



RTP ENVIRONMENTAL ASSOCIATES INC.

AIR • WATER • SOLID WASTE CONSULTANTS

239 U.S. Highway 22 East • Green Brook, New Jersey 08812

(908) 968-9600

LETTER OF TRANSMITTAL

TO Mr. Al Linero
Florida Dept. of Environmental Protection
111 South Magnolia, Suite 4
Tallahassee, FL 32301

Date: 03-13-97 Proj. ID: LPPPP

WE ARE SENDING YOU: [X] Attached [] Under separate cover
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REMARKS

COPY TO RECEIVED

MAR 14 1997

SIGNED Mary P. Jordan

BUREAU OF enclosures are not as noted, kindly notify us at once. AIR REGULATION

MEMORANDUM

TO: David Solomon
FROM: Donald F. Elias
DATE: March 13, 1997
SUBJECT: March 4, 1997 Correspondence

Enclosed is a revised copy of our March 4, 1997 letter to David Dee concerning the Piney Point Phosphate sulfuric acid plant modifications. All references to discussions with USEPA have been removed. It was not our intent to represent that USEPA had received or reviewed the entire case file regarding this issue, nor had issued a formal or informal opinion about this case. We regret if any misconceptions had occurred and formally request all recipients to replace and destroy the original copy of the March 4, 1997 letter.

cc: David Dee
Douglas Beason
Richard Garrity
Bill Thomas
Howard Rhodes
Clair Fancy
Al Linero
John Reynolds
Brian Beals
Ellen Porter
Joyce Chandler
Hamilton Rice
Karen Collins
Paul Amundsen
Pat Comer
Linda Reel

RECEIVED

MAR 14 1997

**BUREAU OF
AIR REGULATION**



RTP ENVIRONMENTAL ASSOCIATES INC.®

AIR • WATER • SOLID WASTE CONSULTANTS

239 U.S. Highway 22 East
Green Brook, New Jersey 08812-1909

(908) 968-9600
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March 4, 1997

David S. Dee, Esq.
Landers & Parsons
310 W. College Avenue
Tallahassee, FL 32302

Dear Mr. Dee:

RTP Environmental Associates, Inc. ("RTP") is assisting Landers & Parsons and the Board of County Commissioners of Manatee County ("County") with its evaluation of various environmental issues concerning a proposal (December 17, 1996 letter from Ivan Nance to W. C. Thomas) by Piney Point Phosphates, Inc. ("Piney Point") to refurbish and restart a fertilizer manufacturing facility in Manatee County that closed several years ago. The County's initial issues concerning NSPS and PSD applicability were contained in a January 16, 1997 letter from you to Douglas Beason of the Florida Department of Environmental Protection ("Department"). Piney Point's counsel submitted a response in a February 7, 1997 letter from Paul H. Amundsen to Doug Beason. Subsequent to these letters, the Department requested additional information from Piney Point in a February 20, 1997 letter from W. Douglas Beason to Richard W. Moore (attached as Exhibit A). The Department also conducted a meeting with Piney Point representatives and yourself on February 24, 1997 at the Piney Point plant.

In your January 15, 1997 letter to Douglas Beason, you cited the federal regulatory language which required NSPS and PSD review for physical changes or changes in method of operation at an existing facility which result in an increase in emissions. As stated, the determination of NSPS and PSD applicability is a two-fold test. In addition, your letter discussed in detail the NSPS and PSD issues involved in calculating emissions increases for reactivating shutdown or inoperable sources. This letter mainly discusses the issues involved in determining whether the proposed modifications are routine or are a "physical change" subject to regulation under the NSPS and PSD rules.

At this time, the primary disagreements between the County and Piney Point relate to whether the proposed modifications are "routine" as defined by NSPS and PSD regulations and whether the proposed modifications would result in an increase in emissions as defined by the NSPS and PSD regulations. There are other issues of concern to us, but this letter focuses on these two main issues relating to the restart. We have included at the end of this letter a request for additional information necessary for us to further evaluate the regulatory applicability of the proposed project.

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Routine Maintenance

Piney Point has maintained that the proposed maintenance and repair activities are routine in nature and suggested that either Manatee County does not understand the phosphate fertilizer industry or misconstrued the facts. For example:

*"Manatee County's letter discloses a serious misunderstanding of scheduled maintenance turnarounds in the phosphate fertilizer industry. These turnarounds can, and frequently do, involve substantial work including replacement of plant components at great expense. Such was the case in February 1989--a scheduled maintenance turnaround that Manatee County refers to at least twice in its letter. However, the stated downtime of 415 hours on page 4 of Manatee County's letter is not unusual for such plant turnarounds. It is true that plant operations were suspended at that time for routine maintenance, including repair and replacement of components, and the work was substantial. But as DEP is well aware, this is not extraordinary in the industry, but is commonplace."*¹

Or:

*"Furthermore, with the exception of the cooling tower that was damaged by the 1993 'No Name Storm' these plant components are commonly repaired or replaced in the course of scheduled plant turnarounds, including the work on the mist eliminators. In summary, Manatee County's premise statement that Piney Point Phosphates, Inc.'s submittals and communications do not adequately address the issues is simply wrong. It is true that the county is seriously misinformed, but DEP certainly has a full and adequate understanding of Piney Point Phosphates, Inc.'s program towards the restart of the plant."*²

Also at the meeting, Piney Point repeatedly maintained that the proposed modifications are routine and commonplace in the industry. However, they did not provide specific examples to verify these assertions about the specific pieces of equipment to be modified or replaced at the Piney Point plant. Without such information, such statements by Piney Point³ and their representatives cannot be verified. Further, as discussed in the next section on emissions increases, the planned Piney Point activities at an operating plant may not result in increases in actual emissions, thus not satisfying the second criteria for a modification requiring review under NSPS and PSD regulations. However, in the case of Piney Point, emissions increases must be evaluated in the context of a shutdown facility.

¹February 7, 1997 letter from Paul H. Amundsen to Doug Beason, p. 5.

²Ibid, p. 8.

³For example, *"The specific work undertaken by Piney Point Phosphates, Inc. is squarely within 'routine maintenance, repair, and replacement of component parts.'" Ibid, p. 11.*

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In its regulatory analysis, Piney Point cited a Florida case⁴ where, in August 1995, an operating permit was renewed for a sulfuric acid plant inactive for six years and, in November 1995 in a separate action, the plant was allowed to replace the catalyst with a different design which increased the plant's production. In that case, the Department agreed with that applicant that no physical modifications were necessary to achieve the higher production rate so the work did not constitute a "physical change." At this time, we cannot argue the specifics of that case but it does not appear on the surface that the catalyst replacement in that case is of the same magnitude as the activities proposed for the Piney Point plant. Further, we do not know whether that project was closely reviewed by EPA for consistency with EPA national policy on NSPS and PSD requirements.

Piney Point states that: "*Such determinations [like the above Department's review of a phosphate fertilizer plant restart] are more useful than precedents involving other kinds of industries in other states, like iron ore operations in Minnesota or power plants in Wisconsin.*"⁵ However, Piney Point cites the case of Wisconsin Electric Power Company v. Reilly 893 F.2d 901 (7th Cir. 1990, attached as Exhibit B), herein referred to as "WEPCO," as follows:

*"The work proposed by Piney Point Phosphates, Inc. is the opposite of that considered by the court in WEBCO (sic). Except for the cooling tower that was damaged by a windstorm, the components that are being repaired or replaced by Piney Point Phosphates, Inc. are items that are routinely repaired or replaced during scheduled turnarounds at fertilizer plants. Therefore, no physical change is involved. Consequently, the project can be neither an NSPS modification nor an NSR major modification."*⁶

However, Piney Point's analysis of WEPCO is based on the prior assumption that the proposed modifications are routine and fails to consider one of the most important issues addressed in WEPCO--what criteria should be used to determine whether modifications are routine or whether they meet the criteria requiring NSPS and PSD review. WEPCO was a landmark decision which clarified the applicability of NSPS and PSD regulations to modifications and calculating emissions increases. One of the most basic WEPCO issues was determining what type of modifications could be considered routine and thereby excluded from NSPS and PSD review. In WEPCO, the court supported EPA's decision that the WEPCO modifications were not routine based on:

⁴Ibid, pp. 8-9.

⁵Ibid, p. 8.

⁶Ibid, p. 12.

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*"...a case-by-case determination by weighing the nature, extent, purpose, frequency, and cost of the work, as well as other relevant factors, to arrive at a common-sense finding."*⁷ (emphasis ours)

It is our opinion that applying these same criteria to the Piney Point plant shows that the proposed modifications are, in fact, not routine. Our discussion on these points is given below.

In WEPCO, EPA observed that the nature and extent of the project was substantial: WEPCO proposed to replace sixty-foot steam drums and air heaters during successive nine-month outages at each unit. The court found that:

*"Certainly, the magnitude of the project (as well as the down-time required to implement it) suggests that it is more than routine."*⁸

In the case of Piney Point, a substantial portion of the existing plant will be replaced, including some substantive pieces of the equipment such as the acid towers. Piney Point states that:

*"But for the cooling tower and the completion of routine maintenance, repair, and replacement of component parts, which is in progress and will continue over the next ten months, the Piney Point plant would be operational right now."*⁹ (first emphasis ours, second emphasis in original)

It is our opinion that repair activities which take as long as ten months to complete are not routine, particularly when Piney Point has retained:

*"...regular employees of Piney Point Phosphates, Inc. who work at that plant every day to keep components in operational condition."*¹⁰

Thus, the nature and extent of the modifications do not appear to be routine. Past work activities at the plant during the last five years presumably would have included most routine repair and maintenance functions. Although Piney Point asserts that the proposed activities are routine because they are performed during scheduled turnarounds, Piney Point also admits that scheduled turnarounds typically take about two weeks, in contrast with ten months for the proposed repairs.

⁷September 9, 1988 memorandum from Don R. Clay to David A. Kee (attached as Exhibit C), p. 3.

⁸Wisconsin Electric Power Company v. Reilly, 30 Environment Reporter-Cases (ERC) 1896.

⁹February 7, 1997 letter from Paul H. Amundsen to Doug Beason, p. 6.

¹⁰Ibid, p. 6.

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In WEPCO, the court also found that the purpose, frequency and cost of the work also supported EPA's decision that the modifications were not routine. The purpose of the WEPCO modifications was to rehabilitate the capacity of aging units and extend the useful life of the units. EPA concluded that such modifications were not routine. The court supported this position, stating:

*"While it is certainly true that the repair of deteriorated equipment will contribute to the useful life of any facility, it does not necessarily follow that the repairs in question would extend the 'life expectancy' of the facility."*¹¹

Piney Point's plant was built in 1965 and modified about 1975. The December 17, 1996 letter from Ivan Nance to W. C. Thomas contains an extensive list of proposed repairs and replacements to the Piney Point plant. The modifications would appear not only to rehabilitate the plant but also to completely modernize many integral components of the plant. Based on the current age of the plant and the extensive modifications proposed, it would be expected that this project would significantly extend the useful life of the Piney Point plant. Although Piney Point maintains that the existing plant will be shut down after construction of a new sulfuric acid plant, Piney Point has given the Department no timetable for shutting down the existing plant. The extensive modifications proposed could be expected to increase the life expectancy of the existing plant thus allowing Piney Point to continue to use the existing plant for the foreseeable future.

Similarly, the court rejected WEPCO's assertions that simple equipment replacement did not constitute a physical change for purposes of the Clean Air Act's modification provisions. The court noted that:

*"Further, to adopt WEPCO's definition of 'physical change' would open vistas of indefinite immunity from the provisions of NSPS and PSD. Were we to hold that replacement of major...systems...does not constitute a physical change (and is therefore not a modification), the application of NSPS and PSD to important facilities might be postponed into the indefinite future. There is no reason to believe that such a result was intended by Congress."*¹²

In WEPCO, previous cases of some modifications could be documented but no cases of identical like-kind replacements for some components such as the steam drums and air heaters could be found. Thus, because of the infrequency of some replacements, the overall WEPCO modifications were not considered to be routine. The court supported EPA's decision here, noting that: *"While it is true that some repair and replacement programs are routine, it does*

¹¹Wisconsin Electric Power Company v. Reilly, 30 ERC 1897.

¹²Ibid, 30 ERC 1894.

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not necessarily follow that all such programs are routine."¹³ At this time, Piney Point has not provided specific information as to the normal frequency of the proposed repairs and replacements for each piece of equipment, either for actual facilities or previously for the Piney Point plant. We cannot make a determination on this point in the absence of such information.

Finally, WEPCO asserted that the cost, magnitude and nature of its project are irrelevant for purposes of the routine exception to NSPS and PSD because the WEPCO modifications were not a reconstruction (i.e., did not exceed 50% of the capital cost of a comparable new facility). The court rejected this argument¹⁴, noting the distinct differences between reconstruction and modification, and that the modification provisions applies to any physical change, without regard to cost, that causes an increase in emissions. Thus, while Piney Point submitted a P.E. statement in its December 17, 1996 letter to Mr. W. C. Thomas that the project was not reconstruction as defined by the Clean Air Act, this has no bearing on whether the project is a modification for NSPS and PSD purposes or whether the proposed repair and replacement activities are routine.

Further, the court agreed with EPA findings in WEPCO that the purpose, frequency, and cost of the WEPCO program did suggest that it was not routine. In the case of WEPCO:

*"...in terms of annualized costs, the renovation project will cost \$7.8 million, as compared to \$51.6 million for a new 400 megawatt plant. Thus, [WEPCO] renovation costs represent approximately 15 percent of replacements costs."*¹⁵

According to Piney Point, the minimum expenditure needed to return the plant to operating condition was estimated to be \$13 million, about 30% of Piney Point's estimate for a "comparable new plant" (i.e., \$42 million). Thus, the relative expenditure planned for Piney Point is greater than for WEPCO and should not be considered as routine. Again, additional information from Piney Point, such as the expected range of annual capital expenses for normal maintenance and repairs activities at either an actual similar facility or previously at Piney Point (for example, during the past five years), would be useful to evaluate whether such expenditures are routine.

¹³Ibid, 30 ERC 1896.

¹⁴Piney Point uses the same argument in its WEPCO discussion: *"Manatee County puts forward the premise that the sheer magnitude of the work alone establishes that it is not 'routine.' ... It is legally incorrect because a project's cost, alone, is determined by the 'reconstruction' regulations, discussed supra, which are inapplicable here."* February 7, 1997 letter from Paul H. Amundsen to Doug Beason, p. 12.

¹⁵September 9, 1988 memorandum from Don R. Clay to David A. Kee, p. 6.

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Based on EPA regulations and WEPCO (among other decisions), it is our opinion that the Piney Point modifications are not routine based on the nature, extent, purpose, and cost of the activities. At this time, we have no information to evaluate the frequency of the proposed activities. Nonetheless, we do not believe that extensive replacement and rehabilitation of a currently inoperable facility should be construed as routine maintenance. WEPCO, rather than being the opposite of Piney Point's situation as asserted by Piney Point, is directly comparable to Piney Point's planned modifications. For these reasons, the project qualifies as a physical change under the modification definitions of NSPS and PSD.

Emissions Increase

As noted earlier, the Piney Point modifications present an unusual set of circumstances relating to the modification and reactivation of a shutdown source. In your January 15, 1997 letter to Douglas Beason, you provided a complete discussion on calculating emissions increases for shutdown sources and extensively cited EPA guidance dealing with modifications to shutdown sources, which we will not repeat here. However, we do wish to make the following points with respect to emissions increases as they relate to this case.

Piney Point maintained at the meeting that the scope of the proposed modifications could have been performed piecemeal during the past five years and not triggered NSPS or PSD review. This might be true if the facility had been operational at normal capacity during this period since they may not have increased actual emissions at the plant. However, the facility has not operated since the middle of 1992 and is currently not operational. This is a critical distinction.

Piney Point also maintains that the modifications will not increase plant emissions. However, this statement is based on allowable (i.e., permitted) or potential (i.e., if the facility were operational) emissions while NSPS and PSD regulations for modifications are based on actual emissions, which represent the actual operating conditions and, for PSD, the history of the facility. For NSPS, emissions increases are based on short-term emissions immediately before and immediately after the modifications. Currently, maximum short-term emission rates are zero since the facility is not operational. This is analogous to WEPCO's Unit 5, for which EPA stated: *"Regarding Unit 5, you state that 'safety concerns' dictated the decision to shut down that unit. Based on this information, we are unable to rely on WEPCO's statements as to maximum 'achievable' capacity in determining the emissions changes at each of these units. Thus, for example, in the case of unit 5, the current [NSPS] capacity must be regarded as zero."*¹⁶

¹⁶October 14, 1988 letter from Lee M. Thomas to John W. Boston (attached as Exhibit D), p. 5.

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For PSD, emissions increases are calculated by comparing annual emissions after the modification to actual annual emissions during a representative two-year period during the 5-year contemporaneous period (which, for this project, began during 1992). Since the plant operated for only 3410 hours in 1992 and not at all during 1993 through 1996, any future significant plant operations would therefore increase actual plant emissions. In WEPCO, EPA used a representative two year period during the 5-year contemporaneous period under actual operating conditions to establish prior actual WEPCO emissions to calculate emissions increases. Again, further discussions of emissions increases, particularly for PSD purposes at shutdown facilities, are contained in your January 15, 1997 letter to Douglas Beason.

In summary, for the reasons given above and in your January 15, 1997 letter to Douglas Beason, we believe that the Piney Point modifications are not routine and qualify as "physical changes" and would also result in increases in actual emissions. Thus, the proposed modifications fulfill both portions of the two-fold test for modifications and should be subject to NSPS and PSD permitting requirements.

Additional Information Request

At this time we would urge the Department to contact David Solomon, Acting Chief of EPA's Integrated Implementation Group in Research Triangle Park at 919-541-5375, either directly or through Region IV, to review the available information and obtain a preliminary determination whether the Piney Point activities are subject to NSPS and PSD requirements. We feel that it is important for the Department to consult with EPA to confirm that any decision in this case is consistent with EPA national policy given the significant NSPS and PSD policies involved and the interplay with WEPCO issues.

The information requested in the Department's February 20, 1997 letter from W. Douglas Beason to Richard W. Moore (Exhibit A) should provide a basis for finalizing the applicable requirements of NSPS and PSD to the Piney Point modifications. Additional information which may be necessary include the following:

- Documentation on the relative frequency of the proposed repairs and replacements at similar plants and, more importantly, at the Piney Point plant for each piece of equipment (citations of projects of the magnitude and extent of the proposed Piney Point activities would be useful, particularly where written correspondence exists that EPA or state agencies reviewed the regulations and determined that NSPS and PSD did not apply and for what reasons);
- Specific information on the range of expected annual costs of routine repair and maintenance at similar plants and, more importantly, at the Piney Point plant (particularly the extent and cost of maintenance activities at the Piney Point plant during the past five years);

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- Specific information as to whether the proposed changes will involve a change in the method of operation at the facility (Piney Point's December 17, 1996 letter notes that some equipment will be replaced to different configurations), particularly useful would be process flow diagrams for the existing plant and the plant after the proposed modifications;
- Determining the current operating potential of the existing facility in its present condition with respect to both short-term (i.e., hourly) and long-term (i.e., annual) emissions and production rates;
- Determining the extent of physical changes to other air pollution sources at the facility, such as the fertilizer plant, for the same consideration of potential regulatory issues involving modifications as given to the sulfuric acid plant here;
- Determining actual emissions for all phases of the existing Piney Point facility during the contemporaneous period (i.e., during the past 5 years);
- Determining whether the replacement of the sulfur storage tank and auxiliary boiler should be considered part of the sulfuric acid plant for purposes of the modification regulations (also, what effect on emissions will be caused by replacing the existing 96 MMBTU/hour auxiliary boiler with a 190 MMBTU/hour auxiliary boiler and, if fired, what NSPS requirements are triggered by this larger boiler); and
- Determining the effect of the proposed physical changes on the expected life expectancy of the plant.

Summary

Our conclusions on the applicability of NSPS and PSD has been based on a review of the available information in the context of the Department's and EPA's regulations. Due to the unusual circumstances of this case (modification and reactivation of an shutdown source), we have relied on landmark decisions by the courts and EPA guidance documents to correctly interpret the regulations. In your January 16, 1997 letter to Douglas Beason, you cited the NSPS and PSD review requirements for modifications and referenced EPA guidance documents which addressed how emissions increases for shutdown sources should be calculated. In this letter, we have addressed how to determine whether modifications are routine based on the WEPCO decision.

David S. Dee, Esq.

March 4, 1997

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Although Piney Point has already begun construction of the modifications, it is important to note that these permits must be obtained prior to initiation of construction because, as noted by the WEPCO court *"As Judge Boggs, dissenting in 'National-Southwire', reasoned: 'The purpose of the 'modification' rule is to ensure that pollution control measures are undertaken when they can be most effective, at the time of new or modified construction.'"*¹⁷

If you have any questions, please feel free to contact us at 908-968-9600.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®



Donald F. Elias
Principal

DFE/WEC/wec

Attachments

cc: W. Corbin, G. McCutchen, LPPPP Project File/RTP Env. Associates, Inc.
H. Hamilton Rice, Jr., Esq./Manatee County Attorney's Office

¹⁷Wisconsin Electric Power Company v. Reilly, 30 ERC 1894.

EXHIBIT A

February 20, 1997 letter to Richard W. Moore
from W. Douglas Beason



Department of Environmental Protection

Lawton Chiles
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Virginia B. Wetherrell
Secretary

VIA-FACSIMILE (904) 425-2447

February 20, 1997

Richard W. Moore, Esq.
Amundsen & Moore
502 East Park Avenue
Tallahassee, Florida 32301

Re: Piney Point Phosphate, Inc.

Dear Mr. Moore:

In confirmation of our conversation yesterday morning, representatives of Piney Point Phosphate, Inc. and the Department will meet at the Department's Southwest District Office on February 24, 1997, in an effort to address the issues raised by Manatee County in its correspondence dated January 16, 1997. The Department would suggest the meeting at the District Office commence at 1:00 p.m. and will be followed by an on-site visit to the Piney Point facility.

As I noted during our conversation, one item of particular concern with regard to Piney Point's correspondence dated February 7, 1997, is the assertion that "Piney Point has, to date, committed or expended upwards of \$2 million towards restarting the Piney Point Plant with additional, substantial expenditures ongoing or immediately forthcoming." Prior to the receipt of this correspondence, the Department was not aware of the fact that Piney Point had already initiated activities associated with refurbishing and restarting the plant. The undertaking of activities associated with restarting the plant may be problematic given the distinct possibility the initiation of these type of activities may be subject to preconstruction review under the Department's New Source Performance Standards and the Prevention of Significant Deterioration Program, Chapters 62-210 and 62-212, F.A.C. Obviously, your client will want to take this possibility into consideration with respect to any future activities related to restarting the facility.

A second item of concern involves Piney Point's pending application for a PSD permit for a new sulfuric acid plant to *replace* the existing plant. It is my understanding that Piney Point intends to continue to pursue the issuance of this PSD permit (The underpinnings of the PSD analysis presuppose the new plant will *replace* the existing plant). Apparently, Piney Point intends to refurbish and

operate the existing plant only until such time the new plant comes on-line. The assertion that Piney Point intends to both refurbish the existing plant and obtain a PSD permit for the construction of a new plant is perplexing. Why would Piney Point spend approximately \$16 to \$18 million over the course of the next 10 months to refurbish the existing plant when the refurbished plant will only operate until the new plant comes on-line? With respect to the PSD Permit, the Department's Notice of Intent to Issue is predicated on the permanent shut-down of the existing facility.

In preparation for the scheduled meeting, the Department has developed questions concerning the items listed in Exhibit I of Piney Point's letter to W. C. Thomas, dated December 17, 1996:

(a) For all items listed as proposed repairs and relocation, please provide the date the item was originally placed in use at the sulfuric acid plant; the item's projected useful life on that date; the item's present capacity to process sulfur; the cost of repairs to be undertaken on the item; the projected useful life of the item after repairs; the burner's capacity to process sulfur after repairs; any change to the hourly rate of emissions and total plant annual emissions that may result from repair to the burner; the estimated cost of installing the item if it were new rather than repaired and the useful life of the item if it were new. Also, please provide a history of previous repair and/or replacement of component parts since September 1, 1975.

(b) For those items listed as being refurbished/rehabilitated, please provide the above requested information *and* describe exactly what will be undertaken to accomplish refurbishing/rehabilitating; and what effect the refurbishing/rehabilitating will have on overall sulfuric acid processing or processing capacity at the plant.

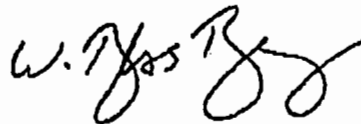
(c) For those items listed as being replaced, please provide the information requested in paragraph (a) above *and* describe exactly what is being installed to replace the existing item and detail any differences between the existing item and the replacement part; also explain the effect the replacement will have on overall sulfuric acid processing or processing capacity at the plant.

(d) For those items listed as new, such as the mist eliminators, the pumps described in item #18, miscellaneous piping/valves, and the new motor control center, please explain what performs the function of each item now, and provide the information requested in paragraph (a) for the existing and the new components and detail what effect the addition of these items will have on the overall sulfuric acid processing or processing capacity at the plant.

(e) With respect to the "Certification of Cost of Proposed Repairs and Equipment Replacement to the Existing Sulfuric Acid Plant at Piney Point¹," the Department needs to review information concerning the various assumptions underlying the financial analysis performed by Mr. Harman in concluding the estimated cost of repairs would be approximately \$16.9 million. Similarly, the Department needs to review the same type of information with respect to the underlying assumptions and financial analysis performed by Mr. Hart in concluding the estimated cost "will not exceed 50% of the cost of building a new grass roots plant of the same capacity..."

Thank you for your continued cooperation and the Department looks forward to a constructive meeting this coming Monday.

Sincerely,



W. Douglas Beason
Assistant General Counsel

WDB/hc

cc: Dr. Richard Garrity
Al Linero
David S. Dee

¹ Exhibit II to Piney Point's letter dated December 7, 1996.

EXHIBIT B

Wisconsin Electric Power Co. v. Reilly
893 F.2d 901 (7th Cir. 1990)

**WISCONSIN ELECTRIC
POWER CO. v. EPA**

**U.S. Court of Appeals
Seventh Circuit**

**WISCONSIN ELECTRIC POWER
COMPANY, Petitioner, v. WILLIAM K.
REILLY, Administrator and UNITED
STATES ENVIRONMENTAL PRO-
TECTION AGENCY, Respondents, Nos.
88-3264 and 89-1339, January 19, 1990**

Clean Air Act

**EPA/state authority to regulate
(►110.09)**

**Stationary source standards — In gen-
eral (►110.1001)**

[1] Company replacing air heaters and steam drums in coal-fired power plant has made physical change to plant that may be modification subject to review under Clean Air Act, because: (1) Congress intended sources to undergo Air Act review when they make any physical change that causes increase in emissions; (2) replacement of air heaters and steam drums may be like-kind replacement of equipment, but is also physical change in plant; and (3) narrow definition of physical change would allow existing emission sources to delay or avoid meeting full Air Act requirements when making major equipment changes.

**EPA/state authority to regulate
(►110.09)**

**Stationary source standards — In gen-
eral (►110.1001)**

[2] Replacement of air heaters and steam drums in coal-fired power plant is physical change that is not routine maintenance or repair, and may subject modification to Environmental Protection Agency review under Clean Air Act, because: (1) EPA determined that project was substantial based on equipment being replaced, costs, and shutdown time of units at plant; (2) EPA and company were unable to identify projects of like magnitude that avoided Air Act review; (3) changes go beyond merely maintaining facility, and are designed to extend life expectancy of plant; and (4) cost factors covered in EPA's regulations on facility reconstruction do not apply to facility modifications.

**EPA/state authority to regulate
(►110.09)**

**Stationary source standards — In gen-
eral (►110.1001)**

[3] Company's modifications of coal-fired power plant, combined with increase in emissions, triggered application of new source performance standards under Clean Air Act, and Environmental Protection Agency properly calculated emissions increase by comparing baseline of actual emissions in 1987 against maximum capacity of plant after renovation. EPA was not required to use baseline year selected by company as representative of plant's performance, because agency's regulations are directed at obtaining testing representative performance without regard to timing of tests.

**EPA/state authority to regulate
(►110.09)**

**Stationary source standards — In gen-
eral (►110.1001)**

**Prevention of significant deterioration
— Emission source requirements
(►110.3515)**

[4] Environmental Protection Agency used improper approach in determining that modification of coal-fired power plant would submit project to Clean Air Act review in area where standards for prevention of significant deterioration applied, because: (1) agency assumed in its calculations that facility changes were modification of sort that would trigger PSD review, and (2) agency assumed that facility would have potential to emit continuously for 24-hour periods, when facility had not done so in past.

**EPA/state authority to regulate
(►110.09)**

**Stationary source standards — In gen-
eral (►110.1001)**

[5] Environmental Protection Agency properly rejected company's request to switch to low-sulfur coal as measure to control emissions when EPA reviewed application of new source performance standards under Clean Air Act, because Congress has expressed preference in Air Act for use of control technologies over fuel-switching.

On petitions for review of final action by Environmental Protection Agency concerning application of Clean Air Act standards to changes in coal-fired power plant; affirmed in part and vacated in part, and remanded to EPA.

Henry V. Nickel, Wash., D.C., for petitioner.

Gregory B. Foote, EPA, Wash., D.C., for EPA.

Before Richard D. Cudahy and Joel M. Flaum, circuit judges, and Robert A. Grant, district judge.*

Full Text of Opinion

Cudahy, Circuit Judge. The Petitioner, Wisconsin Electric Power Company ("WEPCO"), challenges two final determinations issued by the Environmental Protection Agency (the "EPA"). In these determinations, the EPA concluded that WEPCO's proposed renovations to its Port Washington power plant would subject the plant to certain pollution control provisions of the Clean Air Act, as amended, 42 U.S.C. §§7401 *et seq.* (1982). We affirm in part, vacate in part and remand to the EPA.

I. The Underlying Dispute

A. Relevant Provisions of the Clean Air Act

Some discussion of the Clean Air Act is required before turning to the merits of this case. In 1970, Congress enacted the Clean Air Act Amendments, Pub. L. No. 91-604, 84 Stat. 1676, to establish minimum air quality standards that would regulate the emission of certain pollutants into the atmosphere. To this end, Congress instructed the EPA to develop National Ambient Air Quality Standards ("NAAQS") that would specify the maximum permissible concentration of air pollutants in different areas across the country.

In section 111 of the 1970 Amendments, Congress required the EPA to promulgate New Source Performance Standards ("NSPS") in order to regulate the emission of air pollutants from new sources. These standards addressed hourly rates to emission and, in addition to new sources, applied to modifications of

existing facilities that created new or increased pollution. Indeed, section 111(a)(2) of the Act stated that NSPS would apply to

any stationary source, the construction or modification of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing a standard of performance under this section which will be applicable to such source.

42 U.S.C. §7411(a)(2) (emphasis supplied). Congress then defined "modification" as

any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.

42 U.S.C. §7411(a)(4) (emphasis supplied).

Subsequently, faced with only varying degrees of success in controlling pollution in different parts of the country, Congress enacted the Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685 (codified at 42 U.S.C. §§7401-7642 (1982)). Congress revised the NSPS so that regulated sources of pollution would have to use "the best system of continuous emission reduction which (taking into consideration the costs of achieving such emission reduction, and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated. . . ." 42 U.S.C. §7411(a)(1)(C). In addition, Congress added a program for the Prevention of Significant Deterioration ("PSD"), concerned with increases in total annual emissions, to ensure that operators of regulated sources in relatively unpolluted areas would not allow a decline of air quality to the minimum level permitted by NAAQS. Air quality is preserved in this program by requiring sources to limit their emissions to a "baseline rate"; regulated owners or operators in areas that have attained NAAQS must obtain a permit before constructing or modifying facilities. 42 U.S.C. §7475(a)(1). Congress also essentially adopted its NSPS definition of "modification" for the PSD program. 42 U.S.C. §7479(2)(C).

From this statutory framework, EPA promulgated regulations for both the NSPS and PSD programs. In this case, its regulations concerning modifications are central. The EPA defines "modification"

in substantially the same terms used by Congress.

[A]ny physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 [42 U.S.C. §7411] of the Act.

40 C.F.R. §60.14(a) (1988). To determine whether a physical change constitutes a modification for purposes of NSPS, the EPA must determine whether the change increases the facility's hourly rate of emission. 40 C.F.R. §60.14 (1988). For PSD purposes, current EPA regulations provide that an increase in the total amount of emissions activates the modification provisions of the regulations. 40 C.F.R. §52.21(b)(3) (1988).

Even at first blush, the potential reach of these modification provisions is apparent: the most trivial activities — the replacement of leaky pipes, for example — may trigger the modification provisions if the change results in an increase in the emissions of a facility. As a result, the EPA promulgated specific exceptions to the modification provisions:

The following shall not, by themselves, be considered modifications under this part:

(1) Maintenance, repair, and replacement which the Administrator determines to be routine for a source category . . .

(2) An increase in production rate of an existing facility, if that increase can be accomplished without a capital expenditure on that facility.

(3) An increase in the hours of operation. . . .

40 C.F.R. §60.14(e) (1988) (NSPS program); see 40 C.F.R. §52.21(b)(2)(iii) (1988) (PSD program). These regulations (and the statutes from which they derive) are the focal point of this case.

B. WEPCO's Proposed Life-Extension Project

WEPCO's Port Washington electric power plant is located on Lake Michigan north of Milwaukee, Wisconsin. The plant consists of five coal-fired steam generating units that were placed in operation between 1935 and 1950. Each generating unit has a design capacity of 80 megawatts, but the recent performance of some of the units has declined due to age-related deterioration of the physical plant.

WEPCO and its consultant, Bechtel Eastern Power Corporation, conducted a Plant Availability Study in 1983 to examine and assess the condition of the power plant. As a result of the Study, WEPCO concluded "that extensive renovation of the five units and the plant common facilities is needed if operation of the plant is to be continued." Letter from Thomas J. Cassidy, Executive Vice President, of WEPCO, to Jacqueline K. Reynolds, Secretary to the Public Service Commission of Wisconsin, at 2 (July 8, 1987) [Cassidy Letter] (emphasis supplied). The Study noted that the air heaters on the first four units had deteriorated severely, while the rear steam drums in units 2 through 5 had experienced serious cracking.¹ Air heater deterioration prevented units 1 and 4 from operating at full capacity, while the potential for steam drum blowout required a reduction in pressure (and output) in units 2 and 3. The possibility of catastrophic failure (steam drum blowout) in unit 5 was so great that WEPCO shut down the unit completely.

As a result of this Study, WEPCO submitted a proposed replacement program (which it termed a "life extension" project) to the Wisconsin Public Service Commission for its approval, as required by state law. Wis. Stat. §196.49 (1987). WEPCO explained in its proposal that "[r]enovation is necessary to allow the Port Washington units to operate beyond their currently planned retirement dates of 1992 (units 1 and 2) and 1999 (units 3, 4 and 5) . . . [and that renovation would render the plant] capable of generating at its designed capability until year 2010. . . . Cassidy Letter at 1-2. Among the renovations required were repair and replacement of the turbine-generators, boilers, mechanical and electrical auxiliaries and the common plant support facilities. *Id.* at 1. After preliminary review of the program, the Public Service Commission consulted the Wisconsin Department of Natural Resources (which then consulted EPA Region V) to determine whether WEPCO needed to obtain a PSD permit before commencing the repair and replacement program. David

¹ Air heaters preheat combustion air to improve the efficiency of the steam generating units. *Steam: Its Generation and Use 13-4* (1978) (Babcock & Wilcox). Steam drums separate saturated steam from water within the boiler. *Id.* at 1-5.

* The Honorable Robert A. Grant, Senior District Judge for the Northern District of Indiana, is sitting by designation.

Kee, the Director of EPA Region V's Air and Radiation Division, then referred the matter to EPA Headquarters. See, e.g., 40 C.F.R., §60.5 (1988) (discussing the EPA's procedures regarding determinations of construction or modification).

EPA staff members conferred with WEPCO representatives between March and September 1988 to gain additional information regarding the proposed repair and replacement project. On September 9, 1988, EPA Acting Assistant Administrator Don R. Clay issued a memorandum in which he preliminarily concluded that the project would subject the plant to both NSPS and PSD requirements. Memorandum from Don R. Clay, Acting Assistant Administrator for Air and Radiation of the EPA, to David A. Kee, Director of Air and Radiation Division, Region V (Sept. 9, 1988) [Clay Memorandum]. The Clay Memorandum pointed out that the project would constitute a "physical change" resulting in an increase of production and emissions, which would therefore subject the plant to the relevant strictures of the Clean Air Act. *Id.* at 3-4. Further, the Clay Memorandum dismissed WEPCO's contention that the program was routine and was therefore exempt from the requirements of NSPS and PSD. This conclusion was adopted *in toto* by EPA Administrator Lee M. Thomas. Letter from Lee M. Thomas, Administrator of the EPA, to John Boston, Vice President of WEPCO (Oct. 14, 1988) [Thomas Letter].

Following the Thomas Letter, WEPCO continued to conduct capacity tests on the units. Based upon these tests, Assistant Administrator Clay issued a "revised final determination" that generally affirmed the EPA's earlier findings, but modified the baseline figures used by the EPA for units 2 and 3. Letter from Don R. Clay, Acting Assistant Administrator for Air and Radiation of the EPA, to John W. Boston, Vice President of WEPCO (Feb. 15, 1989) [Supplemental Determination].

Alleging that the EPA has misconstrued both the Clean Air Act and its own regulations, WEPCO appeals the EPA's final determination. We have jurisdiction to hear this appeal pursuant to 42 U.S.C. §7607(b) (1982).

II. Standard of Review

Courts have generally accorded substantial deference to the EPA's interpretation of the Clean Air Act Amendments,

reasoning that "considerable weight should be accorded to an executive department's construction of a statutory scheme it is entrusted to administer. . . ." *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 844 [21 ERC 1049] (1984); see *Union Elec. Co. v. EPA*, 427 U.S. 246, 256 [8 ERC 2143] (1976); *Train v. Natural Resources Defense Council, Inc.*, 421 U.S. 60, 75, 87 [7 ERC 1735] (1975); *ASARCO Inc. v. EPA*, 578 F.2d 319, 325 [11 ERC 1129] (D.C. Cir. 1978). This deference with regard to the Clean Air Act follows logically from the highly technical provisions of the Amendments, *Chevron*, 467 U.S. at 848, and is consistent with the Administrative Procedure Act, which provides that agency actions are to be set aside only if they are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. §706(2).

To be sure, this standard does not give the EPA unbridled discretion to construe the Clean Air Act Amendments free from judicial oversight. We must consider whether the EPA's construction comports with its statutory mandate and Congress' intent in enacting clean air legislation. But we cannot simply substitute our judgment for that of the EPA. Our role has been sharply defined and limited by the Supreme Court:

When a court reviews an agency's construction of the statute which it administers, it is confronted with two questions. First, always, is the question whether Congress has directly spoken to the precise question at issue. If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress. If, however, the court determines Congress has not directly addressed the precise question at issue, the court does not simply impose its own construction on the statute, as would be necessary in the absence of an administrative interpretation. Rather, if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute.

Chevron, 467 U.S. at 842-43 (footnotes omitted).

Further, we defer even more to an agency's construction of its own regulations. *Lyng v. Payne*, 476 U.S. 926, 939 (1986); see *Wilkins v. Sullivan*, 889 F.2d 135, 139 (7th Cir. 1989); *Homemakers*

North Shore, Inc. v. Bowen, 832 F.2d 408, 411 (7th Cir. 1987) (agency construction of its regulations usually upheld). An agency's interpretation must be upheld "unless it is plainly erroneous or inconsistent with the regulation." *Udall v. Tallman*, 380 U.S. 1, 16-17 (1965) (quoting, in part, *Bowles v. Seminole Rock & Sand Co.*, 325 U.S. 410, 413-14 (1945)). The principle of deference has particular force where, as is the case here, the subject being regulated is technical and complex. *Aluminum Co. of Am. v. Central Lincoln Peoples' Util. Dist.*, 467 U.S. 380, 390 (1984); *Wilkins v. Sullivan*, 889 F.2d at 140; see also *Skidmore v. Swift & Co.*, 323 U.S. 134, 140 (1944) (rulings of agency constitute bodies of experience and informed judgment).

III. Like-Kind Replacement and Modification under the Act

A. The Underlying Statutory Framework

With these principles in mind, we may address the merits. We must first consider whether WEPCO's Port Washington replacement program constitutes a modification under the terms of the controlling statute, 42 U.S.C. section 7411(a)(4). *Cf. Blue Chip Stamps v. Manor Drug Stores*, 421 U.S. 723, 756 (1975) (Powell, J., concurring) ("The starting point in every case involving construction of a statute is the language itself.") Section 7411(a)(4) defines modification as "any physical change . . . which increases the amount of any air pollutant emitted . . ." 42 U.S.C. §7411(a)(4). Both parts of this definition — any physical change and an increase in emissions — must be satisfied before a replacement will be considered a "modification."

1. Physical Change

Certainly under the plain terms of the Act, WEPCO's replacement program constitutes a "physical change." WEPCO proposes to replace rear steam drums on units 2, 3, 4 and 5; each of these steam drums measures 60 feet in length, 50.5 inches in diameter and 5.25 inches in thickness. Clay Memorandum at 4. In addition, WEPCO plans to replace another major component, the air heaters, in units 1-4. To implement this four-year program, WEPCO will need to make the replacements by taking the units successively out of service for nine-month per-

iods. *Id.* These steps clearly amount to a "physical change" in the Port Washington plant. See Butler, *New Source Netting In Nonattainment Areas under the Clean Air Act*, 11 Ecology L.Q. 343, 349-50 (1984) ("[T]he new source review requirements are triggered not only whenever an operator builds a new plant, but also whenever the operator installs or alters a piece of equipment in an existing plant and thereby increases emissions.") (emphasis supplied).

WEPCO does not dispute that its steam drum and air heater replacements will result in an altered plant. But WEPCO does assert that Congress did not intend for simple equipment replacement to constitute a physical change for purposes of the Clean Air Act's modification provisions:

The plain meaning of "modify" is "to change or alter" [Webster's New World Dictionary] or "to make basic or fundamental changes in." [Webster's Ninth New Collegiate Dictionary] Reflecting the plain meaning of this term, Congress provided that a facility (1) must undergo a physical or operational "change" before it is evaluated under the modification provision . . . Thus, under the plain meaning of the Act, a unit should not be deemed "modified" as a result of replacement of equipment with equipment similar to that replaced. As in the case of Port Washington, such like-kind replacement does not "change or alter" the design or nature of the facility. Rather, it merely allows the facility to operate again as it had before the specific equipment deteriorated.

Petitioner's Brief at 32-33.

[1] *Chevron* instructs us to rely more on congressional direction and on agency construction (pursuant to congressional delegation) than on glosses found in the dictionary. What WEPCO calls "plain" is anything but plain and takes the definition far beyond the words enacted by Congress. *Chevron*, 467 U.S. at 843-45; see generally, R. Anthony, *Report to the Administrative Conference of the United States: Which Agency Interpretations Should Bind the Courts and the Public?* (1989) (explaining *Chevron* approach). Thus, whether the replacement of air heaters and steam drums is a "basic or fundamental change" in the Port Washington plant is irrelevant for our purposes, given Congress' directions on the subject: "The term 'modification' means any physical change . . ." 42 U.S.C. §7411(a)(4) (emphasis supplied). We follow Congress' definition

of "modification" — not Webster's — when interpreting this term within the context of the Clean Air Act. *Cf. Chevron*, 467 U.S. at 861 ("[T]he meaning of a word must be ascertained in the context of achieving particular objectives. . .").

Nor can we find any support in the relevant case law for the narrow constructions of "modification" and "physical change" offered by WEPCO. The Supreme Court reported in *Chevron* that Senator Muskle, one of the principal supporters of the Clean Air Act, remarked: "A source . . . is subject to all the nonattainment requirements as a modified source if it makes any physical change which increases the amount of any air pollutant. . ." 467 U.S. at 853 (quoting 123 Cong. Rec. 26847 (1977) (emphasis supplied)). And other courts considering the modification provisions of NSPS and PSD have assumed that "any physical change" means precisely that. *See, e.g., National-Southwire Aluminum Co. v. EPA*, 838 F.2d 835 [27 ERC 1281] (6th Cir.), cert. denied, 109 S.Ct. 390 [28 ERC 1608] (1988) (turning off pollution control equipment constitutes "physical change" and modification); *Alabama Power Co. v. Costle*, 636 F.2d 323, 400 [13 ERC 1993] (D.C. Cir. 1979) ("[T]he term 'modification' is nowhere limited to physical changes exceeding a certain magnitude."); *ASARCO Inc. v. EPA*, 578 F.2d 319, 322 (D.C. Cir. 1978) (NSPS applies to any stationary source that is "physically or operationally changed in such a way that its emission of any air pollutant increases.") (emphasis removed). *Cf. United States v. Narragansett Improvement Co.*, 571 F. Supp. 688, 694-95 [19 ERC 2212] (D.R.I., 1983) (replacement program not modification because, despite physical change, no increase in emissions).

Further, to adopt WEPCO's definition of "physical change" would open vistas of indefinite immunity from the provisions of NSPS and PSD. Were we to hold that the replacement of major generating station systems — including steam drums and air heaters — does not constitute a physical change (and is therefore not a modification), the application of NSPS and PSD to important facilities might be postponed into the indefinite future. There is no reason to believe that such a result was intended by Congress. The Clean Air Act Amendments were enacted to "speed up, expand, and intensify the war against air pollution in the United States with a view to assuring that the air we breathe throughout the Nation is

wholesome once again." H.R.Rep.No. 91-1146, 91st Cong., 2d Sess. 1, 1, reprinted in 1970 U.S. Code Cong. & Admin. News 5356, 5356. In particular, the permit program established by the 1977 Amendments to the Clean Air Act represented a balance between "the economic interest in permitting capital improvements to continue and the environmental interest in improving air quality." *Chevron*, 467 U.S. at 851. The House echoed this theme in its Committee report: "[The compliance program is designed, in part,] to allow reasonable economic growth to continue in an area while making reasonable further progress to assure attainment of the [pollution-control] standards by a fixed date. . ." H.R.Rep.No. 294, 95th Cong., 1st Sess. 211, reprinted in 1977 U.S. Code Cong. & Admin. News 1077, 1290. A too restrictive interpretation of "modification" might upset the economic-environmental balance in unintended ways.

Consistent with its balanced approach, Congress chose not to subject existing plants to the requirements of NSPS and PSD. Members of the House recognized that "[b]uilding control technology into new plants at time of construction will plainly be less costly than [sic] requiring retrofit when pollution control ceilings are reached." H.R.Rep.No. 294, 95th Cong., 1st Sess. 185, reprinted in 1977 U.S. Code Cong. & Admin. News at 1264. But Congress did not permanently exempt existing plants from these requirements; section 7411(a)(2) provides that existing plants that have been modified are subject to the Clean Air Act programs at issue here. As Judge Boggs, dissenting in *National-Southwire*, reasoned: "The purpose of the 'modification' rule is to ensure that pollution control measures are undertaken when they can be most effective, at the time of new or modified construction. *See* 116 Cong. Rec. 32,918. (remarks of Sen. Cooper), reprinted in 1 Senate Committee on Public Works, A Legislative History of the Clean Air Act Amendments of 1970 (1974), at 260." *National-Southwire Aluminum Co. v. EPA*, 838 F.2d 835, 843 (6th Cir.) (Boggs, J., dissenting), cert. denied, 109 S.Ct. 390 (1988). Judge Boggs argued that the shutting down of pollution control equipment in an existing plant should not be considered a modification because it would not afford the utility an opportunity for "effective placement of new control technology." *Id.* Here the record is silent on this point (although the point is important). How easy or difficult

would be "the effective placement of new control technology" in these renovated units is not clear, but we do know that the project already contemplates replacement of steam drums, air heaters and other components; each unit would, therefore, in any event be shut down for nine months.

Our reading of the phrase "any physical change" is also consistent with another of the basic goals of the 1977 Amendments: technology-forcing. The legislative history suggests and courts have recognized that in passing the Clean Air Act Amendments, Congress intended to stimulate the advancement of pollution control technology. *See, e.g., S.Rep.No. 91-1196*, 91st Cong., 2d Sess. 17 (1970) ("Standards of performance should provide an incentive for industries to work toward constant improvement in techniques for preventing and controlling emissions from stationary sources. . ."); *Duquesne Light Co. v. EPA*, 698 F.2d 456, 475 [18 ERC 1489] (D.C. Cir. 1983); *Alabama Power*, 636 F.2d at 372; *ASARCO*, 578 F.2d at 327; *United States v. SCM Corp.*, 667 F.Supp. 1110, 1126-27 [26 ERC 1586] (D. Md. 1987). The development of emissions control systems is not furthered if operators could, without exposure to the standards of the 1977 Amendments, increase production (and pollution) through the extensive replacement of deteriorated generating systems.

2. Increase in Emissions

The controversy involving WEPCO's alleged increase in emissions primarily concerns the regulations, not the statute: WEPCO argues that the EPA's regulatory method of measuring emissions is arbitrary and capricious. From a statutory standpoint, however, the modification provisions of the Clean Air Act Amendments are activated once a physical change is coupled with an "increase[] [in] the amount of any air pollutant emitted." 42 U.S.C. §7411(a)(4). *See, e.g., United States v. Narragansett Improvement Co.*, 571 F.Supp. at 694. In the case before us, WEPCO does not dispute that its replacement program — intended to enable its deteriorated generators to operate at full capacity — will cause its emissions to increase from their current operating levels. The question for resolution, however, is whether the EPA properly construed its regulations by comparing actual emission rates with so-called "baseline" rates to determine the increase in emissions for

NSPS and PSD purposes. We will discuss this subject later; but for purposes of the statutory requirement, we simply observe that the rejuvenated Port Washington plant will produce more emissions after the completion of the renovation project than the operating deteriorated plant produced shortly before the project was undertaken.

B. The EPA's Regulations

Although we have determined that WEPCO's repair and replacement program satisfies the modification provisions of the Clean Air Act Amendments, this is not the end of our inquiry. WEPCO's attack focuses primarily on EPA regulations, which in a number of respects are narrower than the statute. WEPCO argues that the EPA applied its regulations arbitrarily and capriciously to the Port Washington project.

1. Physical Change and the "Routine" Exception

EPA regulations define "modification" as "any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies." 40 C.F.R. §60.14(a) (1988). To a major degree, this definition parallels 42 U.S.C. section 7411(a)(2) and it is unnecessary to repeat the analysis already applied to the statute. *See supra* III(A)(1). However, the EPA has, in addition, used its regulations to exempt a number of activities from the broader definition. The exemption that may be relevant here is accomplished by the following language:

The following shall not, by themselves, be considered modifications under this part:

(1) Maintenance, repair, and replacement which the Administrator determines to be routine for a source category. . . .

40 C.F.R. §60.14(e) (1988). *See* 40 C.F.R. §52.21(b)(2)(iii). WEPCO relies on this language to argue that, even if its repair and replacement program amounts to a physical change, it was specifically exempted by the regulations.

Again, we accord substantial deference to an agency's interpretation of its own regulations, especially with respect to technical and complex matters. *Lyng v. Payne*, 476 U.S. 926, 939 (1986); *Alumi-*

num Co. of Am. v. Central Lincoln Peoples' Util. Dist., 467 U.S. 380, 390 (1984). In this connection, to determine whether proposed work at a facility is routine, "EPA makes a case-by-case determination by weighing the nature, extent, purpose, frequency, and cost of the work, as well as other relevant factors, to arrive at a common-sense finding." Clay Memorandum at 3. The EPA considered all these factors in determining that the Port Washington project was not routine; first, the EPA observed that the nature and extent of the project was substantial: WEPCO proposed to replace sixty-foot steam drums (in units 2, 3, 4 and 5) and air heaters (in units 1, 2, 3 and 4) during successive nine-month outages at each unit. *Id.* at 4. Certainly, the magnitude of the project (as well as the down-time required to implement it) suggests that it is more than routine.

Further, the EPA points to WEPCO's admission in its application that "[work items] falling into the category of repetitive maintenance that are normally performed during scheduled equipment outages . . . are not included in this application." Cassidy Letter at 1 (emphasis supplied). This admission suggests that WEPCO at first blush did not regard the repair and replacement project as ordinary or routine.

In addition, the EPA noted that far from being routine, the Port Washington project apparently was unprecedented: "WEPCO did not identify, and EPA did not find, even a single instance of renovation work at any electric utility generating station that approached the Port Washington life extension project in nature, scope or extent." Respondent's Brief at 44; see Clay Memorandum at 4 ("[T]his is a highly unusual, if not unprecedented, and costly project."). We surmise, although the record is silent, that the "case of first impression" character of the project may reflect historical practice in the electric utility industry of replacing old plants (at the expiration of their useful lives) with new plants, employing improved technologies and achieving improved efficiencies. This was the typical practice, rather than the mere extension of life of existing plants through massive like-kind replacements. *Cf.* Clay Memorandum at 4 ("[The Port Washington project's] purpose is to completely rehabilitate aging power generating units whose capacity has significantly deteriorated over a period of years, thereby restoring their original capacity and substantially extending the period of their

utilization as an alternative to retiring them as they approach the end of their useful physical and economic life.")

WEPCO asks us to overlook the factors outlined in the Clay Memorandum and reverse the EPA primarily on the basis of earlier EPA decisions characterizing certain replacement programs as routine; WEPCO argues that the nature and extent of these "routine" projects parallel those of its Port Washington project. For example, WEPCO presented the EPA with a list of forty air heaters in other plants that had been replaced without triggering NSPS or PSD provisions. Letter from Mark P. Steinberg, Superintendent — Air Quality of WEPCO, to Dale Ziege, Wisconsin Department of Natural Resources (Jan. 11, 1989). But as WEPCO has acknowledged, the plate-type air heaters at issue in the Port Washington project must be replaced *in whole*; in contrast, the forty units where replacement was apparently considered routine contained a Ljungstrom basket or tubular type heater, a type that permits the replacement of the heat transfer surface without requiring the removal of the entire unit. Supplemental Determination at 6-7. Obviously, the precise nature of the physical change is a material factor in determining whether the change is routine, and for this purpose it is important that the subject of past EPA practice be closely comparable with the change under consideration here. See Thomas Letter at 3 ("PSD and NSPS applicability determinations are made on a case-by-case basis."). WEPCO has not demonstrated that the EPA's conclusion that the forty other air heater replacements were dissimilar is arbitrary and capricious.¹

[2] The purpose, frequently and cost of the work also support the EPA's decision here. WEPCO admits that the plans for extensive renovation "represent a life ex-

¹ We similarly view supplemental evidence marshalled by WEPCO on this point. WEPCO argues that the EPA has treated the replacement of coal pulverizers and generator cyclones as routine; however, WEPCO fails to demonstrate the similarities between these units and their heaters and steam drums at issue here. While it is true that some repair and replacement programs are routine, it does not necessarily follow that all such programs are routine. Without more evidence, we are not convinced that the EPA's characterization of the massive Port Washington project as non-routine is inconsistent with its prior rulings.

ension of the units from their planned retirement dates," Cassidy Letter at 2-3 (emphasis supplied), and it recognizes that "the renovation work items included in this application are those that would normally occur only once or twice during a unit's expected life cycle." *Id.* at 1. Indeed, WEPCO reported that it had never previously replaced a steam drum or "header" of comparable size at any of its coal-fired electrical generating facilities. Clay Memorandum at 5. Further, the Port Washington renovation project will cost at least \$70.5 million. Letter from John W. Boston, Senior Vice President of WEPCO, to Gary D. McCutchen, Chief New Source Review Section of the EPA, at 4 (May 19, 1988). These factors suggest that the project is not routine.

WEPCO urges that the EPA's conclusions are supported by neither the evidence nor the provisions of the Clean Air Act Amendments. WEPCO reasons that because any replacement project will presumably extend the life of a facility, the EPA's reliance on life extension as a factor in denying the routine nature of a project is overbroad. Petitioners' Brief at 44. Although perhaps persuasive on its face, WEPCO's analysis is ultimately wide of the mark. While it is certainly true that the repair of deteriorated equipment will contribute to the useful life of any facility, it does not necessarily follow that the repairs in question would extend the life expectancy of the facility. The need for some repairs along the line is a given in determining in the first instance the life expectancy of a plant. WEPCO cannot seriously argue that its units' planned retirement dates of 1992 (units 1 and 2) and 1999 (units 3, 4 and 5) did not take into account at least minor equipment repairs and replacements.¹ And WEPCO concedes that the Port Washington program will extend the life expectancy of the plant until 2010. The EPA concluded that the proposed project will

¹ By WEPCO's own admission, "even a new facility could not operate normally but for a relatively short period of time . . . [w]ithout any repair or replacement. . . ." Petitioner's Brief at 44. Because the plants were placed into service between 1935 and 1950 — and because WEPCO acknowledges that the life expectancy of these plants was approximately fifty years — it is clear that WEPCO included minor part repair and replacement in its calculations. Of course, the planned retirement dates appear to be merely estimates and do not seem to be binding.

increase the life expectancy of the Port Washington facility, and this conclusion was a factor in the finding that the work was not routine. These determinations were not arbitrary and capricious.

Still, WEPCO asserts that the cost, magnitude and nature of its Port Washington project are irrelevant for purposes of the "routine" exception to NSPS and PSD. WEPCO contends that the EPA has already addressed these factors — including the perpetuation of existing sources — through its so-called "reconstruction" rule:

(a) An existing facility, upon reconstruction, becomes an affected facility [subject to NSPS], irrespective of any change in emission rate.

(b) "Reconstruction" means the replacement of components of an existing facility to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility. . . .

40 C.F.R. §60.15 (1988).⁴ See United States Environmental Protection Agency, *Electric Utility Steam Generating Units: Background Information for Proposed Particulate Matter Emission Standards 5-7* (1978). WEPCO believes that, because the air heater replacements will presumably cost less than six percent of a wholly new facility, the reconstruction provisions are not triggered. Therefore, WEPCO argues that the cost and scope of the project are relevant only to a "reconstruction" analysis and are not material for purposes of the routine exception to the modification provisions. Petitioner's Brief at 46.

WEPCO's analysis fails to note, however, the fundamental differences distinguishing the reconstruction and modification provisions. The reconstruction provision applies to any substantial replacement (more than 50% of the cost of a new facility) even if the replacement causes no subsequent increase in emissions. In sharp contrast, the modification provisions apply only when a physical change is accompanied by an increase in emissions.¹ To argue, therefore, that the reconstruction provision is the exclusive determinant of

⁴ The reconstruction provisions of the regulations apply only to NSPS; given the existing regulatory framework, the EPA decided that they would not be necessary for PSD. See 45 Fed. Reg. 52676, 52703 (1980).

whether the cost, nature and magnitude of a project will require the application of NSPS is to ignore the substantially different objectives of the reconstruction and modification provisions: The reconstruction provision is aimed principally at "discourag[ing] the perpetuation of a facility, instead of replacing it at the end of its useful life with a newly constructed affected facility," without regard to emissions, 39 Fed. Reg. 36946, 36948 (1974), while the modification provision applies to any physical change, without regard to cost, that causes an increase in emissions. See, e.g., *ASARCO Inc. v. EPA*, 578 F.2d 319 (D.C. Cir. 1978); *United States v. Narragansett Improvement Co.*, 571 F.Supp. 688, 695 (D.R.I. 1983) ("a 'reconstruction' of an existing facility would occur 'irrespective of any change in emission rate' upon the replacement of a 'substantial portion of the existing facility's components.'"). Hence, we cannot agree that the EPA's consideration of the cost, magnitude and nature of the Port Washington project, for purposes of the modification provision of the regulations (and its "routine" exception), is somehow "preempted" by the reconstruction provisions of the regulations. The EPA's examination of these factors, therefore, was not arbitrary or capricious.

2. Increase in Emissions

Thus far, we have not had to address the important differences between the PSD and NSPS programs. At this point, however, the differences become crucial, because each program measures emissions in a fundamentally distinct manner.

a. NSPS Measurements

As previously noted, the EPA's NSPS program is concerned primarily with increases in emission rates, expressed in kilograms per hour of discharged pollutants. 40 C.F.R. §60.14 (1988). The EPA compares the hourly emissions of the unit at its current maximum capacity to its potential emissions at maximum capacity after the change. Clay Memorandum at 9; see 40 C.F.R. §60 App. C (1988) (providing complex formulae for determining emission rate change). In this calculation, the agency disregards the unit's maximum design capacity; this factor often sheds little light on the unit's actual current capacity to produce emissions.³

³ Of course, if the unit is currently operating at maximum design capacity, there will be no difference between the measure of emis-

The EPA applied these procedures in examining the generating units at Port Washington. The EPA asked WEPSCO to submit figures for the actual operations and emissions of each unit at the Port Washington plant for the years 1978 to 1987; the EPA then relied upon the 1987 figures to calculate the emissions baseline against which post-replacement emissions could be compared. WEPSCO, however, challenged the EPA's acceptance of these preliminary baseline figures, arguing that units 1, 2, 3 and 4 were capable of operating at higher rates of production than those calculated by the EPA based upon the 1987 figures. WEPSCO conducted five ten-hour tests at each unit to determine its maximum capacity. Upon reviewing the test results, the EPA agreed that units 2 and 3 could be operated at their design capacities, and it revised the baseline levels for these units. The agency concluded that because there would be no increase in production or emissions, NSPS would not apply to these units following the renovation project. Nonetheless, the EPA refused to alter the baseline levels for units 1 and 4, noting that WEPSCO's test had not been conducted pursuant to the test protocol as required by the regulations and the Wisconsin State Implementation Plan (units 1 and 4 exceeded certain maximum allowable emission limits). Supplemental Determination at 8-9. Comparing these 1987 baseline levels to the maximum capacity of the plant after renovation, the EPA concluded that the renovation project would be subject to the provisions of NSPS.

WEPSCO asks us to overturn the EPA's final ruling that the Port Washington project triggers NSPS. Specifically, WEPSCO argues that, by using 1987 figures in determining the emissions baseline, the EPA failed to apply its own regulations; WEPSCO asserts that these figures "reflected voluntary decisions by WEP[C]O regarding safety considerations (e.g., the 'zero' rate for Unit 5) and an electricity demand which did not require operation of the units at higher capacities." Petitioner's Brief at 15-16.

sions at maximum design capacity and at current maximum capacity. Since the units at Port Washington were operating well below maximum design capacity (and unit 5 was completely shut down), that is not the case here.

WEPSCO also posits that the EPA's refusal to compare representative pre-renovation emissions with actual post-renovation emissions is contrary to EPA regulations and amounts to an abuse of agency discretion.⁴

WEPSCO's first assertion is easily dismissed. The EPA's choice of the 1987 figures was based entirely upon WEPSCO's own data. And, when WEPSCO complained that its own data did not reflect WEPSCO's pre-renovation capabilities, the EPA permitted WEPSCO to conduct new tests (pursuant to 40 C.F.R. §60 App. C (1988)) that eventually resulted in the revision of the baselines for units 2 and 3.

WEPSCO's second charge is far more substantial. WEPSCO argues that NSPS regulations require the EPA to use a "representative" year in determining a baseline rate of emissions. The EPA disputes this claim, arguing that "[a]s to NSPS, there is no 'representative emissions' concept. . . . Rather . . . the baseline emission rates for units 1-5 are determined by hourly maximum capacity just prior to the renovations." Thomas Letter at 5.

⁴ As a preliminary matter, we note that WEPSCO has not asked us to review the propriety of the NSPS regulations themselves. Indeed, we have no jurisdiction to conduct such an inquiry: 42 U.S.C. section 7607(b)(1) reserves such questions for the United States Court of Appeals for the District of Columbia Circuit. In this case, WEPSCO simply requests that we consider whether the EPA properly applied these regulations to the Port Washington generating units. We have jurisdiction to undertake such an inquiry. 42 U.S.C. §7607(b)(1).

⁵ The regulations themselves provide, in part:

(a) . . . any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification. . . .

(b) Emission rate shall be expressed as kg/hr of any pollutant discharged into the atmosphere for which a standard is applicable. The Administrator shall use the following to determine the emission rate:

(1) Emission factors as specified in the latest issue of "Compilation of Air Pollutant Emission Factors," EPA Publication No. AP-42, or other emission factors determined by the Administrator to be superior to AP-42 emission factors, in cases where utilization of emission factors demonstrate that the emission level resulting from the physical or

WEPSCO's interpretation of the regulations, at first blush, seems sensible: since the regulations require that the manual emission tests and continuous monitoring systems be based upon the "representative performance" of the facility, the emission factor test approach must also be based upon "representative performance." 40 C.F.R. §60.14 (1988); see 39 Fed. Reg. 36946, 36947 (1974) (explaining provision).⁵ Otherwise, the tests might reach inconsistent results, making the rate of emissions entirely dependent upon the type of test used by the facility. Hence, argues WEPSCO, the EPA must examine the emission rates during a representative period, not 1987.

[3] WEPSCO's analysis, however, relies upon a flawed premise. WEPSCO assumes that the phrase "representative performance of the facility" suggests that the EPA must choose a representative year. Read in context, however, the phrase refers generally to all the conditions of the test, not specifically to its timing:

operational change will either clearly increase or clearly not increase.

(2) Material balances, continuous monitor data, or manual emission tests in cases where utilization of emission factors as referenced in paragraph (b)(1) of this section does not demonstrate to the Administrator's satisfaction whether the emission level resulting from the physical or operational change will either clearly increase or clearly not increase, or where an owner or operator demonstrates to the Administrator's satisfaction that there are reasonable grounds to dispute the result obtained by the Administrator utilizing emission factors as referenced in paragraph (b)(1) of this section. When the emission rate is based on results from manual emission tests or continuous monitoring systems, the procedures specified in Appendix C of this part shall be used to determine whether an increase in emission rate has occurred. Tests shall be conducted under such conditions as the Administrator shall specify to the owner or operator based on representative performance of the facility. At least three valid test runs must be conducted before and at least three after the physical or operational change. All operating parameters which may affect emissions must be held constant to the maximum feasible degree for all test runs.

40 C.F.R. §60.14 (1988).

⁶ The emission factor test is the only technique that can predict emission rates after renovations. Because the determination at issue here must be made before the renovations are undertaken, the EPA relied on this test in evaluating the Port Washington project.

Tests shall be conducted under such conditions as the Administrator shall specify to the owner or operator based on representative performance of the facility. At least three valid test runs must be conducted before and at least three after the physical or operational change. All operating parameters which may affect emissions must be held constant to the maximum feasible degree for all test runs.

40 C.F.R. §60.14(b)(2) (1988). Compare 40 C.F.R. §52.21(b)(21)(ii) (1988) (PSD program) ("The Administrator shall allow the use of a *different time period* upon a determination that it is *more representative* of normal source operation.") (emphasis supplied). Put simply, section 60.14 ensures that the operator will not doctor testing conditions to produce favorable emission results. The EPA's explanation of its regulations, which of course is given deference, supports this interpretation: "According to the proposed regulation, each set of emission tests (using manual tests or continuous monitors) conducted before and after a physical or operational change would consist of at least three runs, and would be conducted under *representative operating conditions*." 39 Fed. Reg. 36946, 36947 (1974) (emphasis supplied). WEPCO has not argued that it conducted its own tests under unrepresentative conditions, nor has it challenged any other part of the test protocol.⁴ And WEPCO does not claim that the tests were conducted during a period of operations that substantially differed from the normal operations of the deteriorated Port Washington plant. Further, the fact that the EPA permitted WEPCO to conduct additional emissions tests on the units (during which, presumably, WEPCO could maintain representative operating conditions) undermines WEPCO's assertion that the

⁴ WEPCO does assert that the EPA improperly examined only the lowest hourly capacity achieved during the test periods. Even if the EPA had accepted the highest capacity tests, however, the rate of emissions of units 1, 4 and 5 still would have subjected those units to NSPS after the renovation. Further, the EPA acknowledges that there will be no difference between the rate of emissions of units 2 and 3 before and after the renovation, regardless of the chosen capacity level. See Letter from Walt Stevenson to Jack Farmer (Jan. 5, 1989) (summarizing Port Washington capacity tests). We therefore need not consider whether the Administrator may rely upon the lowest capacity level.

regulations were applied arbitrarily or capriciously.

b. PSD Measurements

Unlike NSPS, PSD is concerned with changes in *total annual emissions*, expressed in tons per year. The PSD regulations require preconstruction review of the construction or modification of major emitting facilities. These regulations define their key term — "major modification" — as "any physical change in or change in the method of operation of a major stationary source that would result in a significant¹⁰ net emissions increase of any pollutant subject to regulation under the Act." 40 C.F.R. §52.21(b)(2)(i) (1988) (footnote supplied).

Here the question is whether WEPCO's renovation project will result in "a significant net emissions increase" so as to trigger the "major modification" provision of the regulations and, as a result, PSD. To determine whether the project would result in an emissions increase, the EPA compared actual pre-renovation emissions with potential post-renovation emissions at the Port Washington plant. Specifically, the EPA first examined the two-year period of 1983 through 1984 as the pre-renovation baseline period, pursuant to 40 C.F.R. section 52.21(b)(21)(ii):

In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a *two-year period which precedes the particular date and which is representative of normal source operation*. The Administrator shall allow the use of a *different time period* upon a determination that it is *more representative of normal source operation*. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.

40 C.F.R. §52.21(b)(21)(ii) (1988) (emphasis supplied). Because Administrator

¹⁰ The regulations define "significant" in terms of threshold emissions increases of individual pollutants: for example, an increase of 40 tons per year of nitrogen oxides is a "significant" net emissions increase. See 40 C.F.R. §52.21(b)(23) (1988).

Thomas determined that the discovery of cracks in the rear steam drums led to a more recent "source curtailment," he relied upon the data from earlier years, 1983 and 1984, as the baseline to determine whether the renovation would cause an increase in emissions. Thomas Letter at 5. WEPCO does not challenge this component of the EPA's calculation.

Second, the EPA calculated the actual emissions of the plant following completion of the project. Generally, in order to apply PSD, the regulations require the EPA to find an "increase in *actual emissions* from a particular physical change or change in method of operation." 40 C.F.R. §52.21(b)(3)(i)(a) (1988) (emphasis supplied). The EPA reasoned, however, that because the source "ha[d] not yet begun operations following the renovation, 'actual emissions' following the renovation [were] deemed to be the source's 'potential to emit.'" Clay Memorandum at 7. In support of its reliance on WEPCO's potential to emit, the EPA pointed to the regulations: "For any emissions unit which has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date." 40 C.F.R. §52.21(b)(21)(iv) (1988).

WEPCO objects strenuously, and with good reason. In calculating the plant's post-renovation potential to emit, the EPA bases its figures on round-the-clock operations (24 hours per day, 365 days per year) because WEPCO could potentially operate its facility continuously, despite the fact that WEPCO has never done so in the past. And the EPA has admitted that it "assumed that emissions increases at Port Washington would come not from an increase in emission rate, but rather from increases in production rate or hours of operation." Supplemental Determination at 9; see Clay Memorandum at 7-8. The EPA responds that WEPCO can avoid these maximum calculations simply by consenting to federally enforceable restrictions on production rates and hours of operation, but WEPCO declines to do so. Clay Memorandum at 8; see 40 C.F.R. §§52.21(b)(4), 52.21(b)(16) (1988). Thus, argues the EPA, it has no choice but to assume that the plant will be operated continuously.¹¹

¹¹ Despite WEPCO's protestations, we note initially that the EPA's refusal to apply the "production rate/hours of operation" exclusion was proper. 40 C.F.R. §52.21(b)(2)(iii)(f) (1988). This exclusion — which states that

The first issue to be addressed is whether the EPA properly invoked the "potential to emit" concept in calculating the emissions increase. As explained above, the PSD regulations state that the EPA may rely upon a facility's potential to emit if the unit "has not *begun normal operations* on the particular date." 40 C.F.R. §52.21(b)(21)(iv) (1988) (emphasis supplied). WEPCO argues that this phrase should be interpreted to include only those units that have never been in operation, while the EPA urges that the phrase can be applied to both new and modified units.

The regulatory history of this phrase sheds little light on its proper interpretation. The EPA argues that it has always interpreted this phrase to include modified units; it asserts that its formulae for determining emissions increases have consistently assumed that "new or *modified units*" would be deemed to operate at maximum physical or federally enforceable levels. 45 Fed. Reg. 52676, 52718 (1980) (emphasis supplied). But the EPA's analysis here seems circular: in order to demonstrate that the Port Washington like-kind replacement project constitutes a modification, the EPA applies the potential to emit concept (to show an increase in emissions). And in order to apply the potential to emit concept to like-kind replacement, the EPA assumes that the plant is a "modified" unit. Although we accord great deference to an agency construing the statute it administers, *Chevron*, 467 U.S. at 844, and even more deference to an agency interpreting its own complex regulations, *Aluminum Co. of Am. v. Central Lincoln Peoples' Util. Dist.*, 467 U.S. at 390, we cannot defer to agency interpretations that, as applied here, appear to assume what they seek to prove.¹²

¹² "[a] physical change or change in the method of operation shall not include . . . [a]n increase in the hours of operation or in the production rate," *id.* — was provided to allow facilities to take advantage of fluctuating market conditions, not construction or modification activity. See 45 Fed. Reg. 52676, 52704 (1980).

¹³ In a supplemental filing pursuant to Seventh Circuit Rule 28(j), the EPA intimates that the First Circuit's recent decision in *Puerto Rican Cement Co. v. EPA*, 889 F.2d 292 (30 ERC 1650) (1st Cir. 1989), permits the use of the potential to emit concept in similar circumstances. However, unlike the case at issue here, *Puerto Rican Cement* involved the construction of a new emissions unit at an existing source. Further, the First Circuit distinguished its

We are also troubled by the EPA's assumption of continuous operations in calculating potential to emit at the Port Washington plant. Although we agree that the EPA cannot reasonably rely on a utility's own unenforceable estimates of its annual emissions,¹³ we find no support in the regulations for the EPA's decision wholly to disregard past operating conditions at the plant. Indeed, *Alabama Power Co. v. Costle*, 636 F.2d 323 (D.C. Cir. 1979), which contributes importantly to the EPA's current PSD program, suggests otherwise. There, the D.C. Circuit held, in part, that the EPA must "take[] into account the anticipated functioning of the air pollution control equipment designed into the facility" when calculating the facility's potential to emit. *Id.* at 353. More important for our purposes, however, was the court's discussion of a unit's potential to emit:

If the source has no actual emissions because it has yet to commence operating, its hypothetical, projected emissions are included in the baseline. If, however, the source is an established operation, a more realistic assessment of its impact on ambient air quality levels is possible, and thus is directed.

Id. at 379 (emphasis supplied). The district court in *United States v. Louisiana*

holding from controversies having something in common with the one before us.

One can imagine circumstances that might test the reasonableness of EPA's regulation. An electricity company, for example, might wish to replace a peak load generator — one that operates only a few days per year — with a new peak load generator that the firm could, but almost certainly will not, operate every day. . . . Whatever the arguments about the "irrationality" of EPA's interpretation in such circumstances, however, those circumstances are not present here.

Id. at 297-98.

¹³ The EPA argues that WEPCO can avoid the presumption of continuous operations simply by consenting to federally enforceable emission limits. However, the EPA has not brought to our attention a clear regulatory basis for its conclusion that the provision of this alternative justifies the assumption of continuous operation if the utility refuses to consent. And WEPCO may have legitimate reasons for declining to submit to federally enforceable emission limits: "[U]ncertainties about the precise shape of future electricity peak demand might make the firm hesitate to promise EPA it will never increase actual emissions. . . ." *Puerto Rican Cement Co. v. EPA*, 889 F.2d 292, 298 (1st Cir. 1989).

Pacific Corp., 682 F.Supp. 1141 [27 ERC 1621] (D. Colo. 1988), relying on *Alabama Power*, recently reached the same conclusion:

The broad holding of *Alabama Power* is that potential to emit does not refer to the maximum emissions that can be generated by a source hypothesizing the worst conceivable operation. Rather, the concept contemplates the maximum emissions that can be generated while operating the source as it is intended to be operated and as it is normally operated. Of course, it is possible that a source could be operated without the control equipment designed into it or that a Konus heater could be operated so badly that the fire would go out. Yet, *Alabama Power* stands for the proposition that hypothesizing the worst possible emissions from the worst possible operation is the wrong way to calculate potential to emit.

Id. at 1158.

[4] In sum, we certainly do not suggest that the EPA may never subject replaced units to the potential to emit concept under its regulations. The EPA may, if it wishes, undertake notice and comment procedures to apply the potential to emit concept to like-kind replacement. See 42 U.S.C. §7607(d). But existing regulations do not seem to us to support such an application. We therefore believe that the EPA's reliance on an assumed continuous operation as a basis for finding an emissions increase is not properly supported. The EPA's determination that there has been a major modification for PSD purposes must be set aside.¹⁴

IV. Fuel Switching

The final significant dispute in this case involves fuel switching. WEPCO proposed to the EPA that its "replacement project combined with an enforceable fuel switch would not result[] in an increase in the [sulfur dioxide and particulate matter] emission rate[s] from those units." Petitioner's Brief at 50

¹⁴ It appears that WEPCO never submitted pollutant-specific data to the EPA. Clay Memorandum at 7-8. Consequently, the EPA could not, at the time the matter was before it, conclude whether the renovated plant would cause a significant net emissions increase if it were operated under present hours and conditions. WEPCO should make such data available so that the EPA can determine on that basis whether the Port Washington plant will be subject to the PSD program.

(brackets in original); see 40 C.F.R. §60.14(a) (1988). Nonetheless, the EPA refused to permit WEPCO to utilize lower sulfur coal instead of implementing pollution control technologies to prevent an increase in emissions. The EPA explained that "the statute reflects a basic political decision that fossil fuel-fired sources not rely only on natural occurring less-polluting fuels to comply with the NSPS. Instead, Congress declared that compliance must depend in part upon the application of flue gas treatment or other pollution control technologies." Supplemental Determination at 10. Further, the EPA pointed to 40 C.F.R. section 60.14(b)(2) (1988), which requires that "operating parameters" — including fuel and raw materials — must be held constant in measuring emissions before an after renovations to determine whether the utility has undertaken a modification. WEPCO disputes the EPA's interpretation of the relevant provisions of the Clean Air Act Amendments.

[5] Consistent with the Supreme Court's approach in *Chevron*, we first examine whether the statute evinces a clear congressional intent on the matter. We believe it does. Although the plan language of 42 U.S.C. section 7411 does not resolve the issue, the relevant legislative history provides ample support for the EPA's position. The House Conference Report, for example, states:

The agreement requires (1) that the standards of performance for fossil fuel-fired boilers be substantially upgraded to require the use of the best technological system of continuous emission reduction and to preclude use of untreated low sulfur coal alone as a means of compliance; . . . (3) that for fossil fuel-fired sources, the new source performance standards must be comprised of both a standard of performance for emissions and an enforceable requirement for a percentage reduction in pollution from untreated fuel.

H.R. Rep. No. 564, 95th Cong., 1st Sess. 130, reprinted in 1977 U.S. Code Cong. & Admin. News 1077, 1510 (emphasis supplied). In addition, passages from the congressional debates reflect Congress' refusal to allow stationary sources to substitute low sulfur fuels to avoid a requirement of pollution control technology. See, e.g., III Senate Committee on Environment & Public Works, *A Legislative History of the Clean Air Act Amendments of 1977*, at 323, 353 (1978) (disapproving substitution of

low sulfur coal for pollution control technology); IV Senate Committee on Environment & Public Works, *supra*, at 2653 (same). In these reports, Congress reasoned that the Administrator's previous standards — which had allowed fuel switching in lieu of pollution control technology — directly conflicted with the purposes of the NSPS program:

1. The standards give a competitive advantage to those States with cheaper low-sulfur coal and create a disadvantage for Midwestern and Eastern States where predominantly higher sulfur coals are available;

2. These standards do not provide for maximum practicable emission reduction using locally available fuels, and therefore do not maximize potential for long-term growth;

3. These standards do not help to expand the energy resources (that is, higher sulfur coal) that could be burned in compliance with emission limits as intended;

4. These standards aggravate compliance problems for existing coal-burning stationary sources which cannot retrofit and which must compete with larger, new sources for low-sulfur coal;

5. These standards increase the risk of early plant shutdowns by existing plants (for the reasons stated above), with greater risk of unemployment; and

6. These standards operate as a disincentive to the improvement of technology of new sources, since untreated fuels could be burned instead of using such new, more effective technology.

III Senate Committee on Environment & Public Works, *supra*, at 323. These purposes, reflecting technological and political choices, demonstrate that Congress rejected fuel switching as a method of avoiding the impact of NSPS. We believe Congress left us no choice on this issue.

V. CONCLUSION

In an era of increasing environmental concern, Congress enacted the Clean Air Act to "speed up, expand, and intensify the war against air pollution in the United States with a view to assuring that the air we breathe throughout the Nation is wholesome once again." H.R. Rep. No. 1146, 91st Cong., 2d Sess. 1, 1, 1970 U.S. Code Cong. & Admin. News 5356, 5356. The EPA is entitled to substantial deference in interpreting the technical provi-

sions of the Act and its own regulations. We cannot grant deference, however, where the EPA has attempted to implement the Act's lofty goals in contravention of its own statutory regime. We therefore affirm in part and vacate in part, remanding the cause to the EPA for further proceedings not inconsistent with this opinion.

EXHIBIT C

September 9, 1988 Memorandum
from Don R. Clay to David A. Kee



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SEP 9 1988

OFFICE OF
AIR AND RADIATION

MEMORANDUM

SUBJECT: Applicability of Prevention of Significant Deterioration (PSD) and New Source Performance Standards (NSPS) Requirements to the Wisconsin Electric Power Company (WEPCO) Port Washington Life Extension Project

FROM: Don R. Clay, Acting Assistant Administrator for Air and Radiation (ANR-443)

TO: David A. Kee, Director
Air and Radiation Division, Region V

This is in further response to your March 25, 1988 memorandum requesting guidance on PSD applicability regarding the proposed renovation of the Port Washington Power Plant by the WEPCO. I have also addressed the question whether the renovations proposed for this facility would subject the individual units to Subpart Da of the NSPS.

Based on the information presented in your memorandum, subsequent written information received from WEPCO, information provided by the State of Wisconsin, and other information contained in the Environmental Protection Agency's (EPA's) files on this matter, I have concluded that, as proposed, this renovation project would not come within the PSD and NSPS exclusions for routine maintenance, repair, and replacement, nor the exclusions for increases in production rate or hours of operation. It also appears that the project would increase emissions within the meaning of these two programs. Thus, the renovation project likely would be subject to PSD review as a major modification of an existing stationary source and that the renovations proposed for units 1-5 at this facility probably would subject the individual units to Subpart Da of the NSPS as a modification. However, WEPCO has not yet requested EPA to make an applicability determination. In any case, it would not be possible to make final applicability determinations at this point, for three basic reasons.

First, EPA must be supplied sufficient data regarding the various pollutants emitted by the Port Washington facilities to determine, on a pollutant-specific basis, how the proposed renovations would affect emissions levels. Second, WEPCO might avoid both PSD and NSPS applicability by adding or enhancing pollution control equipment, or in the case of PSD, restricting

operations below maximum potential such that the emissions increases necessary to trigger applicability would not occur. The WEPCO should discuss its plans in this regard with EPA. Third, regarding NSPS applicability to unit 1, additional information is necessary to determine whether a physical or operational change would occur.

Thus, although this memorandum will serve to answer many of the questions necessary to reaching final determinations, you should advise WEPCO that ultimately applicability depends upon changes in emissions after the renovations and whether the company decides to take the steps which would enable it to lawfully avoid coverage. Also, NSPS coverage of unit 1 can only be determined after an evaluation of the additional information regarding the work to be performed. In addition, as to NSPS, WEPCO should be advised to submit a formal request pursuant to 40 CFR 60.5 if it desires a final applicability determination.

As the need for further factual development here suggests, determinations of PSD and NSPS applicability are fact-specific, and must be made on a case-by-case basis. This memorandum provides a framework for analyzing the proposed changes at Port Washington and gives EPA's views on relevant issues of legal interpretation. It should also be useful in assessing other so-called "life extension" projects in the future. However, any such project would need to be reviewed in light of all the facts and circumstances particular to it. Thus, a final decision regarding PSD and NSPS applicability here would not necessarily be determinative of coverage as to other life extension projects.

If you have any further questions regarding the discussion or conclusions in this memorandum, please have your staff contact David Solomon of the New Source Review Section at FTS 629-5375.

I. Background

As mentioned in your March 25 request, the five coal-fired units at Port Washington began operation in 1935, 1943, 1948, 1949, and 1950, respectively. Each unit was initially rated at 80 megawatts electrical output capacity. In recent years, however, the performance of the units began to deteriorate due to age-related degradation of the physical plant. In particular, inspections performed by a WEPCO consultant in 1984 revealed extensive cracks originating from the internal surfaces of the rear steam drums and boiler bank boreholes in units 2, 3, 4, and 5, creating significant safety concerns. Because of these safety concerns and other age-related problems, in 1985 the operating levels of units 2, 3, and 4 were reduced, and unit 5 was removed from service. As a result of the plant's deteriorating condition, the maximum rated physical capacities of units 1, 2, 3, and 4 at this time are 45, 65, 75, and 55 megawatts, respectively.

The life extension project includes extensive capital improvements to the common facilities and each of the individual units, including replacement of the rear steam drum in units 2, 3, 4, and 5. The renovation work will restore the physical and operational capability of each unit to its original 80 megawatt nameplate capacity, and extend the useful life of the units well beyond the planned retirement dates that would otherwise apply. Upon completion of the project, WEPCO intends to substantially increase the actual operations at the Port Washington plant.

II. PSD Applicability

The life extension project at Port Washington is subject to preconstruction review and permitting under the Act's PSD provisions if it is a "major modification" within the meaning of the Act and EPA's regulations. The PSD regulations at 40 CFR 52.21 govern this determination because Wisconsin has been delegated PSD permitting authority under the provisions of 52.21(u). The definition of "major modification" in 52.21(b)(2)(i) requires an analysis of several factors. These factors may be grouped under two general questions. Will the work entail a "physical change in or change in the method of operation of a major stationary source"? If so, will the change "result in a significant net emissions increase of any pollutant subject to regulation under the Act" [see 52.21(b)(2)(i)]? The Port Washington facility is an existing major stationary source because it emits well in excess of the PSD threshold amount for several pollutants.

A. Physical Change or Change in the Method of Operation

This requirement of a major modification is satisfied if either a physical or operational change would occur.

1. Physical Change

The renovation work called for under the proposed life extension project at Port Washington would constitute a "physical change" at a major stationary source. The clear intent of the PSD regulations is to construe the term "physical change" very broadly, to cover virtually any significant alteration to an existing plant. This wide reach is demonstrated by the very narrow exclusion provided in the regulations: other than certain uses of alternate fuels not relevant here, only "routine maintenance, repair and replacement" is excluded from the definition of physical change [see 52.21(b)(2)(iii)(a)].

In determining whether proposed work at an existing facility is "routine," EPA makes a case-by-case determination by weighing the nature, extent, purpose, frequency, and cost of the work, as well as other relevant factors, to arrive at a common-sense finding. In this case, all of these factors suggest that the work required under WEPCO's life extension project appears not to be "routine." The available information indicates that the work proposed at Port Washington is far from being a regular, customary, or standard undertaking for the purpose

of maintaining the plant in its present condition. Rather, this is a highly unusual, if not unprecedented, and costly project. Its purpose is to completely rehabilitate aging power generating units whose capacity has significantly deteriorated over a period of years, thereby restoring their original capacity and substantially extending the period of their utilization as an alternative to retiring them as they approach the end of their useful physical and economic life. The most important factors that would support these conclusions are outlined below.

a. The project would involve the replacement of numerous major components. The information submitted by WEPCO shows that the company intends to replace several components that are essential to the operation of the Port Washington plant. In particular, as noted above, WEPCO would replace the rear steam drums on the boilers at units 2, 3, 4, and 5. According to WEPCO, these steam drums are a type of "header" for the collection and distribution of steam and/or water within the boilers. They measure 60 feet long, 50.5 inches in diameter, and 5.25 inches thick, and their replacement is necessary to continue operation of the units in a safe condition. In addition, at each of the emissions units, WEPCO plans to repair or replace several other integral components, including replacement of the air heaters at units 1, 2, 3, and 4. The WEPCO also plans to renovate major mechanical and electrical auxiliary systems and common plant support facilities. The WEPCO intends to perform the work over a 4-year period, utilizing successive 9-month outages at each unit.

In its July 8, 1987 application for authority to renovate to the Public Service Commission of Wisconsin (PSC), WEPCO described the life extension project and explained its purpose and necessity. The WEPCO took care to distinguish the proposed renovation work from routine maintenance that did not require PSC approval, explaining that:

. . . [work items] falling into the category of repetitive maintenance that are normally performed during scheduled equipment outages do not require specific commission approval and, accordingly, are not included in this application.

Thus, WEPCO's own earlier characterization of this project supports a finding that the planned renovations are not routine.

b. The purpose of the project is to significantly enhance the present efficiency and capacity of the plant and substantially extend its useful economic life. In its application to the PSC, WEPCO pointed out that due to age-related deterioration, total plant capability had declined by 40 percent. The company noted that the currently planned retirement dates for the Port Washington units, as set forth in its Advance Plan filed with the State, ranged from 1992 to 1999. However, WEPCO asserted that "extensive renovation of the five units and the plant common facilities is needed if operation of the plant is to be continued." In any event, WEPCO stated that the renovation work would allow the Port Washington plant to generate power at its designed capacity until the year 2010, and thus "represents a life extension of the units."

In contrast, in its July 29, 1988 letter to EPA headquarters (pages 9-13), WEPCO characterized the renovation work as the timely, routine correction of equipment problems--principally, the steam drum cracks. However, the information presented leads to the conclusion that this is not the case. While replacement of the steam drums is necessary to restore lost generating capacity, that is not the only work proposed to be done. Based upon maximum capacity figures for past years, it appears that the units had experienced deterioration in physical generating capacity even prior to the discovery of the steam drum cracks in 1984. Thus, WEPCO proposes a wide-ranging project encompassing a broad array of tasks that would not only correct the steam drum problem, but correct other age-related deterioration that is essentially independent of the steam drums. Such other work (e.g., replacement of air handlers) apparently is also necessary as a practical matter to restore original nameplate capacity. Thus, it appears that even if WEPCO had undertaken this renovation work immediately following discovery of the steam drum cracks, it would have been proper to characterize the proposed work as a nonroutine life extension project.¹

c. The work called for under the project is rarely, if ever, performed. The WEPCO's application to the PSC asserted that the work to be performed under the life extension project was not frequently done:

Generally, the renovation work items included in this application are those that would normally occur only once or twice during a unit's expected life cycle.

The EPA asked WEPCO to submit information regarding the frequency of replacement of steam drums, the largest category of work item called for under the project. WEPCO reported that to date, no steam drums have ever been replaced at any of its coal-fired electrical generating facilities. WEPCO did point out that it had replaced other "headers" comparable in design pressure and function. However, the largest of these was 16 inches in

¹It is important to note in this regard that not all renovation, repair, or "life extension" projects would properly be characterized as modifications potentially subject to PSD and NSPS. For example, nonroutine repairs to correct unexpected equipment outages, even of major components such as steam drums, would not be subject to NSPS if they did not increase the maximum capacity of the affected facility as it existed prior to the outage. Conversely, undertaking a program of repair and maintenance properly characterized as routine would not subject a facility to the Act's requirements.

diameter, and EPA does not believe that they are comparable in diameter, wall thickness, function, or importance to the rear steam drums at Port Washington.²

d. The work called for under the project is costly, both in relative and absolute terms. The latest information supplied by WEPCO is that the renovation work at Port Washington will cost \$87.5 million, of which at least \$45.6 million is designated as capital costs.³ The WEPCO reports that, in terms of annualized costs, the renovation project will cost \$7.8 million, as compared to \$51.6 million for a new 400 megawatt plant. Thus, renovation costs represent approximately 15 percent of replacements costs.

2. Change in the Method of Operation

The renovation work at Port Washington would not constitute a "change in the method of operation" within the meaning of the PSD regulations. However, it is clear that the "physical change" and "operational change" components of the "major modification" definition are discrete and independent. Thus, as explained below, PSD still applies if there is a physical change that will significantly increase net emissions.

In addition, the regulations exclude from the definition of physical or operational change "an increase in the hours of operation or in the production rate" [see 40 CFR 52.21(b)(2)(iii)(f)]. The preamble to the rule [45 FR 52676, 52704 (August 7, 1980)], makes it clear that this exclusion is intended to allow a company to lawfully increase emissions through a simple change in hours or rate of operation up to its potential to emit (unless already subject

²The WEPCO's July 29, 1988 letter to EPA stated (on page 13) that after further investigation, the company "learned of several examples" of steam drum failure and replacement. However, WEPCO provides no further details, other than noting that in one instance, the drum failed during initial testing and was replaced. Replacement of a failed component at a new facility presumably would not increase emissions from the facility, and probably would be viewed as routine if the alternative was to forego operation of that new facility. Under such circumstances, it is unlikely that the replacement would trigger the Act's requirements.

³The WEPCO's July 8, 1987 application to the PSC included a project cost estimate of \$83.9 million, of which \$45.6 million was designated as capital costs. A more recent cost estimate provided to EPA by WEPCO indicates that several work items are now deemed unnecessary, such that the cost of the original project is now estimated at \$70.5 million. However, all but \$89,000 of these reductions are designated as "maintenance" items. The recent submission also relates that the scope of the original project has now been expanded to include flue gas conditioning equipment and associated air heater work costing approximately \$17 million. Although WEPCO has not broken down these additional costs into capital and maintenance (or "expense") expenditures, it would appear that most, if not all, of this additional work would be classified as capital costs. Thus, it is highly likely that actual capital costs would be significantly higher than \$45.6 million.

to any federally enforceable limit) without having to obtain a PSD permit. Thus, emissions increases at Port Washington associated with increased operations would not, standing alone, subject WEPCO to PSD requirements. However, as discussed in greater detail below, the exclusion for increases in hours of operation or production rate does not take the project beyond the reach of PSD coverage if those increases do not stand alone but rather are associated with non-excluded physical or operational changes.

In its March 17, 1988 letter to Region V and its July 29, 1988 letter to EPA Headquarters, WEPCO asserted that the exclusion for increases in operational hours or production rate also would serve to render PSD review not applicable to the renovation work proposed at Port Washington because the project's purpose was to restore the original design capacity of 80 megawatts per unit, but not to exceed that level. However, a plant's original design capacity is irrelevant to a determination of PSD applicability.

B. Significant Net Emissions Increase

Under the PSD regulations, whether the life extension project at Port Washington would result in a "significant net emissions increase" depends on a comparison between the "actual emissions" before and after the physical changes resulting from the renovation work. Where, as here, the source has not yet begun operations following the renovation, "actual emissions" following the renovation are deemed to be the source's "potential to emit" [see 40 CFR 52.21(b)(21)(iv)]. Apparently, there would be a "significant net emissions increase" within the meaning of the PSD regulations as a result of the proposed renovations as currently planned, because potential emissions after the project--reflecting the restoration of 80 megawatt capacity at each unit--would greatly exceed representative actual emissions prior to the physical changes. (The fact that the project is intended to restore the plant's original design capacity is irrelevant to that calculation.)⁴ If this is so, the project would be a "major modification" subject to PSD review. However, PSD applies on a pollutant-specific basis, and EPA has not been furnished with adequate data regarding the impact of the proposed renovations on the various pollutants to determine whether a significant net emissions increase would indeed occur for any pollutant. Such data must be provided before EPA can make a final determination of PSD applicability.

⁴The WEPCO also contends (July 29, 1988 letter, page 35) that EPA should instead compare representative actual emissions prior to the change with "projected" actual emissions after the renovations. The PSD regulations provide no support for this view. Where, as here, a source is not currently subject to a PSD permit containing operational limitations, EPA must presume that the source will operate at its maximum capacity and, hence, its maximum potential to emit. However, as discussed below, a source is entitled to reduce its potential to emit by embodying its "projections" of future emissions in federally enforceable restrictions on its operations that may serve to lawfully avoid PSD review.

It is important to note in this regard that WEPCO, at its option, could "net out" of PSD review by accepting federally enforceable restrictions on its potential to emit after the renovation. This could occur through enhancement of existing pollution control equipment, addition of new equipment, acceptance of federally enforceable operational restrictions, or some combination of these measures, limiting potential emissions to a level not significantly greater than representative actual emissions prior to the renovations. Theoretically, WEPCO could minimize the needed restrictions on its potential to emit following the renovations if it could show that some period other than the most recent two years is "more representative of normal source operation" [see 52.21(b)(21)(ii)]. (Obviously, such a showing would be most important with respect to unit 5, because it has been shut down and has had zero emissions since 1985.) Since these matters are within WEPCO's control, you should advise the company to enter discussions with Region V and Wisconsin, as appropriate, if WEPCO desires to "net out" of PSD review.

The WEPCO also argued in its July 29, 1988 letter, at pages 33-41, that even if EPA is correct that the Port Washington life extension project would involve physical changes within the meaning of the PSD regulations, any emissions increases would be due to increased production rates or hours of operation rather than higher emissions per unit of production. Therefore, WEPCO contends that these increases should be excluded from consideration in determining whether a net significant emissions increase and, hence, a major modification, would occur. The WEPCO is incorrect in this regard.

As noted above, the exclusions cited by WEPCO are intended to apply where a source increases emissions by simply combusting a larger amount of fuel, or processing a larger amount of raw materials during a given time period, or by expanding its hours of operation "to take advantage of favorable market conditions" (see 45 FR 52704). In this instance, however, it is obvious that WEPCO's plans to increase production rate or hours of operation are inextricably intertwined with the physical changes planned under the life extension project. Absent the extensive renovations proposed at Port Washington, WEPCO would have little market incentive to, and in part would be physically unable to, increase operations at these aged and deteriorated facilities which, absent the renovations, would likely be retired from service in the near future. Thus, WEPCO's plans call for precisely the type of "change in hours or rate or operation that would disturb a prior assessment of a source's environmental impact [and] should have to undergo [PSD review] scrutiny" (see 45 FR 52704). Conversely, accepting WEPCO's interpretation of the major modification regulations would serve to exclude from consideration all physical or operational changes except those which cause increased emissions per unit of production. Clearly, EPA never intended this result. It would allow, through substantial capital investment, significant expansion of the pollution-emitting capacity and longevity of major industrial facilities without PSD review of the impacts on air quality and opportunities for future economic growth.

C. Baseline Date

The November 9, 1987 letter from the Wisconsin Department of Natural Resources to Region V asked whether a complete March 28, 1986 PSD permit application for certain work at Port Washington triggered the PSD baseline date, despite the fact that the permit was never issued. The answer to this question is yes. Baseline dates are triggered by the first complete application and remain in effect regardless of whether the application is revised or withdrawn, or whether the permit is finally issued and the source constructed or modified.

III. NSPS Applicability

The Port Washington renovations are subject to the Act's NSPS if they constitute "modifications" within the meaning of section 111 and 40 CFR Part 60. Under 60.1, the NSPS applies to modifications at an "affected facility." Each unit at Port Washington is properly characterized as an "affected facility" subject to the NSPS at 40 CFR Part 60, Subpart Da, which applies to electric utility steam generating units [see 60.40(a)]. Pursuant to 60.14(a), a modification for NSPS purposes is defined as "any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies." Increase in emission rate is in turn defined as an increase in kilograms per hour (kg/hr) [see 60.14(b)].

Pursuant to longstanding EPA interpretations, the emission rate before and after a physical or operational change is evaluated at each unit by comparing the hourly potential emissions under current maximum capacity to emissions at maximum capacity after the change. In addition, under the Act's NSPS provisions, only physical limitations on maximum capacity are considered in determining potential emissions at power plants. Thus, any prospective changes in fuel or raw materials accompanying the physical or operational change are not considered in determining maximum capacity. Consequently, 60.14(b)(2) requires that, in conducting emissions tests before and after a change to determine whether an increase in emission rate has occurred, "operational parameters" which may affect emissions must be held constant. Fuel and raw materials are "operational parameters" for this purpose. Similarly, 60.14(e)(4) provides that use of an alternative fuel or raw material which the existing facility was designed to accommodate before the change would not be considered a modification. Thus, for example, a physical change which increases the maximum capacity of the facility would have a corresponding increase in the sulfur dioxide emissions if the facility used fuel with the same sulfur content before and after the change. Such a prospective increase cannot be offset by instead using fuel with a lower sulfur content after the change, because, under the regulations, the facility would always have the option of changing back to the higher sulfur-content fuel at a later date without triggering a modification for NSPS purposes. However, any offsetting reductions in emission rate caused by the concurrent addition of pollution control equipment would be considered in determining whether a physical or operational change results in an increase in emission rate.

The WEPCO contends (July 29, 1988 letter, at pages 20-27) that baseline capacity for the purpose of determining whether an increase in emission rate occurs for purposes of an NSPS modification is the original design capacity of the facility. This is incorrect. The thrust of the NSPS modification provisions is to compare actual maximum capacity before and after the change in question. Thus, original design capacity is irrelevant. The provision in 40 CFR 60.14(b)(2) for manual emission tests to determine whether an increase has occurred clearly contemplates that tests will be done just prior to and after the physical or operational change. The original design capacity of a unit, to the extent it differs from actual maximum capacity at the time of the test due to physical deterioration--and, hence, derating--of the facility, is immaterial to this calculation.

A. Physical or Operational Change

As with the Act's PSD provisions, a modification occurs for NSPS purposes, if there is either a physical or operational change [see 40 CFR 60.14(a)].

1. Physical Change

As is the case under the PSD provisions, the proposed renovations at Port Washington would constitute a physical change for NSPS purposes, at least at units 2, 3, 4, and 5. The WEPCO would need to supply more information, if EPA is to make a definitive determination as to unit 1.

The rear steam drums are part of the steam generating unit which constitutes the "affected facility" within the meaning of 40 CFR 60.41(a), and the drum replacements at units 2, 3, 4, and 5 are integral to the planned increase in maximum capacity, which is the purpose of the life extension project. With respect to unit 1, other physical changes would increase maximum capacity from 45 to 80 megawatts. However, there is some question whether those changes, in significant part, would occur at the steam generating unit or will be limited to the turbine/generator set, which is not part of the affected facility. We suggest that you pursue this matter with WEPCO to the extent necessary to determine NSPS applicability regarding unit 1.

As with PSD, the NSPS regulations exclude routine maintenance, repair, and replacement [see 60.14(e)(2)]. However, the renovations at the Port Washington steam generating units are not routine for NSPS purposes for the same reasons--detailed above--that they are not routine for PSD purposes.

2. Operational Change

Operational changes include both increases in hours of operation and increases in production rate. Section 60.14(e)(3) provides that an increase in hours of operation is not, by itself, a modification. However, an increase in production rate at an existing facility constitutes a modification, unless it can be accomplished without a capital expenditure on that facility [see 60.14(e)(2)].

It is highly likely that the life extension project at Port Washington constitutes an operational change under this standard, for two reasons. First, restoring nameplate capacity at units 1, 2, 3, and 4 presumably entails, among other things, changes that will allow the units to combust a larger amount of fuel at maximum capacity through operation at higher working pressures than the units have been able to accommodate in recent years. In the case of unit 5, the renovations presumably involve an increase over zero fuel and pressure. These changes constitute an increase in production rate within the meaning of the regulations. Second, as noted above in the discussion of PSD applicability, this increase in production rate entails substantial investments to improve the capital stock at each affected facility. It appears that these investments are large enough to qualify as "capital expenditures" under the formula specified in 60.2, although WEPCO should be asked to supply actual calculations should this become necessary to determine NSPS applicability.

B. Increase in Emission Rate

It seems clear that, absent some creditable offsetting changes, the increases in maximum generating capacity proposed for each of the Port Washington units would represent an increase in the hourly potential emission rate for each pollutant to which a standard applies over the emission rate prior to the renovation. As noted above, burning cleaner fuels would not be creditable. Similarly, voluntarily restricting the production rate following the renovations also would not be creditable for NSPS purposes, because WEPCO could, at a later date, increase production without triggering NSPS [see 40 CFR 60.14(e)(2)]. Accordingly, to avoid triggering NSPS, WEPCO would need to install additional air pollution control equipment, or upgrade existing equipment, to offset the potential emissions increases, such that no increase would occur at maximum capacity. The information submitted indicates that WEPCO may plan some enhancement of the current control equipment, but it is unclear whether this would be adequate to prevent an increase in emission rates. As with PSD applicability, such steps can lawfully avoid NSPS requirements. Accordingly, you should advise the company that it should address these contingencies if it desires EPA to rule on whether WEPCO can avoid NSPS requirements in this fashion.

C. Reconstruction

Based upon data provided by WEPCO, it seems that the Port Washington renovations would not qualify as a "reconstruction" for NSPS purposes under 40 CFR 60.15, because the capital cost for the upgrades to each of the five units, while substantial, apparently is less than 50 percent of the fixed capital cost of constructing a comparable, entirely new steam generating unit [see 60.15(b)(1)]. However, the modification and reconstruction provisions of NSPS are independent. The former provisions are intended to apply in circumstances where physical or operational changes which increase emissions make NSPS coverage appropriate at levels well below 50 percent of the capital cost of a replacement unit. Conversely, the reconstruction provisions are aimed at changes to an existing unit irrespective of associated emissions.

increases, but trigger NSPS requirements only if the higher 50 percent level is reached. Thus, the suggestion made by WEPCO in its July 29, 1988 letter (at pages 14-15) that EPA must undertake rulemaking to amend the reconstruction regulations before NSPS could be applied to the Port Washington project is not well taken.

IV. Conclusion

In adopting the PSD and NSPS programs, Congress sought to focus air pollution control efforts at an efficient and logical point: the making of long-term decisions regarding the creation or renewal of major stationary sources. The Port Washington life extension project, as it has been presented to EPA, would involve a substantial financial investment at pollution-emitting facilities that may significantly increase potential emissions of air pollutants over a period well beyond the current life expectancy of those facilities. If the additional factual information called for in this memorandum shows that emissions increases would indeed result from this project, the project would be subject to PSD and NSPS requirements. Such a result would be in harmony with the broad policy objectives that Congress intended to achieve through these programs.

cc: Gerald Emison, OAQPS
Alan Eckert, OGC

EXHIBIT D

October 14, 1988 Letter
from Lee M. Thomas to John W. Boston



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OCT 14 1988

THE ADMINISTRATOR

Mr. John W. Boston
Vice President
Wisconsin Electric Power Company
Post Office Box 2046
Milwaukee, Wisconsin 52301

Dear Mr. Boston:

As you requested in our meeting on September 15, 1988, I have made final determinations regarding the applicability of the Clean Air Act's New Source Performance Standards (NSPS) and Prevention of Significant Deterioration (PSD) requirements to the proposed life extension project at the Port Washington steam electric generating station, which is owned and operated by Wisconsin Electric Power Company (WEPCO). For the reasons discussed below, I have determined that, as proposed, the renovations at Port Washington are subject to both PSD and NSPS requirements. However, EPA remains willing to work with you regarding methods of compliance. As we have discussed, one alternative would be to reconfigure the project such that no emissions increases would occur. My staff is ready to meet with you to discuss these matters at any time.

I. BACKGROUND

On September 12, 1988, David Kee, Director, Air and Radiation Division, EPA Region V, wrote you regarding PSD and NSPS coverage of the Port Washington renovations. Enclosed with that letter was a memorandum dated September 9, 1988 from Don R. Clay, Acting Assistant Administrator, addressing the background of the Port Washington project, and analyzing at some length the relevant interpretative issues. For purposes of brevity, I will not repeat that material here, but rather incorporate it by reference.

The September documents concluded that the life extension project, as proposed, likely would be subject to PSD and NSPS requirements. However, EPA also stated that final applicability determinations could not be provided at that time in the absence of certain factual information. In our subsequent meeting you requested that EPA furnish final determinations, and agreed to provide the necessary additional information. You also asked EPA to reconsider certain of the conclusions in Don Clay's memorandum. These matters are discussed below.

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II. FINAL DETERMINATIONS

Your staff has responded to our requests for additional information, and I want to thank you for WEPCO's continued cooperation in doing so. Based on this, and the other information in EPA's files, I now make the following final determinations:

(1) The life extension project, as proposed, will render WEPCO's Port Washington plant subject to the PSD requirements of Part C of the Clean Air Act as a major modification within the meaning of the Act and the EPA regulations at 40 C.F.R. § 52.21.

(2) The proposed life extension project will render each of the five steam generating units at the Port Washington plant subject to the NSPS requirements of section 111 of the Clean Air Act as a modification within the meaning of the Act and the EPA regulations at 40 C.F.R. Part 60.

In reconsidering the memorandum and letter of September 9 and 12, I have taken a careful look at the issues you raised in our meeting: whether the renovations are routine; whether EPA has treated similar projects in a different fashion; and whether there would be an emissions increase due to a physical or operational change. However, I find no reason to depart from the reasoning of the September documents. Accordingly, I conclude that WEPCO's life extension project, if carried out as proposed, will involve a substantial and non-routine renewal of the Port Washington facilities that will significantly increase both hourly maximum and annual emissions of air pollutants.

Specifically, regarding the nature of the proposed work at Port Washington, I find that these renovations constitute physical changes for PSD purposes within the meaning of 40 C.F.R. § 52.21(b)(2)(i), and physical and operational changes for NSPS purposes within the meaning of 40 C.F.R. § 60.14(a). I find further that these changes do not come within the PSD and NSPS exclusions for routine maintenance, repair, and replacement, nor the exclusions for increases in production rate or hours of operation. (See 40 C.F.R. §§ 52.21(b)(2)(iii) and 60.14(e)).

Regarding the emissions changes from the life extension project, based upon the emissions data and certain factual assertions submitted by WEPCO, I find that the Port Washington renovations will result in a significant net increase in emissions of several pollutants for PSD purposes within the meaning of 40 C.F.R. § 52.21(b)(2)(i), (b)(3), and (b)(21). I find further that the renovations will result in an increase in the emission rate of several pollutants at each of units 1-5 for NSPS purposes within the meaning of 40 C.F.R. § 60.14(a) and (b).

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Enclosures A and B detail the emissions changes underlying these findings for PSD and NSPS purposes. As indicated above, EPA's calculations and determinations are based on data supplied by WEPCO. We will use the data in Enclosures A and B in the event you would like to work with us to establish an acceptable arrangement for satisfying PSD and NSPS requirements through the addition or enhancement of pollution control equipment, physical capacity restrictions, or, in the case of PSD, federally enforceable limitations on potential emissions.

III. DISCUSSION

As you requested, I have reconsidered the question of whether the physical and operational changes at Port Washington are routine, whether applying PSD and NSPS here would be inequitable in light of EPA's past treatment of renovation projects, and whether the renovations will result in emissions increases. These matters are addressed below, as is EPA's reasoning with respect to the baselines for calculating the PSD and NSPS emissions increases reflected in Enclosures A and B.

Regarding the question of routineness, the renovations involve the replacement of steam drums, air heaters, and other major components that are integral to the continued operation of the source. The work will not simply maintain the facilities in their current state, but rather will significantly enhance their present efficiency and capacity, and substantially extend their useful economic life. In addition, the work called for here is rarely, if ever, performed. Moreover, this work is costly, both in relative and absolute terms. Based on these and other factors, I reaffirm Don Clay's findings on the non-routine character of the Port Washington changes. The September 9 memorandum contains a complete discussion of EPA's reasoning on this issue.

On the related equity question, I find no inconsistency here with EPA's prior determinations regarding routine and non-routine changes. I note initially that PSD and NSPS applicability determinations are made on a case-by-case basis. Thus, it is very difficult to analogize to other projects, which almost inevitably present significant factual differences. Nevertheless, my staff has reviewed the additional material you submitted on September 19, and September 27, 1988 regarding certain other renovation projects, and has informally surveyed EPA Regional Offices and state agencies.

I have concluded that none of the four steam drum replacements identified in your September 19 submission are sufficiently similar to the Port Washington project to support determinations of nonapplicability in this matter. The Carolina

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Power and Light case involved a faulty steam drum replaced prior to the initial start-up of a new unit, and would not have increased emissions for PSD or NSPS purposes. The Great Western Sugar example did not involve a utility boiler, and was too small to be affected by NSPS. The Ashland Oil facility was not at a utility, involved a waste heat boiler that was not fossil-fuel fired, and hence, was not an emissions unit subject to PSD or NSPS. The Algoma Steel Co. facility was not a utility boiler, and not located in the United States.

In addition, the informal survey conducted by the Office of Air and Radiation disclosed no closely analogous cases that were ever reviewed by EPA headquarters for purposes of PSD or NSPS applicability. In particular, EPA found no examples of steam drum replacement at aged electric generating facilities. Moreover, EPA could find no examples in which the Agency had analyzed and issued an applicability determination for a "life extension project" for any category of major source. Regarding the four utility projects identified in your September 27 submission, I note that they do not involve steam drum replacement. In addition, permit applications were not submitted to the state agencies for the Duke Power and Texas Utilities projects you cite. Consequently, they were not reviewed by any air pollution control agency. The Cincinnati Gas and Electric project was reviewed by the state, but not EPA. The state determined, and EPA Region II concurred, that the Hydraco Enterprises project was not subject to PSD based on a net decrease in emissions of all pollutants. Our informal survey and review of the projects you identified reveal that major construction activities undertaken by utilities that may be subject to Clean Air Act requirements have not been brought to the attention of EPA. The Agency is considering what steps may be necessary to address this situation.

EPA has discovered only two state agency determinations addressing life extension questions in a manner possibly inconsistent with EPA's analysis of the Port Washington project. These instances, which apparently were not brought to EPA's attention prior to the states' determination, do not create an inequity that would justify a different conclusion by EPA in this case.

As to the question of emissions increases at Port Washington, I believe that EPA has properly interpreted the PSD and NSPS regulations as applying to increases in emissions due to increases in hours of operation or production rate, where, as here, such operational or production increases are closely related to physical or operational changes. A contrary interpretation would allow even massive emissions increases stemming from significant new capital investment -- as distinguished from routine fluctuations in the business cycle --

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to escape scrutiny under the Clean Air Act simply because the new investment did not involve an inherently more polluting production process. I do not believe that Congress intended such a result.

I would like to point out that the figures on emissions increases in Enclosures A and B reflect my conclusions regarding the proper points in time from which to calculate emissions changes. For PSD, I have determined under 40 C.F.R. § 52.21(b)(21)(ii) that the two-year period of 1983 and 1984 -- prior to the source curtailments due to discovery of cracks in the rear steam drums -- are more representative of normal source operations than the most recent two-year period. This conclusion is appropriate in light of WEPCO's historical operations.

As to NSPS, there is no "representative emissions" concept under that program. Rather, under the circumstances presented by this case, the baseline emission rates for units 1-5 are determined by hourly maximum capacity just prior to the renovations. At this time, EPA is relying on the actual operating data you submitted to determine current maximum capacity. Although EPA is certainly open to further discussion on this point, the information contained in your September 27 and October 11, 1988 submissions is inadequate to support WEPCO's assertions that higher-than-actual capacities could be achieved on an economically sustainable basis. For example, you indicate that operation at higher levels at units 1-4 "could increase equipment deterioration thus causing further damage." Regarding Unit 5, you state that "safety concerns" dictated the decision to shut down that unit. Based on this information, we are unable to rely on WEPCO's statements as to maximum "achievable" capacity in determining the emissions changes at each of these units. Thus, for example, in the case of unit 5, the current capacity must be regarded as zero.

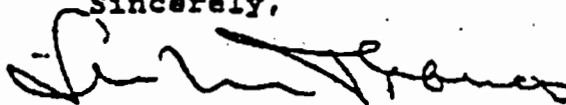
IV. CONCLUSION

In adopting the PSD and NSPS programs, Congress intended to address the type of long-term capital investments in pollution-emitting facilities at issue in the Port Washington life extension project. Thus, as proposed, these renovations would be subject to the requirements of both programs. However, as indicated above, my staff remains ready to work closely with WEPCO to discuss specific pollution control equipment and permitting measures that would minimize the cost to WEPCO of complying with the requirements of the Clean Air Act. I have asked Don Clay to work with you in seeking a final resolution of the compliance issues by December 1.

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Again, thank you for your cooperation in this matter.

Sincerely,



Lee M. Thomas

Enclosures

cc: Senator Robert W. Kasten, Jr.
Representative F. James Sensenbrenner, Jr.
Don Clay, EPA (ANR-445)
David Kee, Air & Radiation Div., Region V

Enclosure A

PSD Applicability

Port Washington Power Plant Renovation Project

(all emissions calculations are in tons per year)

| <u>Pollutant</u> | <u>Actual Emissions Baseline (1)</u> | <u>Potential Emissions (2)</u> | <u>Net Emissions Increase</u> | <u>PSD Level</u> | <u>Subject to PSD Review</u> |
|-----------------------------|--------------------------------------|--------------------------------|-------------------------------|------------------|------------------------------|
| Total suspended particulate | 170 | 283 (3) | 108 | 25 | yes |
| Sulfur dioxide | 24,236 | 52,621 (3) | 28,385 | 40 | yes |
| Nitrogen oxides | 2,991 | 8,201 | 5,210 | 40 | yes |
| Carbon monoxide | 144 | 397 | 253 | 100 | yes |
| Hydrocarbon | 17 | 47 | 30 | 40 | no |
| Beryllium | 0.0016 | 0.005 | 0.0034 | 0.0004 | yes |
| Fluorides | 38 | 98 | 60 | 3 | yes |

NOTE: PSD applicability for the other PSD regulated pollutants listed at 40 CFR Section 52.21 (b)(23)(i) and (ii) has not been determined at this time.

- 1) Average emissions for two-year period defined by calendar years 1983 and 1984.
- 2) As calculated by WEPCO based on 1992 coal type, actual emissions after ESP, and an annual capacity utilization factor of 90%.
- 3) An EPA estimate of potential emissions, based on existing federally enforceable limits (i.e., applicable SIP), may be higher. The indicated PSD applicability determination would, however, not change.

Enclosure B

**NSPS Applicability
Port Washington Power Plant Renovation Project**

**FULL LOAD EMISSIONS AT CURRENT CAPACITY
(BEFORE RENOVATION)**

| | UNIT-1 | UNIT-2 | UNIT-3 | UNIT-4 | UNIT-5 |
|--------------------------|--------|--------|--------|--------|--------|
| SO ₂ (LBS/HR) | 1417 | 1828 | 2043 | 1580 | -0- |
| PM (LBS/HR) | 15 | 16 | 12 | 12 | -0- |
| NO _x (LBS/HR) | 480 | 352 | 289 | 221 | -0- |

**FULL LOAD EMISSIONS AT FUTURE CAPACITY
(AFTER RENOVATION)**

| | UNIT-1 | UNIT-2 | UNIT-3 | UNIT-4 | UNIT-5 |
|--------------------------|--------|--------|--------|--------|--------|
| SO ₂ (LBS/HR) | 2046 | 2037 | 2088 | 2269 | 2695 |
| PM (LBS/HR) | 16 | 16 | 12 | 17 | 15 |
| NO _x (LBS/HR) | 696 | 392 | 297 | 316 | 369 |

SUBJECT TO NSPS (AFTER RENOVATION)

| | UNIT-1 | UNIT-2 | UNIT-3 | UNIT-4 | UNIT-5 |
|--------------------------|--------|--------|--------|--------|--------|
| SO ₂ (LBS/HR) | YES(a) | YES(a) | YES(a) | YES(a) | YES |
| PM (LBS/HR) | YES(b) | NO | NO | YES(b) | YES |
| NO _x (LBS/HR) | YES(c) | YES(c) | YES(c) | YES(c) | YES(c) |

Notes:

(a) With less add-on control than NSPS requirement, emissions (lb/hr) would not increase and NSPS would not apply.

(b) Because of planned ESP upgrade, PM emissions (lb/MM Btu) after renovation are expected to be less than NSPS requirement. However, NSPS would require CEMS for opacity.

(c) Because arch-fired boilers are used at Port Washington, current NO_x emissions (lb/MM Btu) are expected to be less than NSPS requirements. However, NSPS would require a CEMS for NO_x.