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TO: The Ohio Senate – Public Utilities Committee RE: Ohio SB 128

Senator Beagle and Members of the Committee, my name is Patricia Marida and I am speaking today for the Ohio Sierra Club. I speak in opposition to SB 128. Subsidies are intended for startup industries, not for well-established or outdated ones.

ELECTRIC UTILITIES REFUSED TO MODERNIZE. Instead of diversifying with renewables, FirstEnergy stuck with outdated energy sources. They are now finding it harder to compete with dirty coal and expensive, unsafe nuclear. Some of the biggest utilities have engaged in a nationwide push to get the public to bail them out for their mistakes. Lawsuits have been filed against nuclear bailouts Illinois and New York.

THE ZEN PROGRAM WOULD COST OHIOANS OVER \$5 BILLION.

FIRSTENERGY'S PREDECESSOR RECEIVED BETWEEN \$5 AND \$9 BILLION WHEN UTILITIES WERE DEREGULATED IN 1999.

THE PUBLIC UTILITIES COMMISSION OF OHIO BAILED OUT FIRSTENERGY IN 2016. This \$200 million/year bailout could be used to replace power in other ways, all of which would cost less and save ratepayers money.

SB 128 WOULD BAIL OUT PENNSYLVANIA NUKES. This bill is a direct transfer of ratepayer money to FirstEnergy shareholders. FirstEnergy is not compelled to use this money for repairs and upgrades to Davis-Besse and Perry. They would simply use this bailout money to prop up their company. SO, Ohio would also be helping FirstEnergy to finance their two nuclear reactors at Beaver Valley in Pennsylvania. They might also be able to use this bailout to shore up their Sammis and Bay Shore coal plants, which are old and emit plenty of carbon and particulates.

FIRSTENERGY HAS MORE OF A PROBLEM BECAUSE OF ITS NUKES. Because of their expensive and in-need-of-major-repairs nukes, FirstEnergy is in more of a financial pickle than other utilities in Ohio. To stay in the black, FirstEnergy is deferring needed upgrades and maintenance to their nuclear plants, which will be prohibitively expensive. No machine lasts forever. An old car will go to the junkyard. Didn't electric utilities anticipate that their plants would get old and close, particularly when nuclear power plants have reached their 40-year engineered lifespan and their licenses expire? Didn't they have a plan for retirement of facilities that have aged?

FIRSTENERGY LED THE FIGHT AGAINST WIND AND SOLAR IN OHIO. FirstEnergy led the charge for Ohio Senate Bill 310 which froze Ohio's renewable energy standards in 2014. They fought to renew freeze and stifle competition with HB 554 in 2016. The Sierra Club is thankful that Gov. Kasich vetoed the bill.

DAVIS-BESSE: SOLVENT OR INSOLVENT? In August of 2014, FirstEnergy went to the PUCO asking for a bailout, claiming financial woes with Davis-Besse. On March 31, 2016, [FirstEnergy showed a profit for Davis-Besse](#) and the Sammis coal plant. Their 2016 financial statement showed a large paper writeoff loss, but without the paper loss they made an overall profit. In their 10-K financial statement of 2016 they estimate the **value of their 2 Ohio nuclear plants to be only \$245.9 million.** That's not much more than one year of the bailout they are already getting from the PUCO. The real reason FirstEnergy is in a financial pickle is because of its acquisition of Allegheny Energy in 2011.

OHIO HAS EXCESS ELECTRIC CAPACITY. Three new 900+ MW gas plants are in the works in Ohio. The recent PJM auction showed that Ohio has 24% excess electric capacity, and does not need the power from Davis-Besse and Perry.

WHAT ZERO EMISSIONS? NUCLEAR POWER EMITS TONS OF CARBON AND RADIOACTIVE WASTE. Immense amounts of carbon energy are used to fuel nuclear plants, starting with uranium mining and refining, both of which produce dangerous waste piles and emissions of radioactive and hazardous materials, including radon gas. Groundwater, surface water and community drinking water systems have been contaminated. The Navajo reservation in Arizona/New Mexico has 500 abandoned, never cleaned up, uranium mines. Cancer rates on the reservation are high.

Conversion, Enrichment, Fuel Fabrication, MOX Fuel and More is a 2-page Sierra Club summary of the several types of facilities needed for the production of nuclear fuel. Energy is also needed for transportation and building reactors and the numerous other facilities.

And how much energy will it take to keep radioactive nuclear waste isolated from the environment essentially forever?

Besides the use of carbon energy for electricity, these facilities all cause radioactive pollution. Nuclear power plants are allowed to, and all do, have regular radioactive releases into the air and water. They all leak tritium.

KEEPING DAVIS-BESSE AND PERRY OPEN WILL SADDLE NORTHEAST OHIO WITH TONS MORE HIGH-LEVEL RADIOACTIVE WASTE. There is no solution for what to do with radioactive waste from nuclear power plants. It is likely to stay near the source of generation until a permanent repository is found. After 70 years, geologists have not been able to find such a location. Opposition has been mounted against every proposed storage site, including opposition from cities through which this dangerous material has been proposed to be shipped. A typical nuclear power plant produces about 20 metric tons of used nuclear fuel per year. Fuel pools for storing waste at Davis-Besse and Perry already hold several times as many rods as they were designed to hold.

ZERO EMISSION CREDITS SHOULD GO TO WIND AND SOLAR. Ohio HB 114 would dismantle support for *new, real* zero-emissions wind and solar that use modern, safe technology—while SB 128 is a subsidy to an *existing* dirty, dangerous, aging nuclear source. There are now more jobs in solar and wind than in nuclear or coal. **Solar deployment numbers for 2016** show a 95% growth! In that year, **Utilities bought more new solar capacity** than natural gas capacity. Jobs in solar energy are growing all across Ohio. Wind was booming across Ohio until Ohio legislators gave wind the largest setback regulations in the nation. Wind turbines and solar panels do not need to be guarded against unauthorized entry, and do not pose risks of terrorist attacks.

NUCLEAR JOBS CAN BE RETAINED: It is cost effective, more efficient and decreases safety risks if decommissioning begins as soon as a nuclear plant closes. The workers at Davis-Besse and Perry are experts on the workings of their plants. By far the smartest thing to do would be to rehire these workers to begin the decommissioning process. Waiting years for decommissioning and hiring new workers unfamiliar with these plants would pose significant cost increases and safety concerns.

NUCLEAR POWER IS INCOMPATIBLE WITH WARMING WEATHER. Warmer water cannot be used for cooling. Every summer overly-warm water shuts down US nuclear plants – just when electricity demand is highest. See the Sierra Club fact sheet “**How Nuclear Power Worsens Climate Change.**”

REGRESSIVE RATE BURDEN: Low-income residents bear the highest burden of increased electric rates. Ratepayers in FirstEnergy territory in Northern Ohio already have the highest electric rates in the state due to the expense of building and operating Davis-Besse and Perry.

A NEW KIND OF “FREE ENTERPRISE” SYSTEM? A system where the public invests and takes losses while corporations take the profits is fundamentally undemocratic.

MYTH OF CENTRALIZED GENERATION: Distributed generation is more flexible. If one windmill is not turning it is not as big a problem as when one nuclear plant is offline. Locally-sourced power has major efficiencies. With the continuing increase in renewable sources, the inability to supply electricity is far more likely to happen with an outage of a single large source, and the effects of a large-source outage could be much more serious. Ironically, nuclear power plants cannot operate, and pose a dangerous risk, if their supply of outside electricity is interrupted.

NUCLEAR SUBSIDIES: Utilities lobbied against subsidies for wind and solar, while reaping far larger subsidies for coal and nuclear. The 2011 Union of Concerned Scientists report, “**Nuclear Power: Still Not Viable without Subsidies**” shows that the cost of subsidies for nuclear power in some instances has been greater than the value of the electricity produced. On top of taxpayer subsidies, electric ratepayers across the nation pay more in areas with nuclear power.

DAVIS-BESSE AND PERRY POSE CATASTROPHIC RISKS. The Ohio Sierra Club has a 2-page flier on the accidents, violations and risks at the [Davis-Besse Nuclear Reactor](#). All old reactors have deteriorating, brittle steel and concrete. Davis-Besse has a cracked shield building, which could cause concrete to fall on the reactor or on critical components outside the reactor. Compliance with fire protection will be a major price tag. They have been out of compliance for years. Davis-Besse is known as “the reactor with a hole in the head.” In 2002 a delayed inspection found that boric acid had eaten through 7 inches of the reactor lid, with only a bulging 3/16-inch steel liner preventing a radioactive catastrophe. This is the second-worst nuclear power incident in the US after Three Mile Island. In 2013, the Sierra Club and 2 other organizations legally challenged the engineering of two replacement steam generators. Although regulations require that replacement steam generators be “like-for-like” with the original---- the new ones weighed 590 tons compared to 465 tons for the originals. A different alloy was used for the tubing. Expert witness [Arnold Gundersen identified 9 significant, experimental modifications](#) to the original design. Despite these findings, or perhaps because the steam generators were already constructed, the Nuclear Regulatory Commission approved their use.

Perry sits on an earthquake fault and suffered an earthquake while under construction. In 2011, Perry was named by Reuters as the world’s most dangerous nuclear plant in terms of worker safety. [Nuclear Regulatory Commission slaps FirstEnergy for safety violations at Perry nuclear power plant.](#)

Doing an online search for problems with these reactors will yield a very long list of incidents, accidents, violations and near misses. Start with the Union of Concerned Scientists, which is not an antinuclear organization. They have excellent nuclear engineers reporting on the subject over the years.

PICKING OUR POCKETS: On May 16, at the House Public Utilities Committee hearing on the companion bill to this one, Micah Derry testified against HB 178 for the organization Americans for Prosperity. Americans for Prosperity is operated by the Koch Brothers, who consider nuclear to be competition for their oil and gas investments. Their oil and gas interests get plenty of government subsidies. So here we are, the citizens, residents, taxpayers and ratepayers, caught between these giant energy companies competing to pick our pockets.