



October 18, 2010

Dr. Roderick J. McDavis  
Ohio University  
Office of the President  
Cutler Hall 108  
Athens, Ohio 45701

**RE: Ohio University Lausche Heating Plant**

Dear Dr. McDavis:

On behalf of the Natural Resources Defense Council and the Sierra Club, we are writing to express concern regarding Ohio University's continuing use of coal as a fuel for the campus' Lausche Heating Plant. Given the serious environmental and human health implications of burning coal without the installation of basic pollution controls, we urge the administration to transition away from the use of this dirty fuel and to obtain heat from less polluting alternatives such as geothermal and solar thermal. Natural gas, especially with the added benefit of combined heat and power ("CHP"), could stand in for coal during the shift to renewables, in combination with campus-wide energy efficiency technology and conservation. Transitioning to cleaner fuels and technologies would improve air quality for students, staff, and faculty at Ohio University and the surrounding community, and would help the university fulfill its 2007 commitment to achieve carbon neutrality.

Moreover, as explained in this letter, the coal-fired boilers at the Lausche Heating Plant are presently in violation of the Clean Air Act's regulations regarding hazardous air pollutants and may be in violation of the Act's New Source Review requirements as well. In addition, the plant continues to violate permit-specific terms and conditions concerning the opacity of the smokestack plume. Failure to remedy these ongoing violations of the Act could subject the university to a government- or citizen-initiated Clean Air Act enforcement action, which could subject the university to civil penalties and require the school to undertake the installation of costly pollution controls. These costs and legal liabilities can be avoided, and health and climate benefits can be enjoyed, if the university commits to transition away from coal along an aggressive, transparent, and certain timeline.

Ohio University should fulfill its commitment to climate neutrality by ceasing the burning of highly carbon-intensive coal at the Lausche Heating Plant. On March 15, 2007, you took the important step of signing the American College and University Presidents' Climate Commitment ("ACUPCC"), pledging Ohio University to achieving climate neutrality. Specifically, as a signatory to the ACUPCC, you promised that Ohio University would conduct a

comprehensive greenhouse gas emissions inventory of its campus and, within the first two years of signing, develop a specific plan for achieving climate neutrality. For both economic and health-related reasons, this plan for achieving climate neutrality must include the repowering or elimination of the coal boilers at the Lausche Heating Plant, and this must not be merely a goal for the distant future. Additionally, we support the use of renewable technologies like hydrokinetics and photovoltaic panels for electricity production on campus.

During the past three years, the Lausche Heating Plant's coal boilers have contributed more than a quarter of the total greenhouse gas emissions for the entire university, producing an average of 55,582 metric tonnes of CO<sub>2</sub> per year between 2007 and 2009 compared to the university's average total of 215,064 metric tonnes of CO<sub>2</sub> equivalent. Coal is an inherently carbon-intensive source of fuel, and retrofitting an existing coal boiler to capture carbon dioxide emissions would result in considerable financial costs to the university as well as a dramatic reduction in the heat rate of the boilers, requiring the university to run more boilers for more hours to generate the same quantity of steam heat. Similarly, purchasing carbon offsets to achieve the promised elimination of greenhouse gas emissions would be costly and fraught with concerns about ensuring that such offsets are additive and verifiable. Moreover, relying on offsets would deprive the university and community of the local air quality benefits that would accrue from transitioning away from coal.

By contrast, many alternatives to coal are considerably less greenhouse gas-intensive than coal and would reduce the costs associated with complying with the ACUPCC. Indeed, the university successfully modified one of its coal boilers in 1992 to burn natural gas in addition to coal. There is nothing to prevent the university from similarly modifying the remaining coal boilers and transitioning away from the use of coal, and gradually on to all renewable sources of energy as the decade progresses. It will be impossible for the university to economically meet its commitment to climate neutrality and at the same time continue to burn fossil fuels on campus.

Moreover, coal is one of the dirtiest-burning fuels, and a commitment to transitioning away from coal will yield collateral human health benefits. Exacerbated by the paucity of emission controls at the Lausche Heating Plant, Ohio University's coal-fired boilers emit significant quantities of pollution that pose unnecessary health risks to Ohio University's students, staff and faculty. Currently, all of Ohio University's coal-fired boilers are operating without any emission controls designed to curtail emissions of sulfur dioxide ("SO<sub>2</sub>") and nitrogen oxides ("NO<sub>x</sub>") when burning coal. Although three cyclones, an electrostatic precipitator and a baghouse have been installed at the Lausche Heating Plant and help to reduce particulate emissions, similar emission controls have never been installed for SO<sub>2</sub> or NO<sub>x</sub>. Indeed, the permitted emission rate for SO<sub>2</sub> at the Lausche Heating Plant is over 75 times higher than for recently permitted pulverized coal-fired facilities such as the Consumers Energy coal plant in Bay County, Michigan.<sup>1</sup> And even this quite permissive rate has been exceeded in the past.

As a result of the lack of SO<sub>2</sub> and NO<sub>x</sub> emission controls, the plant has emitted more than 1,200 tons of SO<sub>2</sub> and 170 tons of NO<sub>x</sub> annually for each of the past three years. These

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<sup>1</sup> The Lausche Heating Plant is authorized to emit 4.6 lb/mmBtu, as compared to the Consumers plant, which is authorized to emit only 0.06 lb/mmBtu.

pollutants contribute to a wide variety of adverse environmental and human health effects including premature mortality, chronic and acute bronchitis, heart attacks, asthma attacks, acid rain, damage to vegetation, and impaired visibility. Moreover, both pollutants contribute to the formation of fine particles, which penetrate deeply into the lungs causing an array of respiratory problems. And NO<sub>x</sub> reacts with volatile organic compounds in the presence of sunlight to form ground-level ozone. Consequently, both SO<sub>2</sub> and NO<sub>x</sub> pose a health risk to people who live on or near Ohio University's campus. By contrast, all of the alternatives to coal would result in dramatic reductions in emissions of these pollutants, if not the virtual elimination of these emissions. Efficiency and conservation will reduce pollution even more, and bring the demand for more expensive energy sources down to a more easily financed level. Transitioning to any of these alternative means for satisfying the university's heating needs will improve air quality on Ohio University's campus, while at the same time helping to fulfill the university's commitment to climate neutrality.

Transitioning away from coal also makes sound economic sense in light of the costs that will be required in order to bring the Lausche Heating Plant into compliance with the requirements of the Clean Air Act and modernize the plant's pollution controls. The Lausche Heating Plant is currently violating the Clean Air Act's hazardous air pollutant ("HAP") regulations. In 1990 Congress amended the Clean Air Act to address the persistent failure of agencies to regulate emissions of HAPs from major sources of these deadly pollutants. Pursuant to the 1990 Amendments to the Act, U.S. EPA was required to promulgate stringent national emissions standards for HAPs from institutional boilers like the Lausche Heating Plant by November 15, 2000. Section 112(j) of the 1990 Amendments made clear that where no emissions standard were in place eighteen months after the statutory deadline had passed for establishing the national emissions standards, permitting agencies were required to set case-by-case Maximum Achievable Control Technology ("MACT") limits for each major source. Under the Act, these case-by-case emission limits cannot be less stringent than the emission control which is achieved in practice by the best controlled similar source. At present, there are no national emissions standards in place for institutional boilers despite the nearly ten years that has elapsed since the deadline for promulgation of these standards. Consequently, the requirements of case-by-case MACT are fully applicable to institutional boilers that are major sources of HAPs.

The Lausche Heating Plant is a major source of HAPs and must comply with section 112(j)'s case-by-case MACT requirements. The threshold for a source to qualify as a "major source" and thereby trigger the requirements of MACT is 10 tons per year of any individual HAP or 25 tons of any combination of HAPs, and the definition of "major source" includes a "group of stationary sources located within a contiguous area and under common control." The 2008 Emission Inventory for the Lausche Heating Plant indicates that the facility emitted more than 21 tons of hazardous air pollutants including 18.259 tons of hydrogen chloride (hydrochloric acid) and 2.282 tons of hydrogen fluoride (hydrofluoric acid). As such, the facility is a major source of HAPs for HCl and must comply with the case-by-case MACT requirements for all HAPs.

In order to comply with the Clean Air Act's HAP regulations, the university is required to install strict emissions control technologies for hazardous pollutants such as mercury and hydrochloric acid. Under U.S. EPA's now-vacated boiler MACT standard, existing boilers such

as the Lausche Heating Plant would have been required to meet an emission limits of 0.07 lb/mmBtu for particulate matter, less than half the currently permitted emission rate of 0.15 lb/mmBtu, and would have been required to meet emission limits of 0.09 lb/mmBtu for HCl and 0.000009 lb/mmBtu for mercury. Given the consistent improvements in pollution controls over time, a MACT analysis carried out today would likely result in even lower emission limits. Compliance with such limits would require the University to install additional pollution controls for particulate matter, as well as emission controls for mercury and HCl. These costs could be obviated by transitioning away from coal to a less-polluting fuel source at the Lausche Heating Plant, thereby rendering the plant no longer a major source of HAPs and therefore no longer subject to MACT.

In addition, it is inappropriate for the Lausche Heating Plant to continue to operate without basic pollution controls for criteria air pollutants such as sulfur dioxide (“SO<sub>2</sub>”) and nitrogen oxides (“NO<sub>x</sub>”). Indeed, installation of these pollution controls may well be required by the Clean Air Act at this time. The Clean Air Act imposes obligations on new and modified major sources of air pollution to curtail their emissions by employing the Best Available Control Technology (“BACT”) for each pollutant that a facility emits in significant quantities, comply with New Source Performance Standards (“NSPS”), and engage in air quality modeling to ensure that emissions from the source will not cause or contribute to a violation of National Ambient Air Quality Standards (“NAAQS”). Although existing sources of pollution were granted a temporary reprieve from compliance with New Source Review (“NSR”) requirements when the Clean Air Act was amended in 1977, the exemption from the basic control requirements of the Act has always been finite. Sources are required to bring themselves into full compliance with the Act whenever they engage in capital improvements designed to prolong the life of the facility, as has occurred at the Lausche Heating Plant. While Ohio’s State Implementation Plan creates a limited, discretionary exemption from compliance with NSR for nonprofit educational institutions, Ohio University has apparently never requested application of this exemption, and, as a result, this exemption is inapplicable to the Lausche Heating Plant.

Each of the coal boilers at the Lausche Heating Plant has undergone modifications during the past decade that would likely have triggered compliance with the NSR requirements. According to documents provided by the university, the Lausche Heating Plant is now approaching the end of a decade-long \$14 million, three-phase “rehabilitation” of the facility designed to prolong the life and potentially increase the capacity of the plant’s four boilers. At least several aspects of this rehabilitation likely constitute modifications sufficient to trigger NSR. For example, following a number of boiler tube leaks and a report on boiler tube thickness at the facility that indicated the remaining life of several of the boilers to be limited to less than three years, Ohio University undertook a “refurbishment” of Boiler No. 1 in 2003 that included a complete retubing of the boiler and a complete retubing of Boiler No. 2 the following year. During these renovations, the stokers for Boilers Nos. 1 and 2 were also completely rebuilt. To accomplish these renovations, the university solicited bids from outside contractors and the majority of the funding for each phase of the rehabilitation was provided through special appropriations in state house bills. In addition, after a large hole was discovered in the arch of Boiler No. 1 in May 2000, the arch of the boiler was completely rebuilt during which time the boiler was offline for more than six months.

Each of the modifications described above is the type of modification that may have required compliance with the Clean Air Act's NSR program. Comparable modifications at other facilities have been found to be major modifications, and, more generally, projects approved by management, planned by a central office, using outside contractors, involving replacements of entire components, and paid for with funds other than a plant's operating and maintenance budget or treated as capital expenses on balance sheets, are categorically not exempted from the requirements of NSR. *See, e.g., United States v. Ohio Edison Co.*, 276 F. Supp. 2d 829, 834, 859, 862 (S.D. Ohio 2003); *United States v. Cinergy Corp.*, 495 F. Supp. 2d 909, 933 (S.D. Ind. 2007); *In re Tenn. Valley Auth.*, 9 E.A.D. 357, 481, 484-85, 490-91, 493-94 (EAB 2000). In addition, available annual emissions data from the past seventeen years suggest that the emissions of SO<sub>2</sub> following these renovations were significantly higher than baseline SO<sub>2</sub> emissions in several of the years following the renovations. In consequence, it appears that Boilers Nos. 1 and 2 may be operating in violation of NSR and may be required to comply with the Clean Air Act's BACT and NSPS requirements, and be required to demonstrate compliance with all applicable NAAQS.

Modernizing the control technologies at the Lausche Heating Plant in order to comply with BACT and NSPS while continuing to burn coal would require a significant investment into these aging coal units. BACT and NSPS for SO<sub>2</sub> for a coal-fired boiler typically require installation of a wet or dry scrubber (i.e., flue gas desulfurization). BACT and NSPS for NO<sub>x</sub> typically require the installation of low- or ultra low-NO<sub>x</sub> burners and selective catalytic reduction. Rather than undertake the considerable investment required to bring the university's highly polluting coal-fired units into compliance with the requirements of NSR, the university could avoid these costs by immediately repowering its existing coal-fired units with cleaner-burning fuel, while pursuing a blue chip investment strategy in renewable sources of heat generation for campus.

Finally, the Lausche Heating Plant has experienced numerous violations of its permitted opacity rate during the previous five years, each of which could render the university liable for civil penalties. Between July 2005 and September 2009, Ohio University violated its permitted opacity limit for more than 9,900 minutes, including at least 3,100 minutes in 2005, 1,500 minutes in 2006, 2,000 minutes in 2007, 1,600 minutes in 2008 and 1,600 minutes in 2009. If enforced, each of these opacity exceedances, unless excused, could subject Ohio University to civil penalties.

The good news is, Ohio University has the opportunity to avoid the possibility of citizen-initiated Clean Air Act litigation, and to achieve real and life-saving pollution reductions, by committing to an aggressive timeline for phasing out the use of coal at the Lausche Heating Plant. Carbon-neutral electricity produced from regional solar and wind farms, in combination with geothermal, solar thermal and an aggressive energy efficiency regime, could eventually comprise a comprehensive and cost-effective energy portfolio of which the Ohio University community can feel proud. In late 2009, you met with student leaders who requested that you begin the process of moving OU beyond coal. We would like to invite you to a follow-up meeting, in which Sierra Club, NRDC, and students will be represented, in order to discuss how the university can best and most cost-effectively achieve its climate neutrality goals, focusing on

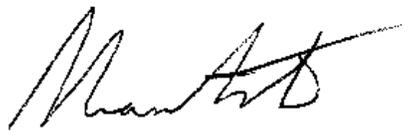
the role of the Lausche Heating Plant. Please follow up with Nachy Kanfer directly (contact information below) to schedule this meeting.

Ultimately, the decision to transition away from burning coal will be a clear win for the university. Switching to geothermal or natural gas with CHP to provide heat to the Ohio University campus will avoid the costly pollution controls associated with bringing the Lausche Heating Plant into compliance with the requirements of the Clean Air Act; improve the quality of the air on campus; and help the university to fulfill its commitment to becoming carbon neutral. We strongly urge the university to join the growing number of universities that have recognized that burning coal has no place on college campuses, and to commit to a firm timeline for ending the use of coal at Ohio University.

Sincerely,

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