear in the journal. Maureen Hatch, now head of the department of epidemiology at Mount Sinai Hospital in New York City, called Wing's work "tendentious and unbalanced." "It has an aggrieved feeling on behalf of the people in the area, in that they were done in or not done right by these early professionals," she said. "That is not a tone that one is accustomed to seeing in a scientific paper."

For example, she takes issue with the suggestion that vomiting and hair loss among plant neighbors were caused by radiation sickness. Only huge doses of radiation - far higher than imaginable during the accident - can cause radiation sickness, she said. Wing simply attaches a new interpretation to a slightly different result, she said. Hatch's study - funded by a court-appointed monitoring group - also found a slight increase in cancers near the plant, but she and her associates chose to interpret it differently. "We looked with greater skepticism in the increase that we saw," she said. "We thought that that was some kind of stress effect. Hopefully, some of the follow-up work will be able to settle that."

Follow-up in progress:

That follow-up work is under way at the University of Pittsburgh, where scientists are conducting a long-term health study of Three Mile Island's neighbors. The study could ultimately solve this puzzle, since certain radiation-induced cancers take more than five years to

emerge and wouldn't have registered in previous studies. Rick Engberg, a statistician working on the Pittsburgh study, and chief investigator Evelyn Talbot said both of the earlier studies have value, although neither is perfect. The data they are based on is less than reliable, but it was the best available at the time, they said. "You could argue this point either way," Engberg said. "There is enough ammunition to make a decent argument for either side."

Wing's study doesn't prove the accident caused cancer, but "his data does show a hint of something" worth following up on, Engberg said. Wing says that is all the acknowledgment he wants. He says he thinks the accident made people sick - but if someone can come up with another explanation for his findings, he's willing to consider it. In the meantime, he still seems to be smarting from the experience. It is too soon to tell whether the study will be "bad for his career," as one colleague warned him before he began.

"For me, the lesson from the TMI story is that researchers should not be closed-minded about evidence, even if it disagrees with status quo beliefs," he said. "Scientists are supposed to be open-minded and critical, but we don't always live up to the ideal."

Recycling/Deregulating Radioactive Waste

by Judith Johnsrud, Environmental Coalition on Nuclear Power (ECNP)

Author's Note: The Depleted Uranium Education Project is to be commended for drawing attention to this significant source of radioactive contamination left over from the Cold War and for working to help the victims of Gulf War Syndrome.

The March 25th New York Times article by Matthew Wald on Depleted Uranium (DU) is more than informational. It puts us on notice. It is an early warning that the U.S. Department of Energy plans to recycle massive quantities of radioactive waste --

1,250,000,000 pounds of DU -- into the commercial marketplace for reuse in consumer goods.

In addition to fabricating its DU into shielding blocks for use at remaining nuclear weapons sites, as Wald reports, the DOE hopes to be able to dump its surplus DU onto the open market to be smelted, refabricated, and then reused in a wide array of consumer products. "Slightly radioactive" building materials, cars, furniture, cooking utensils and other items, as well as bullets and tanks, will be produced and sold, with no warning labels.

This dense, radioactive, toxic metal form can be reused again and again, perhaps eventually being dumped into municipal solid waste landfills, still radioactive. There will be no way for the individuals coming into contact with these materials to be able to measure them or to know how many "permissible doses" they may be receiving.

What is important about these potentially numerous minute doses is that all exposures to ionizing

radiation, including those from naturally-occurring background, carry a risk to the recipient of premature death from cancer or leukemia, genetic defects in future generations, and a host of other non-cancer illnesses and diseases that are associated with impaired immunity. Developing embryos and rapidly-growing young children are most vulnerable.

Depleted uranium, from which the fissionable isotope U-235 has been removed for nuclear weapons or reactor fuel, is U-238, with a half-life of 4 ½ billion years. Its decay chain includes extremely hazardous radioactive thorium, radium, radon, the radon "daughters" and lead. The Times article did not stress that all of these decay products of DU also pose biological dangers to human health and to other inhabitants of our biosystem essentially forever.

In recent months, the DOE has been actively pressuring the Environmental Protection Agency (EPA) to set dose standards for the exposure of members of the public to radioactively-contaminated scrap metal -- the discarded equipment and structural steel components from aging nuclear power plants, for example -- so that DOE can get rid of them without having to pay the high costs of their long-term safe storage in isolation. Currently there

are no regulations setting public exposure limits for contaminated metals.

Instead, the Nuclear Regulatory Commission (NRC) allows release of contaminated materials and wastes by its licensees on a case-by-case basis. The NRC uses regulatory "guidance" that was adopted in 1974. This "Reg Guide" lacks numerical limits and is merely guidance, not an enforceable formal regulation. Dangerous loads of radioactive scrap metal are being detected at scrap yards with increasing frequency, according to EPA regional officials and the Scrap Metal Dealers Association. One recent NRC report noted doses that were more than 500 times the maximum limit that a member of the public is allowed to receive from an operating nuclear power plant. For related information, contact the following groups at the e-mail addresses:

Environmental Coalition on Nuclear Power (ECNP)
<johnsrud@csrlink.net>,
Nuclear Information and Resource Service (NIRS)
<nirsnet@igc.apc.org>, or
Sierra Club Nuclear Waste Task Force
<winchester@ocean.fsu.edu>.

Sweden to Switch Off First Nuclear Plant in 1998

*from a February 11, 1997, The Christian Science Monitor article
By Martha Andersson, Special to The Christian Science Monitor*

The Swedish government's decision last week to close two nuclear reactors has touched off one of the hottest political debates here since the decision to join the European Union 2-1/2 years ago. The closure of the two reactors marks the beginning of a phaseout of all 12 of Sweden's nuclear power plants. News of the announcement has saturated the media and has Swedes weighing in on both sides of the nuclear-energy debate.

"Everybody has strong feelings," says Bo Hoistad, a professor of nuclear physics at Uppsala University, about 60 miles north of Stockholm. "It's almost like religion - you simply believe or don't believe in [nuclear power]." The decision by the minority Social Democratic Party, which was brokered with the Center and Left Parties, stems from a 1980 referendum and subsequent parliament ruling to phase out the use of nuclear energy by 2010.

Under the agreement announced Feb. 4, the government said it would close two reactors in southern Sweden. The first will be closed by July 1998. The second will close before July 2001 if the resulting loss of electricity production can be compensated for through the use of alternative energy sources and conservation.

More than half of Sweden's electricity comes from nuclear power. The government said it

would meet the deficit through consumer energy savings, wind and water power, and bio-energy, such as using fast-growing trees for fuel for energy plants. Other reports indicate that coal and petroleum would make up more than 60 percent of the energy supply after the first reactor's closure, with another 25 percent coming from bio-energy and other alternative sources.

Companies like Volvo and SCA, the country's biggest forestry group, have spoken out against the nuclear decommissioning. The owner of the reactors has vowed to fight the decision. Lands Organization (LO), the nation's largest trade union normally friendly with the Social Democrats, also decried the decision.

But politics has also played a key role. With a 1998 election on the horizon, the Social Democrats are under pressure to keep previous campaign promises both to close nuclear reactors and halve unemployment by 2000. In the early 1990s, the economy took a downturn and unemployment jumped from 2 percent to about 13 percent. It now hovers around 12 percent. The Social Democrats themselves are split over the issue. The party has both pro-nuclear trade unionists and antinuclear environmentalists.

In the 17 years since the nuclear referendum, translating it into practice has proved difficult. In 1991, for instance, a target date for closure of a nuclear reactor set for 1995-96 was rescinded when it was discovered the closure would not be economically feasible. Despite government spending on alternative energy sources, they remain problematic. Solar power doesn't work well in northern Sweden, where the sun doesn't even crest the horizon for more than two hours a day in December and January. Hydropower has proved to be the most successful form of alternative energy, but the government cannot build any dams on four major rivers because the public wants to keep them in their natural state.

Perhaps taking a cue from earlier failures, the government this week removed the 2010 deadline for final phaseout, and instead indicated that the goal would be accomplished as soon as practically feasible.

Widespread concerns remain, however, about the high cost of securing replacement energy sources and the threat to jobs from closing the reactors at a time of record unemployment. "It's too early to tell [what the impact will be]," says Lars Bjordal, a book conservator who lives in Uppsala. "Ordinary people cannot [bear] all these price increases, but it doesn't mean I think nuclear power is safe."

Panel Says Leave Anti-Radiation Pills To The Feds

from a April 4, 1997, Copley News Service article

The federal government should stockpile enough anti-radiation pills for the general public in case of a catastrophic nuclear plant accident, an advisory panel to the U.S. Nuclear Regulatory Commission agreed Friday. But the panelists rejected a proposal that would allow states to distribute the potassium iodide pills to those who live near nuclear plants, fearing it would interfere with evacuation plans.

Roy Wight, manager of Illinois' Office of Nuclear Safety, told the advisory panel that the pills would give people a false sense of security and encourage them to ignore evacuation orders. And pre-distribution of pills wouldn't be effective because people would misplace them over their seven-year shelf life, he said. "I have difficulty finding my allergy pills when spring comes," he said. There is no scheduled date for the Nuclear Regulatory Commission to take up the issue.

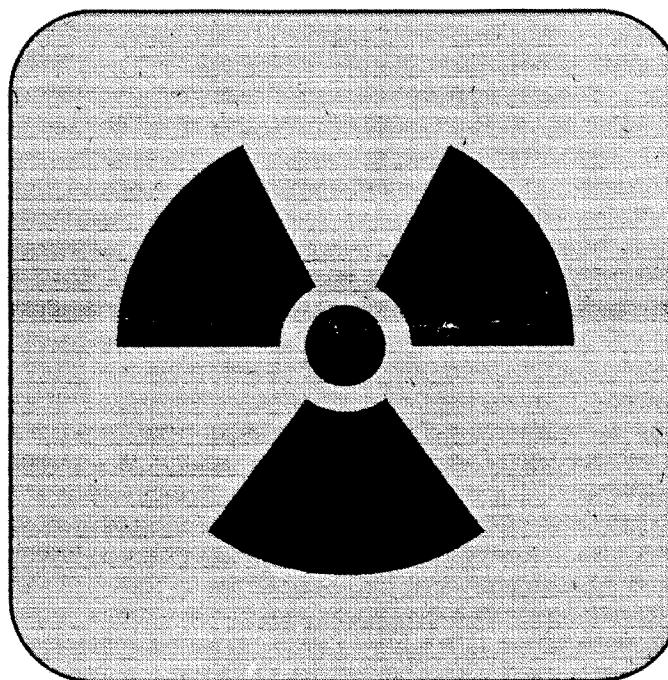
The panel's recommendation left both proponents and critics of the proposed policy dissatisfied. To be most effective, the pills have to be taken within a few hours of exposure. "This sets the (federal) government up to lose because it can't distribute the pills effectively," said Alan Nelson, a lobbyist for the

Nuclear Energy Institute which represents the industry. "It's a lose-lose situation."

David Kraft, director of the Evanston-based Nuclear Energy Information Service which has pushed for distribution of the pills before any catastrophe occurs, also expressed concern. "This is one of those small interventions that could

emergency workers and people such as hospital patients who can't evacuate.

The policy has been debated since the near-meltdown at the Three Mile Island nuclear plant in Pennsylvania in 1978 when officials discovered a shortage of the pills and manufacturers were working 24 hours to produce more. "Clearly, we want to be in better shape than we were at TMI," said Mike Jamgochian, a Nuclear Regulatory Commission staff member.



have a major impact on the victims and the bureaucrats don't want to do it for stupid reasons," Kraft said. Joining the nuclear industry, the Illinois Department of Nuclear Safety also advocated no change from the existing federal policy, which was adopted in 1985. It says that pre-distribution or stockpiling of the pills for the general public is not required of the states. Illinois currently keeps only enough pills for

industry as well as state emergency plans. "You scare people," said George Apostolakis, an advisory panel member who is a professor of nuclear engineering at the Massachusetts Institute of Technology. "I think that's a disservice to the public."

Oyster Creek May Close In 2000, Unless A Buyer Can Be Found

from an April 14, 1997, Inside N.R.C. article

Because the cost of generating electricity at GPU Nuclear's Oyster Creek is too high, the nuclear plant might be closed nine years before its operating license expires, the company announced April 10. GPU said it is "exploring the options of either the sale or early retirement" of the 670-MW BWR, in light of increasing competition in the deregulating electric market. Fred Hafer, GPU Inc. president and chief operating officer, said the decision to consider Oyster Creek's sale or early closure "is driven almost exclusively by the move to deregulation."

The electricity generated at Oyster Creek costs GPU Energy about 1.5 cents more per kilowatt-hour than the current market price for energy, and while GPU can't predict with certainty what future prices will be, continuing to operate Oyster Creek until its license expires in 2009 "may not be in the best interest of our New Jersey customers or our shareholders," Hafer said.

If a decision is made to prematurely shutter the plant, the closure "would likely take place in about 2000," GPU said. In a 90-minute telephone news conference, GPU officials put the unit's current operating costs at around 3.7 cents per kilowatt-hour, while the going market price is around 2 to 2.5 cents/KWH.

Hafer acknowledged that, for GPU

to continue operating the unit past 2000, future market prices would have to be considerably higher than current projections assume, or state regulators would have to specifically order continued operation. That operation would have to be subsidized, he added. Hafer said that, while he knows of no market projections that approach Oyster Creek's 3.7 cents/KWH level, more firm numbers will be forthcoming as electric industry restructuring proceedings in New Jersey and Pennsylvania move ahead.

GPU plans to include the Oyster Creek shutdown or sale options in a July filing with the New Jersey Board of Public Utilities. The filing is part of the BPU's restructuring effort. Dennis Baldassari, president of GPU Energy, said the company is confident it can offset the generating capacity lost if Oyster Creek is shut down by using other New Jersey-based capacity and/or through enhancements of the transmission system. He said that replacing Oyster Creek's output with a cheaper generating source could result in a rate decrease. Baldassari added that revenue gathered under current rates will be adequate to cover GPU's net investment in Oyster Creek, as well as replacement power and decommissioning costs.

GPU plans to use the so-called

"dismantlement" option to decommission Oyster Creek, but might have to take a different tack if the unit closes early because waste disposal facilities might not be available at that time. GPU officials said the unit's spent fuel would sit in the spent fuel pool until 2005. If DOE was then in a position to take spent fuel -- presumably at an interim storage facility -- GPU would start shipping fuel there. If no federal facility is available, the utility would either keep it on site, or send it to a non-governmental interim storage site, again presuming one is available.

Though it cost only \$ 90-million to build Oyster Creek, additional capital investment over its 28-year operating life have pushed GPU's remaining net investment to \$ 700-million. T. Gary Broughton, president and chief executive officer of GPU Nuclear, Inc., attributed the additional investment to items such as a new radioactive waste treatment facility and NRC-imposed improvements mandated after the Three Mile Island-2 accident.

Asked if the company would sell the unit for \$ 700-million, Hafer jokingly suggested that a reporter should "make the check out to 'cash.'" He added, "If you had \$ 700-million and were interested in purchasing the plant, that's what it would take." Asked if it is likely

(Continued on page 17)

(Continued from "Oyster Creek," page 16)

GPU will find someone interested in buying a used, 28-year-old nuclear plant, Hafer said "we'll give it our best shot and see what happens." He suggested that a utility that already operates several nuclear units might be able to drive down overhead costs to the point where Oyster Creek is generating power at a competitive price. "It is conceivable that another (utility) could run it cheaper," he said.

If no buyer can be found and Oyster Creek is prematurely shut down, it will join the growing list of units that have not run their full licensed lifetimes. These include Connecticut Yankee Atomic Power Co.'s Connecticut Yankee, Portland General Electric Co.'s Trojan, Southern California Edison's San Onofre-1, Public Service Co. of Colorado's Fort St. Vrain, the Sacramento Municipal Utility District's Rancho Seco, and GPU's Three Mile Island-2.

The oldest plant still operating is Consumers Power's Big Rock Point, which went commercial in 1965. That unit's license expires in 2000, but Consumers is considering shutting it early because of economic pressures (Nucleonics Week, 27 March, 11).

Steve Unglesbee, a spokesman for the Nuclear Energy Institute, downplayed the generic significance of another possible early shutdown, "GPU is like any prudent company and has to balance the interests of its customers and shareholders, and that means continually considering

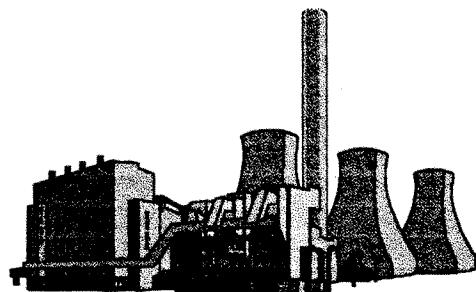
all possible options for its facilities," Unglesbee said. "In light of that, its decision to look at selling or retiring Oyster Creek is simply prudent and far-sighted business planning." "The decision will be made in light of GPU's market options and strategic plans and also on specific factors related to that plant," he added. "When that decision is made, based on GPU's information and circumstances, that decision will be unique to GPU and Oyster Creek."

GPU's Broughton echoed that thought, noting that Oyster Creek's relatively small size and the fact that it is a single-unit station are economic disadvantages not faced by larger, multi-unit nuclear plants. He also dismissed the argument that Oyster Creek might be shut down simply because it is older and too costly to maintain.

But Paul Gunter, an anti-nuclear activist with the Nuclear Information & Resource Service, said GPU's decision to explore an early Oyster Creek shutdown is further evidence that the cost of operating and maintaining older reactors makes them uncompetitive in a deregulating electricity market. Gunter charged that GPU "has historically been giving low-ball estimates of operating and maintenance expenses, and that is catching up with them." He added that recently discovered cracking of the core shroud at Oyster Creek's "sister unit," Nine Mile Point-1, is another bit of "ever-increasing evidence of early aging in some very expensive components."

GPU's Broughton noted that his utility examined and fixed the core shroud during Oyster Creek's last refueling outage and that the cracks found at Nine Mile Point were in a location different than those found at Oyster Creek. GPU will examine the shroud again during the unit's next scheduled refueling outage in the fall of 1998. If shroud cracks like those found at Nine Mile Point are discovered in Oyster Creek's shroud during the '98 refueling outage, and it looks like economics will shut down the unit in 2000, Broughton said he "didn't know" if the cost of fixing the cracks at that time could be justified, so it is possible that the unit could be shuttered even before 2000.

The early shutdown of Oyster Creek would also impact continued operation of GPU's only other remaining functional reactor, Three Mile Island-1. Overhead costs now split between the two units would have to be shouldered exclusively by TMI-1, Hafer noted. "That's going to be a significant challenge," Hafer said. "We're very sensitive to it."



(Continued from page 1)

Administrator Hubert Miller acknowledged that "simulator malfunctions, exercise controller actions, and scenario planning issues adversely affected this exercise and raised questions about the validity of the exercise as a performance measure," but he added that, even taking those problems into consideration, the agency still thinks that the identified weaknesses and problems are "important findings, requiring prompt corrective action."

Three Mile Island's poor performance during the March emergency drill served as a belated "wake-up call" to the NRC and plant operators that training and emergency preparedness has

degraded in recent years. Agency officials were not satisfied with the utilities analysis of the simulated emergency, describing it as vague and incomprehensive. They also said that the initial analysis failed to address why operator training was inadequate and what role or blame management shared for the decline.

TMI officials identified a number of reasons for the deficiencies -- flawed training, decreased resources and attention to emergency preparedness, lack of clear expectations for operators from management, and staff changes -- but they insist the plant is safe and that in a real emergency the plant could be safely controlled.

Regulatory officials said the initial TMI analysis focused mostly on training problems and did not look further to see if this was the result of poor techniques or flawed management.

TMI officials said they are looking at short-term actions, such as adding computers and staff, improving training and communications, and enhancing the critique and evaluation process. Company officials also acknowledged the need to better develop a formal set of expectations for employees. They also plan to investigate why training had declined over the past two to four years without management noticing.

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