

THREE MILE ISLAND ALERT

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TMI Accident Entering Its 36th Year

The accident that seems to have no end will continue beyond the lifetimes of most of the adults who nervously followed the news of the accident's beginning in late March of 1979. Thanks to recent rulings by the NRC, it doesn't look like the decommissioning of the damaged plant will get underway until mid-way through this century.

The decommissioning of TMI-2 is tied to the clean-up of Unit 1. Unit 1 recently had its license extended to 2034. Dismantling of Unit 1 is expected to take another 20 years, and it is during this period when the final clean-up of Unit 2 is expected to begin.

In a June 2013 report on Unit 2's Post-Shutdown Decommissioning Activities to the NRC, TMI-2 owner GPU Nuclear proposed scheduling decommissioning preparation for 2043-44, actually undertaking decommissioning operations in 2044-2053, and "Site Restoration" to "Greenfield" status for 2053-2054.

The NRC approved that proposed schedule, but there is always the hope that the clean-up can get underway sooner if Unit 1 ceases operations before the end of its license in 2034. But those betting on anything happening in a timely fashion may be overly optimis-

tic. That June 2013 report to the NRC was filed more than 17 years after it was due under NRC rules. 2053 is 74 years after the accident began and a mere 60 years after TMI-2 management announced it completed defueling of the damaged reactor and that decommissioning would cost \$200 million. That figure is now closer to \$1 billion, about five times the initial estimate, and likely to grow with the passage of time.

Your TMIA 2014 Dues Are Due

Pot Luck Dinner to Feature Two Presentations

Risa Murase of Sophia University in Tokyo and our own Scott Portzline will make presentations at TMI-Alert's pot luck dinner commemorating the 35th anniversary of the beginning of the accident at TMI. The dinner, will be held at the Fort Hunter barn on Friday evening, March 21, at 6:15 PM. There is no charge for admission, but contributions are welcome.

Ms. Murase, of Sophia University's Graduate School of Global Studies, will make a presentation titled "Fukushima: Voices of Local Residents," based on interviews she has done with residents. Ms. Murase had an extended visit to central Pennsylvania last year and has made presentations at several international conferences on what she has learned from residents living near TMI and Fukushima.

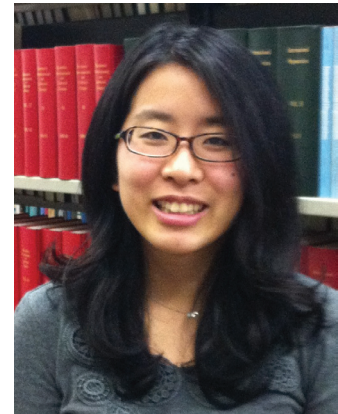
Mr. Portzline's presentation is titled "Out of Control" and provides details of just how badly a utility and a regulator were out of control during the first ten minutes of the



Scott Portzline

accident. Scott says his presentation will "preserve the historical accuracy and correct the watered-down versions of what happened on March 28, 1979." Portzline will also provide an update on Fukushima, TMI's steam generator problems, and online and other opportunities for safe-energy activists.

The schedule for the evening includes a half-hour for socializing before pre-dinner "State of the Organization and Industry" remarks from TMIA Chairperson



Risa Murase

Eric Epstein. The presentations will follow dinner and include time for questions and answers.

Those planning to attend are asked to make a reservation with Kay Pickering at the TMIA office (717-233-7897). TMIA will provide non-alcoholic beverages, paper plates, eating utensils, and napkins.

Please use the enclosed form to pay your dues or make a contribution.

Radiation and Health

TMI's March 1979 Radiation Releases 100s of Times Higher than Reported

At the beginning of the TMI accident, Metropolitan Edison's in-house health physics staff fled the region, just as so many area residents did. So Met Ed contracted with a private contractor called Rad Services.

Rad Services dispatched Randall Thompson to serve as the health physics technician in charge of monitoring radioactive emissions, while Joy Thompson got a job monitoring radiation doses to TMI workers.

The Thompsons say the radiation releases from the plant were hundreds, if not thousands of times higher than the government and industry have acknowledged. In fact, the releases were high enough to cause the acute health effects documented by people living near the plant, but dismissed by the industry and government as "impossible," given the official dose estimates.

The Thompsons aren't alone

in their belief. Arnie Gunderson, a nuclear engineer and former industry executive turned whistle blower, reported last year that his own analysis revealed radiation releases much higher than official estimates.

"I think the numbers on the NRC's website are off by a factor of 100 to 1,000," he said.

Gunderson says it is impossible to say exactly how much radiation was released since onsite monitors immediately went off scale. But he points to an inside report by an NRC manager who himself estimated the release of about 36 million curies—almost three times as much as the NRC's official estimate. Gunderson also notes that the industry estimated a total of 10 billion curies of radiation inside the reactor containment. Using the common estimate that a tenth of it escaped, that would mean as much as a billion curies could have been released to the environment.

National Academy Cancer Study Enters Phase Two

In 2010 the National Academies of Science announced a study for the "Analysis of Cancer Risks in Populations Near Nuclear Facilities." Phase 1, the part of the study meant to determine the feasibility and methods for conducting such a study, was completed in 2012.

The initial effort determined there was an uneven availability and quality of data on cancer incidence and mortality at geographic levels smaller than a county and, where reports did exist, they varied greatly from state to state. Further, the various methods of conducting such studies (risk assessment models, cohort studies, ecologic studies), each had their strengths and weaknesses. It was concluded,

however, that utility records regarding releases, meteorology data, and a population's distance and direction from a nuclear facility would provide enough information for scientists to reconstruct reasonable dose estimates.

The Phase 1 study recommended an epidemiologic study of cancer risks in populations near nuclear facilities by conducting two studies: an ecologic study of multiple cancer types of populations living near nuclear facilities and a record-linkage-based case-control study of cancers in children born near nuclear facilities. Phase 2 of the study is now underway and a meeting was held in December to make plans for a pilot study.

New Study Links N-Plants to Cancer

A study by an independent scientist with links to the safe-energy movement has found a higher incidence of Myeloid Leukemia in children in the Welsh town of Chepstow, just across the River Severn from a nuclear power plant in Oldbury, England.

Dr. Chris Busby found that children in Chepstow were 11 times more likely to develop myeloid leukemia than the national average and called for the release of health data for areas around Oldbury which the British government has denied citing "patient confidentiality."

A study underwritten by the Welsh government to substantiate Dr. Busby's claims found an increase in myeloid leukemia among young children about 2.25% higher than the national average, which they declared to be "statistically insignificant."

Workers Irradiated

At least 13 workers were exposed to radiation at a Department of Energy facility in New Mexico. The facility, a nuclear dump in a salt bed more than 2,000 feet below ground, has been shut down since the mid-February accident. Though the site's storage facilities are deep underground, the radiation release was above-ground and authorities are investigating the cause and the level of exposure.

The facility is a DoE pilot program to help rid the world of Cold War-era radioactive wastes. The incident involved the last of some 4,000 barrels of toxic waste from Los Alamos and the site also handles waste from labs in Idaho, Illinois, and South Carolina.

Tests onsite showed traces of americium, which once in the body, tends to concentrate in the bone, liver and muscles, remaining in the body for decades, increasing a person's chance of developing cancer in surrounding tissues.

Fukushima

Radiation Reaches Coast of Canada

While debris from the tsunami has been washing ashore on western North America for some time, scientists have announced that radioactive isotopes from Fukushima have been discovered in seawater west of Vancouver and will soon reach the coast. Samples of cesium-134 and cesium-137, which have a half-life of 30 years, have been found by the researchers. It is said to be well below safety limits, but the radiation levels won't peak until sometime in 2016.

On February 25, the Tokyo Electric Power Company (TEPCO) admitted that the levels of radiation measured in seawater from around the destroyed reactors were "significantly undercounted." Sound familiar?

U.S. Sailors File Suit Against TEPCO

Sailors who served on the USS Ronald Reagan, which was just a mile offshore as radiation poured from the damaged nuclear plant, have re-filed a suit against TEPCO. The 79 sailors cite a wide range of ailments including leukemia, blindness, and birth defects in the son of one sailor. The suit was re-filed just after TEPCO admitted it underestimated certain radiation readings by a factor of five. The original suit was thrown out by a U.S. judge on jurisdictional grounds.

According to news reports, the sailors experienced a "metallic taste," which is similar to the claims of central Pennsylvanians who were downwind of TMI in March 1979. The ailments claimed parallel those of people present at Hiroshima, Nagasaki, TMI, and Chernobyl. Both TEPCO and the Navy say not enough radiation was released to cause the harm claimed. Sound familiar?

Fukushima Going Green

Fukushima's prefecture has announced that they wish to be totally powered by renewable energy sources by 2040. This embrace of green energy is remarkable given that the national government remains pro-nuclear, despite surveys showing 53% of the Japanese people wanted to see nuclear power phased out gradually and another 23% wanted it eliminated immediately. At present, Fukushima derives 22% of its energy from renewable resources.

Fukushima Book Gets Rave Reviews

Fukushima: The Story of a Nuclear Disaster (New Press, \$27.95) is the first comprehensive account of the March 2011 catastrophe and it is getting rave reviews throughout the publishing world.

Co-authored by David Lochbaum of the Union of Concerned Scientists and Susan Stranahan, a Pulitzer winning reporter for the *Philadelphia Inquirer's* coverage of TMI, the book not only provides an account of what happened, but also how it could have been averted.

More than just an account of the disaster, the book examines how Japan's regulatory regime made the disaster all but inevitable. Sadly, the authors conclude it will only be a matter of time before a similar event happens in the U.S.

Post-Gazette Series Has Energy Focus

The *Pittsburgh Post-Gazette* is featuring a weekly special section on Tuesdays that focuses on energy issues. The "Power Source" section will report on the region's natural gas, coal, nuclear, and alternative energy sectors. Most of the reporting will be available online at a companion website: www.PowerSource.post-gazette.com.

Hold Sought on Nuclear Plant Licensing

Thirty-four groups including the Nuclear Information and Research Service (NIRS), Friends of the Earth, Public Citizen, and the National Parks Conservation Association have petitioned the NRC asking that in light of new information all nuclear plant licensing and re-licensing be suspended.

The request was spurred by a relatively unpublicized NRC study on the risks of the storage of spent nuclear fuel at the Peach Bottom plant in York County. The study showed that if even a small fraction of the inventory of a reactor pool were released to the environment in a fire, an average area of 9,400 square miles would be rendered uninhabitable for decades, displacing as many as 4.1 million people.

Diane Curran, an attorney filing the petition on behalf of the groups, pointed out the NRC has never before acknowledged such dire pool fire risks in its reactor licensing decisions.

In the Peach Bottom study, the NRC also revealed for the first time that the costs of transferring spent fuel out of risky high-density storage pools could be economically feasible, given the enormous damage a pool fire could cause.

Epstein Heading to Plymouth

TMI-Alert chair Eric Epstein will be on hand to answer questions after a screening of *The Atomic States of America* at a theater in Plymouth, Mass, Friday, March 7. The event is sponsored by the Pilgrim Coalition, a safe-energy group that operates in the shadow of Entergy's Pilgrim Nuclear Station.

Gas Replacing Coal-Fired and Nuclear Plants

According to the Associated Press, across the country more than 32 mostly coal-fired plants will close and another 36 could be shut down as a result of the EPA rules regulating air pollution. Those closing are among the oldest and dirtiest in the nation. In Pennsylvania, for example, the 382 MW coal plant in Sunbury, which has been in service since 1949, is being considered for retirement.

In early December, NRG Energy announced it was retiring all coal-fired generating units at two of its Maryland power plants. The facilities were the target of a water pollution suit by state regulators. The company attributed the closings to the impact of cheap natural gas, which has made coal a less competitive source of fuel for electricity, and the cost of installing emissions-reducing equipment under tougher coal-plant rules now under discussion in Maryland.

Similarly, the once touted as “too cheap to meter” electricity from nuclear power plants is also losing ground to cheap natural gas. Japan has announced an initiative to build 12 new natural gas plants and, after Fukushima, announced they would be nuclear free by 2030. They since revised that to cutting the nation’s reliance on nuclear power in half by that time.

In the U.S. a number of nuclear plants appear on the way out. California’s San Onofre Nuclear Generating Station was officially retired last summer. A month earlier, the Kewaunee Power Station in Wisconsin was retired. The Crystal River Unit 3 plant in Florida was shut down for refueling in 2009. Due to deficiencies found and the projected cost of repairs, the utility

decided to retire the unit. Similarly, Entergy, citing lower natural gas prices and the decreasing profitability of its atomic plant, announced the closure of Vermont Yankee at the end of 2014.

Here in Pennsylvania, Exelon dropped plans to raise the capacity of their Limerick nuclear plant, as it found the economics to no longer be favorable.

TMI-1 on List of Plants That Could Close

Last November an electric utility industry newsletter reported that “prolonged low gas prices could drive more [nuclear] plant closures given the high maintenance capital investment requirements.” Its list of reactors that could be closed included Indian Point (New York), Ginna (New York), Fitzpatrick (New York), Three Mile Island, Davis-Besse (Ohio), and Pilgrim (Massachusetts). Its list did not include disabled plants that are

offline and may never reopen. And it does not include plants already scheduled for closure, like Exelon’s Oyster Creek plant in New Jersey.

More recently, the Associated Press reported that Exelon might shut down some of its 11 nuclear plants if they can’t find a way to make them profitable. The company cited “the unintended consequences of current energy policies” which are posing challenging economics for several of the plants.

Gov’t Shutdown Takes NRC Cops Off the Beat

In the government shutdown of October, 2013, the Nuclear Regulatory Commission furloughed some 3,600 employees. The industry was essentially left to regulate itself as the agency was reduced to a skeleton staff of about 300 “essential” personnel as well as 150 resident inspectors at nuclear plants

around the country. During the shutdown the NRC suspended its rigorous radiation monitoring at the Susquehanna nuclear plant during the shutdown. The plant had been getting extra oversight from the NRC because of its two unplanned shutdowns in 2012.

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