

~KUDOS for NUKEWATCH~

"[The Quarterly] is a truly great publication which has been with us for decades. It's a tremendously important source of information on nuclear issues. It's one of the very best publications, and I want to compliment you on the decades of work keeping Nukewatch going. Really fabulous."
— Harvey Wasserman

Study Finds Low-Level Radiation Deadlier than Previously Thought Nuclear Industry Pushes Deregulation

The Nuclear Regulatory Commission (NRC) is being pushed by the industry to "drastically weaken its safety and security regulations," writes Edwin Lyman, director of nuclear power safety at the Union of Concerned Scientists, in *The Hill*.

Industry lobbyists claim that proposed new, experimental, untested, and unlicensed "micro" or "small modular" reactor designs will be so much safer than today's faulty units, that they will need less oversight and regulation.

Lyman points out that these design plans, which have "new safety and security risks," exist only on paper or have a limited or mostly irrelevant practical record.

Still the nuclearists have convinced many in Congress that NRC rules and regs are to blame for the collapse of new reactor licensing and construction in the U.S.

The current NRC is drafting a new "Part 53" rule that requires applicants to provide 'experimental evidence' that demonstrates an achievable high level of reactor safety. NRC Chair Christopher Hanson has pointedly demanded that the industry "show [their] work."

But the industry meddled deeply in the rule-making process because it wants to delete any requirement for "probabilistic risk assessments" — technical analyses of all the things that could go wrong with new reactors and how well safety systems might work during emergencies. As Lyman writes, "it is hard to imagine a 'risk-informed' licensing process that does not require applicants to quantify risks."

While the industry promotes the weakening of worker protections, new evidence suggests that radiation exposure standards should be toughened. The *British Medical Journal* for August 16, 2023, published a major new study of over 300,000 nuclear industry workers. The principle finding was that prolonged exposure to low doses of ionizing radiation is associated with a higher risk of death from cancer than previously thought.

The international team analyzed deaths among a huge cohort of 309,932 workers in nuclear industries in the U.K., France, and the United States. They calculated that for every cumulative unit of radiation (or "Gray") that workers were exposed to, the risk of death from solid cancer increased by 52%.

Matthew Dunn, vice president of Medical Physics at the Institute of Physics and Engineering in Medicine, said, "This study provides good evidence that even low doses of radiation in medical, occupation, or environmental settings have the potential to cause cancer."

Paul Pharoah, professor of Cancer Epidemiology at Cedars-Sinai Medical Center, said, "The researchers found a 50% increase in risk per Gray of ionizing radiation with evidence that the increase in risk per Gray is greater at lower doses — for 0 to 20 mGy there was a 130% increase in risk per Gray."

"People often assume that low dose rate exposures pose less carcinogenic hazard than the high dose rate exposures experienced by the Japanese atomic bomb survivors," the team wrote in the *BMJ*. "Our study does not find evidence of reduced risk per unit dose for solid cancer among workers typically exposed to radiation at low dose rates." — *JML*

Nukewatch Quarterly - 4

Fukushima: Contamination in Spades

Japan's oceanic pollution launched to wide protest

In August, Tokyo Electric Power Co. (Tepco) began pumping some of its partially treated wastewater into the Pacific Ocean, raising loud international protests and prompting bans on importation of Japanese fish that may last the 30 or 40 years it will take to dump all the waste. China and four other Pacific Rim countries fully banned imports of fishery products from Japan from Aug. 24, when the wastewater discharge started.

Over 1 million tons of radioactive wastewater have accumulated in huge tanks at Fukushima. It is collected after groundwater and cooling water has poured over or run through the 900 tons of melted reactor fuel wreckage now lost somewhere under the three destroyed reactors.

Tepco said October 24 that its dumping of the second, 7,800-ton batch of radioactive wastewater was finished. According to *Japan Today*, Tepco plans to release 31,200 tons of the wastewater by the end of March 2024. This would drain merely ten of the 1,000 huge tanks of the waste that were built onsite since the earthquake/tsunami/meltdown catastrophe began in March 2011. Due to the need to continually cool the melted reactor cores, mass collection of radioactive wastewater will continue indefinitely.

Meltdown fallout and wastewater dumping prompt major seafood import bans

The operators of the destroyed Fukushima-Daiichi reactors intend to disperse over 1.34 million tons of

Ocean. The group Korean Peoples' Action Against Japan's Ocean Dumping of Radioactive Wastewater said problems with the wastewater include clogged wastewater filters and an increase in the concentration of radioactive material in the third discharge compared to the second. Likewise, the Pacific Collective on Nuclear Issues, composed of civil society groups, NGOs, and others in the Pacific region, said in a statement, "If the Japanese government and Tepco believe the radioactive wastewater is safe, they should be prepared to safely dispose of it within terrestrial Japan."

The Collective also reminded the November 8 meeting of Pacific Island Forum states that the panel of scientific experts commissioned by the Forum found that "data provided so far, to support Japan's claim that the treated wastewater is safe, is inconsistent, unsound, and therefore far from reliable."

Wastewater accident contaminates five workers

Tepco has reported that five workers "accidentally" came in contact with radioactive "fluid" while cleaning discharge systems pipelines, and two of them were contaminated enough to be kept under medical observation, *China Daily* reported November 6. According to Tepco, a doctor said there was a possibility the two men sustained burns due to radiation exposure, and that the radiation levels in the bodies of the two men were above the company's allowable threshold. The paper, which has been highly critical of Japan's wastewater discharging, demanded to know: "[S]ince four of the five workers 'were



One-ton bags of cesium-contaminated waste full of cesium-contaminated waste scraped from areas around the Fukushima complex are now stacked in thousands of places, some near the ocean where the waste is vulnerable to being dispersed by storm surges and tsunamis. Today there are over 19 million such bags stacked in tens of thousands of locations. AP photo.

the wastewater over the next 30 to 40 years, after convincing the government and international observers that the practice would have a "negligible" impact on sea life and human health. Fifteen countries have maintained import restrictions on Japanese fish and other seafood from heavily contaminated areas. According to *Food Navigator* online, five with the strictest bans are geographically close to Japan and fiercely opposed to the waste dumping. They are South Korea, Taiwan, China, Hong Kong, and Macau. Ten others — Indonesia, French Polynesia, the U.S., the European Union (27 states), Iceland, Switzerland, Norway, Liechtenstein, Russia, and Singapore — require certification, inspections, etc. before allowing imports. China's ban has had a serious impact on Japan's fishery.

According to the BBC, China imported over 100,000 tons of scallops from Japan last year. The *South China Morning Post* reports that China, had been the world's biggest buyer of Japanese seafood, but "says its ban is due to food safety fears."

Third round of wastewater dumping protested

In November, Tepco began its third deliberate discharge of radioactive wastewater into the Pacific

wearing protective gear and full-face masks, which prevented ingestion of the fluid,' how could the 'fluid' splash and burn the 'lower body and both arms' of one of them, and why the other worker, whose 'entire body was found to be exposed,' was allowed to do the dangerous work without wearing any protective gear?" The *Daily's* editors said the "Accident proved Japan's toxic water plan dubious."

Faulty editors paste "safety" over risky wastewater discharge

"IAEA confirms safe tritium levels in latest ALPS treated water release at Fukushima," was the November 7 headline Nuclear Engineering International magazine used in its report on Tepco's wastewater dumping. Yet the article itself had no such confirmation. IAEA experts monitoring the discharge only said that the concentration of radioactive tritium in the waste was "far below Japan's operational limit." Nowhere did the word "safe" appear. The article itself is factually accurate since there is no safe level of radioactive contamination, regardless of how small the amount. It was the editors that put

Continued on next page

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