



WHEREAS:

Water and energy are inextricably linked. Thermoelectric generation requires access to adequate water at sufficiently low temperatures. Coal combustion waste (CCW), if improperly managed, could result in water contamination. Less water-intensive energy sources such as photovoltaic solar and wind, and energy efficiency and water conservation programs, are strategies that can reduce water risks.

According to Department of Energy (DOE), “Water shortages, potentially the greatest challenge to face all sectors of the United States in the 21st century, will be an especially difficult issue for thermoelectric generators due to the large amount of cooling water required for power generation.”

Climate change is expected to exacerbate water shortages. According to DOE, “there is agreement among climate models that there will be a redistribution of water, as well as changes in the availability by season. As currently designed, power plants require significant amounts of water, and they will be vulnerable to fluctuations in water.”

Coal and nuclear are the most water-intensive generation sources. FirstEnergy’s generation portfolio is 64% coal and 18% nuclear. Many of its plants utilize once-through cooling technology that requires high water flow volumes. Some plants have cooling towers, which result in higher water consumption.

Heat waves can raise surface water temperatures and force reduced production or shut down. Water withdrawals must be cool enough to effectively cool plants; also, as temperatures of surface waters rise, nuclear plants can be forced to reduce energy output to curtail thermal impacts. A heat wave in August 2010 forced Tennessee Valley Authority to decrease power generation at three nuclear facilities, costing approximately \$10 million in lost power production. FirstEnergy operates in the Midwest, which experienced drought and record heat in 2012. Extreme heat in Ohio forced FirstEnergy to slow output at its Perry nuclear plant.

FirstEnergy’s coal reliance poses potential water contamination risks from CCW disposal. CCW is a by-product of burning coal that contains arsenic, mercury, heavy metals, and other toxins filtered out of smokestacks. Throughout the industry, CCW is often stored in landfills, impoundment ponds or abandoned mines.

THEREFORE BE IT RESOLVED:

Shareowners request that FirstEnergy adopt strategies and quantitative goals to reduce the company’s impacts on, and risks to, water quantity and quality, above and beyond regulatory compliance, and to report to shareholders by September 2013 on progress. Such a report should omit proprietary information and be prepared at reasonable cost.



SUPPORTING STATEMENT:

The Proponent believes goals and measurements should include quantitative targets for reduced water use, thermal impacts on receiving waterways, use of less water-intensive energy sources such as photovoltaic solar and wind, number of CCW sites rated by EPA as "high" or "significant" hazard, and number of notices of violation related to CCW sites, categorized by severity.