

Ohio Utility Violated Clean Air Act NSR Rules

A federal court has ruled that Ohio Edison Company (Ohio Edison) violated the federal Clean Air Act (CAA) by undertaking eleven different maintenance projects at its W. H. Sammins Station in Jefferson County, Ohio without first obtaining a Prevention of Significant Deterioration (PSD) permit authorizing the maintenance activities. The case is one of several enforcement actions brought in recent years by the United States Environmental Protection Agency (EPA) against utilities that operate coal-fired power plants.

The NSR Requirements

Under the CAA, new major sources of air emissions must comply with permitting regulations generally known as New Source Review (NSR). In areas that meet EPA standards for air quality, such as Jefferson County, Ohio, the NSR requirements include: (i) identifying and installing the Best Available Control Technology (BACT) to control emissions; (ii) evaluating the potential impact of emissions from the facility on ambient air quality to ensure that significant deterioration of air quality will not result; and (iii) obtaining a pre-construction permit, known as a PSD permit, to document compliance with all applicable requirements.

Existing emission sources are “grandfathered” and not required to comply with NSR requirements unless and until an existing source undergoes a “major modification.” At the time of the events that were the subject of this lawsuit, a “major modification” was defined as:

any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase to any pollutant subject to regulation under the [CAA].

“Routine maintenance, repair and replacement” activities, however, were excluded from the definition of “major modification.”

Eleven Ohio Edison Projects

The Sammins Station includes seven separate coal-fired generated units, numbered 1 through 7, that were originally constructed between 1959 and 1971. The seven units have a combined rated output of over 2200 MW of electricity. The Sammins Station is a large source of emissions to the air, releasing as much as 145,000 tons of sulfur dioxide per year in recent years.

During the 1980s and 1990s, Ohio Edison developed a program to improve the *heat rate* of the Sammins Station units. “Heat rate” refers to the quantity of heat necessary to generate a kilowatt-hour of electricity. In general, the lower a unit’s heat rate, the less coal (or other fuel) it will burn and the less pollution it will produce to generate the same amount of electricity. The projects included replacement of boiler duct work expansion joints, refurbishment of internal turbine seals and improved operator training. In addition, Ohio Edison undertook a number of projects to improve the reliability of the Sammins Station units and to reduce the frequency and duration of unplanned outages for unscheduled maintenance.

In addition to these projects, Ohio Edison spent over \$450 million to install pollution control devices at the Sammins Station since 1970 and switched from locally produced high-sulfur coal to lower sulfur coal from outside Ohio, which contributed to the loss of 12,000 coal mining jobs in Ohio since 1980, the court noted.

EPA alleged that eleven specific projects at the Sammins Station were “major modifications” under the NSR regulations, rendering the Sammins Station subject to NSR requirements. Because Ohio Edison did not obtain PSD permits and otherwise comply with NSR requirements before undertaking these projects, EPA alleged that Ohio Edison violated the CAA.

Ohio Edison argued that the activities in question were routine maintenance, repair and replacement and that the projects did not increase the hourly emission rate of the Sammins

Station. Therefore, Ohio Edison argued, NSR requirements did not apply to the eleven projects. The court disagreed and ruled in favor of EPA.

The eleven projects included 34 parts replacements, including replacements of furnace water wall tubes, economizer tubes, superheater tubes, reheater tubes, burners, coal pipes, pulverizers and low pressure turbine rotors. The total cost of the projects was approximately \$136 million.

“Physical Changes” Subject to NSR

The court summarized the distinction between routine maintenance, which is exempt from NSR, and other projects that trigger NSR requirements:

While the analysis required to distinguish between a modification sufficient to trigger compliance from routine maintenance, repair and replacement is complex, the distinction is hardly subtle. Routine maintenance, repair and replacement occurs regularly, involves no permanent improvements, is typically limited in expense, is usually performed in large plants by in-house employees, and is treated for accounting purposes as an expense. In contrast to routine maintenance stand capital improvements which generally involve more expense, are large in scope, often involve outside contractors, involve an increase of value to the unit, are usually not undertaken with regular frequency, and are treated for accounting purposes as capital expenditures on the balance sheet.

The court criticized EPA’s enforcement of NSR requirements over the years, but ultimately concluded that EPA’s failures did not absolve Ohio Edison of liability:

While the law has always been clear, the enforcement strategies of the EPA have not. It is clear to this Court that at various times since 1970 officials of the EPA have been remiss in enforcing the law and clarifying its application to specific projects.

Turning to the specific issues regarding the definition of “major modification” and the routine maintenance, repair and replacement exemption, the court largely adopted the analysis presented by EPA.

This Court is of the view that the words “any physical change” included in the definition of “modification” must be given their plain meaning – that is, that any physical change to the units at issue trigger CAA compliance assuming, (1) that the change also causes an increase in emissions and (2) the change is not excluded by a regulatory exemption.

(Emphasis in original.)

The court concluded that the eleven projects all involved physical changes because they involved replacing critical components or rebuilding damaged elements. Therefore, the court turned to the question of whether the eleven projects were exempt as routine maintenance, repair and replacement.

Only “Routine” Maintenance, Repair and Replacement are Exempt

The court noted that NSR regulations do not exempt all maintenance, repair and replacement activities, but only those that are “routine.” Because the term “routine” is not defined in the NSR regulations, the court considered the reasonableness EPA’s interpretation of what is “routine.”

First, the court noted that, although EPA’s regulations exempt routine maintenance, repair and replacement from NSR requirements, the underlying statutory provisions of the CAA do not include such an exemption. Therefore, the court preferred a narrow interpretation of the exemption to avoid conflicting with the statutory requirements. The court found that the interpretation of “routine” proposed by Ohio Edison was too broad and would thwart the purposes of the CAA by opening “vistas of indefinite immunity from the provisions of [NSR].”

In contrast, the court found that EPA's four part test for "routine," which considers the (i) nature, (ii) purpose, (iii) cost and (iv) frequency of the project, to be reasonable.

Accordingly, the court deferred to EPA's interpretation of what constitutes "routine" repair, maintenance and replacement. In particular, the court accepted EPA's position that the primary focus should be on what is "routine" for a particular unit, rather than on the types of activities performed in the coal fired electric generating industry as a whole:

The types of activities undertaken within the industry as a whole have little bearing on the issue if an activity is performed at a unit only once or twice in the lifetime of that particular unit."

The Eleven Projects were not "Routine"

The court then applied EPA's four-part test for "routine" to the eleven projects undertaken at the Sammins Station and found that none of them qualified as "routine."

Regarding the first part of EPA's test, the nature and extent of the activities, the court noted that the projects involved replacement or upgrade of major components of the generating units. The projects required each unit to be shut down for weeks or months at a time. Internal Ohio Edison documents showed that the activities were expected to reduce forced outages of the units and could extend the lives of the units by as much as 30 years. Most of the work was performed by outside contractors, rather than by Sammins Station maintenance staff. Funding for the projects had to be approved by personnel in Ohio Edison's central office and all of the projects were funded from Ohio Edison's capital improvements budget. Although the eleven projects were arguably smaller than the projects that were found to be a "major modification" in a previous case involving Wisconsin Electric Power Company ("WEPCO"), the court concluded that nothing in the *WEPCO* decision suggested that all projects smaller than the ones at issue in

the *WEPCO* case were exempt from NSR. Therefore, the court found that the nature and extent of the projects weighed against a finding that they were “routine.”

Regarding the purpose of the eleven projects, the court noted that Ohio Edison documents stated that the purpose of the projects was to increase the availability and reliability of the Sammins Station units. In addition, the projects were expected to extend the useful lives of the Sammins Station units by 30 years. Based on this, the court concluded that the purpose of the projects was beyond mere maintenance of the units and, therefore, the purpose of the project also weighed against a finding that they were “routine.”

With respect to the frequency of the activities, the court first ruled that the primary focus should be placed on how frequently the activities in question have been performed at the particular unit. The court found that Ohio Edison could not establish that the eleven activities were undertaken with such frequency that they could be considered “routine” at the particular unit. The evidence showed that almost all of the major component and equipment replacements at the Sammins Station had never been performed before on the particular unit. In addition, the court found that fact that the activities were expected to extend the useful lives of the Sammins Station generating units supported the conclusion that the projects would occur only once or twice in a particular unit’s lifetime. Although the court acknowledged that similar projects may have been performed at other coal-fired generating stations across the country, the court concluded that an industry-wide standard as to what is routine would render the exemption meaningless. The court held that the frequency with which projects are performed at other plants could be considered in the analysis, but must be given less weight. Therefore, the court held that the frequency (or rather lack of frequency) with which the eleven projects had been performed in

the past on the particular generating units in question weighed against a finding that the projects were “routine.”

Finally, with regard to the cost of the eleven projects, the cost of the projects ranged from \$1.15 million to \$33 million, for an aggregate cost of \$136.4 million. The court found that these costs clearly supported a finding that the activities were not “routine.” Moreover, the court concluded that because most of the cost of the projects were capitalized and not budgeted as maintenance expenses supported a finding that the projects were not “routine.”

Because the court concluded that the four factor test for routine maintenance, repair or replacement was not satisfied with respect to the eleven projects undertaken at the Sammins Station, they did not qualify for the routine maintenance, repair and replacement exemption.

The Projects Resulted in a Significant Net Emissions Increase

The court turned to the second step of the analysis: whether the projects resulted in a significant increase in emissions.

Ohio Edison and EPA proposed different methods for determining whether any of the eleven projects resulted in an increase in emissions. EPA argued that Ohio Edison was required to calculate the projected change in emissions that would result from the project before the project was performed. Ohio Edison argued that the court should simply review the actual record of historical emissions to determine whether an increase had occurred.

The court held that the question of NSR applicability must be determined before a particular project is undertaken. The statutes and regulations clearly state that a PSD permit, if one is required, must be obtained before construction of a project commences. Therefore, the court ruled that, even though actual data exists as to the emissions resulting from the eleven projects, the law does not allow an after-the-fact analysis of the effect of a plant modification.

Accordingly, the court concluded that the appropriate frame of reference for determining whether a significant net emission increase would result from a particular project was whether a significant increase in emissions would have been expected before the project commenced, regardless of whether the expected increase actually occurred.

The court evaluated in detail EPA's expert's testimony regarding the emissions increases associated with the eleven projects. In essence, EPA's expert reasoned that, because the purpose of the projects was to increase the reliability of the generating units and decrease the number of days per year that each unit was forced out of service for unplanned maintenance, it was expected that each unit would be able to operate more days per year after the projects than before. EPA's expert surmised that the additional days of operation for each unit would result in a corresponding increase in annual emissions from that unit. The court noted that Ohio Edison's records demonstrated that, in fact, the projects did reduce the average number of days of shutdown for planned and unplanned outages.

Ohio Edison argued that none of the eleven projects increased the maximum production capacity, the maximum fuel consumption rate or the net demonstrated generating capacity of any of the units. Ohio Edison also argued that EPA's analysis failed to take into account the fact that the projects improved the heat rate of the units, thereby reducing the fuel consumption (and emissions) required to generate a given amount of electricity.

EPA countered that the increased reliability and improved heat rates of the Sammins Station units would lead to increased utilization of the Sammins Station for satisfying Ohio Edison electricity generation needs. In addition, EPA argued that its expert did not ignore the effect of heat rate improvements, but rather concluded that, even if a temporary heat rate improvement could be expected from a project, the beneficial effect on emission rates would be

largely cancelled out by an increase in utilization of that unit. In addition, the court noted that Ohio Edison did not submit any calculations of emission reductions that would be expected to result from the improvements in heat rate at the Sammins Station units. Therefore, the court concluded that EPA reasonably disregarded the effect of improved heat rate when calculating expected emissions from the Sammins Station units.

The court also rejected Ohio Edison's method for calculating the baseline emissions (i.e., the emission rate before the eleven projects). Ohio Edison argued that the NSR rules allow it to use the two years of highest emissions within five years before any given project to establish the baseline. The court concluded however, that the NSR regulations require the baseline to be calculated from the two years immediately preceding a project and that a different two year period within the previous five years may be used only with approval by EPA. Because Ohio Edison had never received approval from EPA for an alternate baseline period, it was obligated to use the two years immediately prior to each project for determining the baseline amount of emissions.

As discussed above, the court rejected Ohio Edison's method for measuring the amount of emissions after a project (i.e., looking at the actual emission rate as measured at the plant) in favor of EPA's approach of estimating the amount of emissions that would have been expected to occur before the projects were undertaken. Nonetheless, the court noted that when the actual emissions from each unit after one of the projects was performed were compared to the correct baseline emissions (based on the average of the two years immediately before the project), all of the Sammins Station units, with the sole exception of Unit 2, experienced a confirmed actual increase in emissions large enough to trigger NSR requirements.

Because the court accepted EPA's methodology for calculating the amount of emissions increase associated with each of the eleven projects, the court concluded that each project resulted in a "significant" net emissions increase.

The Fair Notice Defense

Because the court held that each of the eleven projects: (i) was a physical change; (ii) was not routine maintenance, repair or replacement; and (iii) resulted in a significant net emissions increase, the court found that Ohio Edison had violated the CAA with respect to each project.

The final issue considered by the court is whether Ohio Edison should be absolved from liability because it did not have fair notice of its obligations under the CAA. Ohio Edison argued that EPA had repeatedly changed the definition of routine maintenance, repair and replacement and the methods for calculating emission increases. Therefore, Ohio Edison argued that the tests for routineness and emissions were not "ascertainably certain" and, therefore, Ohio Edison did not have fair notice of the law.

The court rejected Ohio Edison's argument, finding that EPA's statements in the *Federal Register* and in administrative determinations, when read together with prior court opinions and the text of the CAA, were sufficient to provide Ohio Edison with fair notice that the projects at issue in this case could not be considered routine maintenance, repair or replacements.

Moreover, Ohio Edison's participation in utility industry trade groups kept it informed of the latest developments in environmental law, including EPA's NSR policies. Therefore, the court found that Ohio Edison was not relieved of liability under the CAA because of a lack of fair notice.

The Second Phase Trial

For the foregoing reasons, the court held that Ohio Edison had violated the CAA with respect to each of the eleven projects at the Sammins Station by failing to obtain a PSD permit for each project and otherwise failing to comply with NSR requirements for each project. The court did not assess any penalties against Ohio Edison or order Ohio Edison to undertake any particular remedies to correct these violations. Those issues will be resolved after a separate “second phase” trial, which is expected to commence in March 2004. In its opinion, the court indicated that it may consider a variety of issues in determining the appropriate remedy for these violations, including issues that were not relevant to the question of whether Ohio Edison violated the CAA, such as the air quality, public health, economic impact and employment consequences. The court stated that it may also take into consideration in the second phase EPA’s inconsistent history of applying and enforcing the CAA with respect to projects such as those at issue in this case. *United States v. Ohio Edison Company*, Case No. 2:99-CV-1181 (S.D. Ohio, August 2003).

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[Editor’s note: As this issue of Michigan Environmental Compliance Update went to press, EPA promulgated sweeping revisions to the NSR rules pertaining to routine maintenance, repair and replacements. EPA has previously stated that these rule revisions would not have retroactive effect and, therefore, would not affect ongoing NSR enforcement actions such as the Ohio Edison case. The Natural Resources Defense Council has claimed that these new routine maintenance, repair and replacement regulations, if they were applicable to the Ohio Edison case, would exempt all but one of the eleven projects from NSR. A complete analysis of the new routine, repair and replacement regulations will be included in the next issue of Michigan Environmental Compliance Update.]

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