

BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF:)	
)	
TENNESSEE VALLEY AUTHORITY)	
)	PETITION No.: IV-2010-1
)	
PARADISE FOSSIL FUEL PLANT)	
DRAKESBORO, KENTUCKY)	
TITLE V AIR QUALITY PERMIT)	
# V-07-018 R1)	
)	
)	
ISSUED BY THE KENTUCKY)	
DIVISION FOR AIR QUALITY)	
)	

ORDER RESPONDING PETITION TO OBJECT TO TITLE V PERMIT

On January 9, 2010, the United States Environmental Protection Agency (EPA) received a petition from Sierra Club pursuant to Section 505(b)(2) of the Clean Air Act (“CAA” or “Act”), 42 United States Code (U.S.C.) § 7661d(b)(2). The Petition requests that EPA object to the CAA operating permit issued by the Kentucky Division for Air Quality (“KDAQ” or “Division”) on December 15, 2009, to Tennessee Valley Authority (TVA) for the Paradise Fossil Fuel electric generating facility (Plant Paradise) in Drakesboro, Kentucky (the statement of basis supporting the permit is dated October 26, 2009).¹ The December 15, 2009, permit was issued for two purposes: first, to provide pollution controls for the reduction of sulfuric acid mist and second, in response to EPA’s July 13, 2009, title V petition order remanding several issues to Kentucky for further review. *In the Matter of Tennessee Valley Authority Paradise Fossil Fuel Plant*, Petition No. IV-2007-3 (Order on Petition) (July 13, 2009) (hereafter referred to as “2009 Order”). Permit #V-07-018 R1 was issued pursuant to Kentucky’s Administrative Regulations (KAR) at 401 KAR 52:020 (title V regulations).

Today’s Order contains EPA’s response to Petitioner’s request that EPA object to the December 15, 2009, permit on the basis that the permit fails to include a prevention of significant deterioration (PSD) analysis for the three main boilers (Units 1-3) due to alleged major

¹ Petitioner does not actually identify the specific permit at issue in the Petition by citation; however, it is clear that the Petitioner intended to seek an objection to the permit resulting from the changes ordered by EPA in the previous title V petition order issued on July 13, 2009.

modifications undertaken at Plant Paradise beginning in 1984 without TVA obtaining required PSD permits.²

Based on a review of the Petition and other relevant materials, including the TVA permit and permit record, and relevant statutory and regulatory authorities, I deny the Petition requesting that EPA object to the TVA Permit.

I. STATUTORY AND REGULATORY FRAMEWORK

Section 502(d)(1) of the Act, 42 U.S.C. § 7661a(d)(1), calls upon each state to develop and submit to EPA an operating permit program intended to meet the requirements of title V of the CAA. The Commonwealth of Kentucky³ originally submitted its title V program governing the issuance of operating permits in 1993, and EPA granted full approval on October 31, 2001. 66 *Fed. Reg.* 54,953. The program is now incorporated into Kentucky's Administrative Regulations at 401 KAR 52:020. All major stationary sources of air pollution and certain other sources are required to apply for title V operating permits that include emission limitations and other conditions as necessary to assure compliance with applicable requirements of the CAA, including the requirements of the applicable State Implementation Plan (SIP). CAA §§ 502(a) and 504(a), 42 U.S.C. §§ 7661a(a) and 7661c(a).

The title V operating permit program does not generally impose new substantive air quality control requirements (which are referred to as "applicable requirements"), but does require permits to contain monitoring, recordkeeping, reporting, and other conditions to assure compliance by sources with applicable requirements. 57 *Fed. Reg.* 32,250, 32,251 (July 21, 1992) (EPA final action promulgating Part 70 rules). One purpose of the title V program is to enable the source, EPA, states, and the public to better understand the applicable requirements to which the source is subject and whether the source is complying with those requirements. Thus, the title V operating permit program is a vehicle for ensuring that air quality control requirements are appropriately applied to facility emission units and that compliance with these requirements is assured. Under section 505(b)(2) of the CAA, "The Administrator shall issue an objection...if the petitioner demonstrates...that the permit is not in compliance with the requirements of this chapter, including the requirements of the applicable implementation plan." 42 U.S.C. § 7661d(b)(2). Thus, for a major modification of a major stationary source, applicable requirements include the requirement to obtain a preconstruction permit that complies with applicable new source review requirements (e.g., PSD), and to meet stringent emission limitations that govern the subsequent operation of the modified source.

Part C of the CAA establishes the PSD program, the preconstruction review program that applies to areas of the country that are not designated as nonattainment for National Ambient Air Quality Standards (NAAQS). CAA §§ 160-169, 42 U.S.C. §§ 7470-7479. In such areas, a

² EPA acknowledges Sierra Club's alternative request that the Administrator reopen for cause and/or find that cause exists to terminate, modify, or revoke and reissue the Plant Paradise permit pursuant to 42 U.S.C. § 7661d(e). EPA is not responding to that alternative request in today's Order.

³ The Commonwealth of Kentucky Environmental and Public Protection Cabinet (Kentucky Cabinet) oversees the Kentucky Division for Air Quality (KDAQ) which is the permitting authority for title V and PSD permits in Kentucky.

major stationary source may not begin construction or undertake certain modifications without first obtaining a PSD permit. CAA § 165(a)(1), 42 U.S.C. § 7475(a)(1). The PSD program analysis must address two primary and fundamental elements before the permitting authority may issue a PSD permit: (1) an evaluation of the impact of the proposed new or modified major stationary source on ambient air quality in the area, and (2) an analysis ensuring that the proposed facility is subject to the “best available control technology” (BACT) for each pollutant subject to regulation under the PSD program. CAA § 165(a)(3),(4), 42 U.S.C. § 7475(a)(3), (4); *see also* 401 KAR 51:017 (Kentucky’s PSD program). The BACT analysis is further discussed in Section III of this Order.

EPA has promulgated two largely identical sets of regulations to implement the PSD program. One set, found at 40 Code of Federal Regulations (CFR) § 52.21, contains EPA’s own federal PSD program, which applies in areas without a SIP-approved state PSD program. The other set of regulations, found at 40 CFR § 51.166, contains requirements that state PSD programs must meet to be approved as part of a SIP. In 1989, EPA approved Kentucky’s PSD rules into the SIP as meeting these requirements in relevant part. 54 *Fed. Reg.* 36,307 (September 1, 1989); *see also* 40 CFR § 52.931.⁴ Today, the applicable requirements of the Act for major modifications at major sources, such as at TVA Plant Paradise, include the requirement to comply with the applicable PSD requirements under the Kentucky SIP. *See e.g.*, 40 CFR § 70.2.⁵ Currently, Kentucky’s rules require a source to apply for a PSD permit, which is then incorporated into the existing title V permit as a revision to the title V permit. 401 KAR 52:020.

Under section 505(a), 42 U.S.C. § 7661d(a), of the CAA and the relevant implementing regulations (40 CFR § 70.8(a)), states are required to submit each proposed title V permit, and certain revisions to such permits, to EPA for review. Upon receipt of a proposed permit, EPA has 45 days to object to final issuance of the permit if it is determined not to be in compliance with applicable requirements or the requirements of title V. 40 CFR § 70.8(c). If EPA does not object to a permit on its own initiative, section 505(b)(2) of the CAA provides that any person may petition the Administrator, within 60 days of the expiration of EPA’s 45-day review period, to object to the permit. 42 U.S.C. § 7661d(b)(2), *see also* 40 CFR § 70.8(d). In response to such a petition, the CAA requires the Administrator to issue an objection if a petitioner demonstrates that a permit is not in compliance with the requirements of the CAA. 42 U.S.C. § 7661d(b)(2); *see also* 40 CFR § 70.8(c)(1), *New York Public Interest Research Group (NYPIRG) v. Whitman*, 321 F.3d 316, 333 n.11 (2nd Cir. 2003). Under section 505(b)(2), the burden is on the petitioner to make the required demonstration to EPA. *Sierra Club v. Johnson*, 541 F.3d 1257, 1266-1267 (11th Cir. 2008); *Citizens Against Ruining the Environment v. EPA*, 535 F.3d 670, 677-678 (7th Cir. 2008); *Sierra Club v. EPA*, 557 F.3d 401, 406 (6th Cir. 2009) (discussing the burden of proof in title V petitions); *see also* NYPIRG, 321 F.3d at 333 n.11.

⁴ For further information about rules incorporated into the Kentucky SIP, see <http://www.epa.gov/region4/air/sips/ky/kytoc.htm>.

⁵ Kentucky defines “federally applicable requirement” in relevant part to include a “federally enforceable requirement or standard that applies to a source.” 401 KAR 52:001 § 1(15). Kentucky further defines “federally enforceable requirement,” in part as “[s]tandards or requirements in the (SIP) that implement the relevant requirements of the Act, including revisions to that plan promulgated at 40 CFR Part 52.” 401 KAR 52:001 § 1(34).

II. BACKGROUND ON FACILITY AND PERMIT

Existing Facility

TVA Plant Paradise is located in Drakesboro, Kentucky, and construction of the facility began in the 1960s. Today, the facility consists of three cyclone-furnace coal-fired boilers, three distillate oil-fired heating boilers, eleven distillate oil-fired space heaters, three natural-draft cooling towers, and solid fuel, limestone, ash, and gypsum handling processes. KDAQ Statement of Basis (SOB) for Permit V-07-018 (November 1, 2007) at 1 (2007 SOB). The facility is not a mine-mouth facility and coal is delivered to the facility by rail, truck and barge. *Id.* at 2. Most of the coal is cleaned in the coal wash plant. The three coal-fired boilers (referred to as Units 1-3) are equipped with staged overfire air and SCR modules to control emissions of NO_x. SCRs were installed on Unit 1 in 2001, Unit 2 in 2000, and Unit 3 in 2003. TVA March 2007 Application Update at 3-18, 3-21G. Units 1 and 2 are equipped with venturi-type limestone slurry flue gas desulfurization (FGD) scrubbers. Unit 3 is equipped with an electrostatic precipitator (ESP) and a wet limestone FGD scrubber. Units 1 and 2 were constructed before 1971. *Id.* at 2. Units 1 and 2 also have SO₂ allowances for the years 2007-2011. TVA also recently added hydrated lime injection prior to the wet flue gas desulfurization at all three Units, which is addressed in the October 26, 2009, permit revision.

Recent Permit History; 2009 Order; Relevant Litigation Background

On July 13, 2009, EPA issued an Order responding to a December 27, 2007, title V petition⁶ raising, among other issues, the same PSD applicability issue raised in the January 9, 2010, Petition. The 2009 Order required KDAQ to “adequately address Petitioners’ comment that PSD is an applicable requirement for Units 1-3 as a result of major modifications previously performed that Petitioners allege resulted in significant net increases in NO_x.” 2009 Order at 6. EPA also directed KDAQ to “consider the information referenced in Petitioners’ comments [during the KDAQ permitting process], including the factual record developed as part of the EPA proceeding against TVA in [*In re Tennessee Valley Authority* (Final Order on Reconsideration) 9 E.A.D. 357 (EAB 2000) (hereafter referred to as “EAB Determination”)]”. 2009 Order at 6.

For background purposes, the alleged major modifications that formed the basis of Petitioners’ claims in the 2007 Petition and the 2010 Petition are the alleged major modifications that EPA found did trigger PSD requirements as part of a 1999 enforcement action against TVA. The enforcement action was initiated by EPA in the form of issuance of Administrative Compliance Orders (ACOs) that were challenged in a multi-day proceeding before the Environmental Appeals Board (EAB). Following this proceeding, the EAB issued a final determination that found that the cyclone replacements done at TVA Paradise at Units 1-3 in the 1980s did trigger PSD for NO_x. *TVA*, 9 E.A.D. at 420-422. TVA appealed the ACO to the United States Court of Appeals for the Eleventh Circuit, which determined that the ACO was not

⁶ For clarification purposes, the 2007 Petition was submitted on behalf of Preston Forsyth, Center for Biological Diversity, Kentucky Heartwood, Sierra Club and Hilary Lambert. The 2010 Petition was submitted on behalf of only Sierra Club. In referring to the 2007 Petition and 2009 Order, EPA may use the term “Petitioners” but only the term “Petitioner” when referring to the 2010 Petition.

final agency action and thus dismissed the petitions for review. *Tennessee Valley Authority v. Whitman*, 336 F.3d 1236 (11th Cir. 2003). Although the Eleventh Circuit found EPA's ACO "legally inconsequential" for enforcement purposes, *id.* at 1239–40, the EAB decision remains a statement of agency position on the proper interpretation of the routine maintenance exclusion.

On October 26, 2009, in response to the 2009 Order (and a minor permit modification requested by TVA that was previously noted in this Order), KDAQ issued a new proposed statement of basis for a permit subsequently issued on December 15, 2009. KDAQ Permit Statement of Basis, October 26, 2009 (2009 SOB). In the 2009 SOB, KDAQ declined to find that PSD was an applicable requirement for the specific modifications identified by Petitioner during the public comment period before KDAQ. The 2009 SOB explains the reasons for KDAQ's decision, which may be summarized as follows: (1) KDAQ was not a party to the enforcement case and has not alleged that TVA committed NSR violations; (2) the 2009 Order did not address whether PSD was an applicable requirement for Paradise Units 1-3, leaving the determination to KDAQ; (3) Petitioner's comment relies solely on the factual record developed in a proceeding that was found to be unconstitutional by the 11th Circuit due in part to procedural defects; (4) KDAQ is aware that several issues of law and fact were disputed by TVA and KDAQ cannot ignore these potential defenses and valid legal questions; (5) there exists a question as to whether the alleged major modifications performed by TVA fell within the definition of routine maintenance, repair and replacement (routine maintenance); (6) in reviewing the factual record, KDAQ determined that the type of modifications made at Units 1-3 were routine maintenance when industry-wide replacements are considered; (7) even if KDAQ did not agree that the modifications were routine maintenance, the complexity surrounding the routine maintenance exclusion and other defenses raised by TVA supports the position that deciding whether PSD is an applicable requirement should be determined within the context of an enforcement action; (8) KDAQ has never issued a notice of violation regarding the changes referenced in the comment; (9) the timing of the replacements is important because they began in 1984 and concluded in 1986 and as a result, TVA was without the benefit of clear judicial interpretation on the routine maintenance issue; and (10) KDAQ concluded that, "[g]iven the amount of time that has passed and the fact that the U.S. EPA unsuccessfully pursued an enforcement case on these exact alleged violations, KDAQ has not identified further PSD violations on which to base an enforcement action against TVA." 2009 SOB at 5.

On January 9, 2010, EPA received a Petition from Sierra Club raising only one issue: the claim that PSD is an applicable requirement stemming from the identified modifications, and responding to KDAQ's 2009 SOB. Specifically, the Petition: states that KDAQ's discussion of the 11th Circuit decision is irrelevant, and that the cyclone modifications were "physical changes"; and provides the Petitioner's views on why the cyclone modifications were not routine maintenance and the cyclone modifications resulted in significant emissions increases as calculated by the actual-to-potential emissions test and the actual-to-projected actual emissions test. The Petition did not address all of the issues identified by KDAQ as the basis for its decision that it was declining to find that PSD applied.

Timeliness of Petition

Pursuant to the CAA, petitions must be received within 60 days after the expiration of the 45-day review period. 42 U.S.C. § 7661d(b)(2). Thus, any petitions for the December 15, 2009, permit were due on or before February 9, 2010 (the proposal date for the permit was October 26, 2009). The Petition was received by EPA on January 9, 2010. Thus, the Petition is timely.

III. BACKGROUND ON PSD APPLICABILITY ANALYSIS INCLUDING ROUTINE MAINTENANCE, REPAIR AND REPLACEMENT EVALUATION

In order to reiterate EPA's interpretation of its routine maintenance exclusion and how a state permitting authority might properly apply that exclusion, this Order provides some background information on the PSD provisions in the CAA and the routine maintenance exclusion. This discussion does not make any new statements regarding routine maintenance but summarizes long-standing law and EPA interpretation of that law. *See, e.g.*, Detroit Edison Company Applicability Determination (Detroit Edison), May 23, 2000, and Detailed Analysis (providing a history and overview of the routine maintenance exclusion, as well as applying the exclusion to a specific set of facts).

A. Brief History of PSD Provisions in CAA

The CAA of 1970 established a comprehensive Federal program to protect the public health and welfare from the harmful effects of air pollution. 42 U.S.C. § 7401(b)(1). Section 109 of the Act, 42 U.S.C. § 7409, requires EPA to establish national ambient air quality standards (NAAQS) that specify the maximum permissible concentration of air pollutants in different areas of the country. The New Source Review (NSR) program, including PSD requirements, was added by the 1977 CAA Amendments. *See, e.g., Env'tl. Def. v. Duke Energy Corp. (Duke III)*, 549 U.S. 561, 567-68 (2007).

Among the components of the NSR program were the PSD provisions, 42 U.S.C. §§ 7470–7479, which aimed to prevent a significant decline of air quality in areas where ambient air quality standards were already being met, *see id.* § 7470; *see also Ala. Power Co. v. Costle*, 636 F.2d 323, 346–51 (D.C. Cir. 1979). In furtherance of this objective, the PSD provisions require a source to obtain permits with appropriate emission limits (developed through the PSD process) and often install state-of-the-art pollution controls—best available control technology or BACT—whenever a new source is constructed or an existing source is modified. 42 U.S.C. §§ 7475(a), 7479(2)(C).

Both the CAA and the NSR regulations require a physical or operational change to occur before any particular activity is considered a “modification” that triggers new source requirements. The applicable provisions do not, however, define what constitutes a physical or operational change. EPA historically has acknowledged – in view of these undefined broad statutory and regulatory terms – that they could “encompass the most mundane activities at an industrial facility (even the repair or replacement of a single leaky pipe, or a change in the way that pipe is utilized).” 57 *Fed. Reg.* 32,314, 32,316 (July 21, 1992). Recognizing that Congress did not intend everything undertaken at a stationary source to be subject to new source

requirements, *id.*, EPA has long exempted certain narrow classes of activities from being considered physical or operational changes. *Ala. Power Co.*, 636 F.2d at 400 (although “the term ‘modification’ is nowhere limited to physical changes exceeding a certain magnitude,” EPA possesses the authority to provide exemptions from the definition where they are of de minimis benefit or where administratively necessary). There are several such exclusions, but only one is at issue in this Order – the exclusion for routine maintenance.

The starting point for analysis of any exemption is the language of the CAA and its implementing regulations. Section 111(a)(4) of the CAA reads as follows:

The term “modification” means 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.

CAA § 111(a)(4). The CAA requires a PSD permit prior to “construction” of a major stationary source, *id.* § 165(a), and it defines “construction” as including modifications (as defined in section 111) to existing facilities. *Id.* § 169(2)(C). EPA’s regulations generally track the statute:

(2)(i) *Major modification* means any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase. . . .

40 C.F.R. § 52.21(b)(2). The plain language of these statutory and regulatory requirements indicates their sweeping scope. Both the CAA and its implementing regulations define “modification” as including any physical or operational change. *See* 42 U.S.C. § 7411(a)(4), CAA § 111(a)(4); *see also, e.g.*, 40 C.F.R. § 52.21(b)(2)(i). In light of that breadth, any regulatory exemption from the statutory and regulatory requirements should be interpreted in a limited way. *See Wisconsin Electric Power Co. v. Reilly*, 893 F.2d 901, 908-09 (7th Cir. 1990) (“*WEPCo*”) (“courts considering the modification provisions of NSPS and PSD have assumed that ‘any physical change’ means precisely that”).⁷

While the CAA grandfathers existing facilities from the expense of installing state-of-the-art controls, it does not do so permanently. Rather, the CAA effected a balance of concerns; if plants were modified – i.e., physically or operationally changed in a manner that increased emissions – the grandfather status would be lost, and NSR would apply. The requirement that there be a net increase in emissions at a source before a modification is deemed to have occurred, however, makes the grandfather provision potentially quite broad.⁸ Under these regulations, existing sources become subject to NSR if they undergo a physical or operational change that

⁷ There is a rule of law that exclusions from generally applicable regulations should be construed narrowly. *See Auer v. Robbins*, 519 U.S. 452, 462-63 (1997) (recognizing general rule of construction for regulations); *see also O’Neal v. Barrow County*, 980 F.2d 674, 677 (11th Cir. 1993) (where statute does not provide for exemption, regulations providing for one should be narrowly construed).

⁸ *See, e.g., Ala. Power Co.*, 636 F.2d at 401 (requiring EPA to allow replacement of depreciated capital goods without a PSD permit where no increase in emissions at the source would result, due to offsetting decreases, because “Congress wished to apply the permit process . . . only where industrial changes might increase pollution in an area, not where an existing plant changed its operations in ways that produced no pollution increase”).

increases emissions. *See New York v. EPA (New York I)*, 413 F. 3d 3, 13 (D.C. Cir. 2005); *United States v. Cinergy Corp.*, 458 F.3d 705, 709 (7th Cir. 2006) (“The Clean Air Act treats old plants more leniently than new ones . . . But there is an expectation that old plants will wear out and be replaced by new ones that will be subject to the more stringent pollution controls that the Clean Air Act imposes on new plants.”)

Against the statutory and regulatory backdrop described above, EPA adopted the exclusion for routine maintenance. It provides:

- (iii) A physical change or change in the method of operation shall not include: (a) Routine maintenance, repair, and replacement. . . .

40 C.F.R. § 52.21(b)(2). This exception has been incorporated into the Kentucky SIP, at 401 KAR 51:001 § 1(23). The text of the routine maintenance exclusion itself conveys the narrowly limited scope of the exemption. EPA did not define “routine” in the regulations, but EPA has interpreted the word in its ordinary sense. Accordingly, determining routine maintenance involves considering whether the activity is frequent, whether it is of significant scope, and whether it is for a customary purpose or is being accomplished in a customary fashion. Detroit Edison Company Applicability Determination (Detroit Edison), May 23, 2000, and Detailed Analysis (providing a history and overview of the routine maintenance exclusion as well as applying the exclusion to a specific set of facts) at 8.

More details of the routine maintenance exclusion will be discussed below; however, importantly, if a physical change or change in the method is not “routine,” it still does not trigger PSD unless it results in a significant emissions increase from the project, and a significant net emissions increase. Thus, a determination that a modification is not routine does not necessarily trigger PSD – additional analyses are required to determine if the modification resulted in an emissions increase that triggers PSD applicability. RMRR is simply one part of the initial step in the comprehensive PSD evaluation process. *See* Detroit Edison at 18.

B. The Routine Maintenance, Repair and Replacement Exclusion and Analysis

In 2000, the EAB issued a determination regarding modifications made at Plant Paradise between 1984 and 1986 (including some of the same modifications at issue in the Petition). In doing so, the EAB found that the modifications were not routine maintenance. EAB Determination at 411. Specifically, the EAB applied a multi-factor approach.

EPA Enforcement argues that the exclusion requires: ‘a case-by-case determination by weighing [1] the nature [and] extent, [2] purpose, [3] frequency, and [4] cost of the work, as well as other relevant factors, to arrive at a common-sense finding.’ EPA Enforcement Initial Brief at 24.

EAB Determination at 393. In deciding to apply the multi-factor test forwarded by EPA, the EAB found:

Thus, in our view, the approach advocated by EPA Enforcement more reasonably implements the statutory objectives and the regulatory text in question. *See Fluor v. OSHA*, 861 F.2d 936, 941 (6th Cir. 1988) (“[T]he Commission’s interpretation of the regulation better serves the remedial purposes of the [Act].”) Unlike TVA’s construction, which tends to elevate a single consideration — the occurrence of an activity anywhere else within an industry— above all others, EPA Enforcement’s approach examines the full range of considerations contemplated by the four factor test historically embraced by the Agency and adopted by the court in *WEPCO*.

We further find this articulation more consonant with the principle, discussed above, that the exclusion be *narrowly* construed in light of the statutory intent, regulatory construction, and prior case law, including, most notably, the requirement that any regulatory exemption be applied to exclude only “de minimis” activity or for “administrative necessity.” *Alabama Power*, 636 F.2d at 400.

EAB Determination at 396. The EAB then evaluated each individual factor considering information provided by both EPA and TVA. Following the analysis, the EAB summarized as follows:

In sum, the Board finds, based on its application of the four factor test — nature and extent, purpose, frequency, and cost — to the evidence in the record of this case, that none of the fourteen projects before the Board qualifies for the routine maintenance exception.

EAB Determination at 411.

The EAB’s analysis is consistent with EPA’s longstanding interpretation of the routine maintenance exclusion. In interpreting the availability of exemptions from modifications under CAA § 111(a)(4), EPA has long examined multiple factors when considering whether physical or operational changes should be considered eligible for the routine maintenance exemption. For example, in 1975, EPA Region X determined that the upgrade of boilers at a pulp mill was non-routine under NSPS, in that it called for the addition of additional pressure parts previously not included in the boilers to increase the superheater surface of the boilers, even though the additional parts were contemplated under the original boiler design. Request for Ruling Regarding Modification of Weyerhaeuser’s Springfield Operations, Reg. Counsel, Reg. X (August 18, 1975).⁹

⁹ The EAB Determination explicitly rejects TVA’s contention that it lacked fair notice of application of the interpretation of the regulatory exception for routine maintenance, repair, and replacement that was at issue in the case. EAB Determination at 411-418.

In formal NSR applicability determinations, EPA has consistently interpreted the exclusion for “routine” activities narrowly. In a 1987 applicability determination regarding the reactivation of a roaster/leach/acid plant at the Cyprus Casa Grande Corporation’s copper mining and processing facilities, EPA determined that the proposed project would constitute a “major modification,” and did not fall into the “narrow and limited set of exclusions” from PSD, including the exclusion for routine activity. *See* Letter from David P. Howekamp, Director, Air Quality Management Division, Region IX, to Robert T. Connery, Esq., at 3-4 (November 6, 1987). In particular, EPA concluded that because the project called for the replacement of integral components and would entail significant time (4 months) and cost (an absolute cost of \$905,000, which constituted 10 percent of the cost of replacing the repaired unit), it was not routine. *Id.* at 5-6. The Agency also noted that certain activities, although they would be routine “if performed regularly as part of standard maintenance procedure while the plant was functioning or in full working order,” were being performed as part of an extensive rehabilitation project and, thus, were properly considered non-routine. *Id.* at 6.

While a comprehensive discussion of the exclusion came as part of an applicability determination for WEPCo’s Port Washington utility life extension project, which was upheld by the United States Court of Appeals for the Seventh Circuit, the applicable regulations were issued before the TVA modifications at issue in this Order. *See* 40 CFR § 52.21(b)(2)(iii)(a) (1980). In the WEPCo matter, EPA’s analysis began with the breadth of the modification provision, turning next to “the very narrow exclusion provided in the regulations,” that is, the exclusion for “routine” activity. *See* Memorandum from Don R. Clay, Acting Assistant Administrator for Air and Radiation, to David A. Kee, Air and Radiation Division, Region V, at 3 (September 9, 1988) (Clay Memorandum). EPA then described the core test for meeting this exclusion: “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.” *Id.* Applying these commonsense factors, the Agency concluded that the WEPCo project was “far from being a regular, customary, or standard undertaking for the purpose of maintaining the plant in its present condition.” *Id.*¹⁰

As is evident from both EPA’s applicability determinations and court decisions, the multifactor test involves balancing various considerations for each of the individual factors, including:

Nature

- Whether major components of a facility are being modified or replaced; specifically, whether the units are of considerable size, function, or importance to the operation of the facility, considering the type of industry involved;

¹⁰ Specifically, WEPCo proposed to modify its facility in a way that would replace numerous major components of the facility (including the steam drums), would require pre-approval from the state utility commission, would significantly enhance the efficiency and current production capacity of the plant and extend its useful life, would rarely be repeated during a unit’s life, and would cost a substantial amount of money, over half of which was designated as capital costs. *Id.* at 4-6. On review, the Seventh Circuit upheld this portion of EPA’s determination in its entirety. *See WEPCo*, 893 F.2d at 910-13.

- Whether the change requires pre-approval of a state commission, in the case of utilities;
- Whether the source itself has characterized the change as non-routine in any of its own documents;
- Whether the change could be performed during full functioning of the facility or while it was in full working order;
- Whether the materials, equipment and resources necessary to carry out the planned activity are already on site.

Extent

- Whether an entire emissions unit will be replaced;
- Whether the change will take a significant time to perform;
- Whether the collection of activities, taken as a whole, constitutes a non-routine effort, notwithstanding that individual elements could be routine;
- Whether the change requires the addition of parts to existing equipment.

Purpose

- Whether the purpose of the effort is to extend the useful life of the unit; similarly, whether the source proposes to replace a unit at the end of its useful life;
- Whether the modification will keep the unit operating in its present condition, or whether it will allow enhanced operation (e.g., will it permit increased capacity, operating rate, utilization, or fuel adaptability).

Frequency

- Whether the change is performed frequently in a typical unit's life.

Cost

- Whether the change will be costly, both in absolute terms and relative to the cost of replacing the unit;
- Whether a significant amount of the cost of the change is included in the source's capital expenses, or whether the change can be paid for out of the operating budget (i.e., whether the costs are reasonably reflective of the costs originally projected during the source's or unit's design phase as necessary to maintain the day-to-day operation of the source)

Detroit Edison at 10-11; Clay Memorandum at 3-6. In addition, many facts could be relevant to both nature and extent, while others could overlap with purpose. Further, none of these factors standing alone conclusively determines a project to be routine or not. Instead, a permitting authority should take account of how each of these factors might apply in a particular circumstance to arrive at a conclusion considering the project as a whole. *See also New York v. EPA (New York II)*, 443 F.3d 883-84 (D.C. Cir. 2006), *cert. denied New York v. EPA*, 550 U.S. 928 (2007); *In re Monroe Electric Generating Plant*, Petition No. 6-99-2 (Order on Petition) (June 11, 1999) at 11, 19 & n. 19 (stating principle that a non-routine collection of activities, considered 'as a whole,' is not exempt under routine exclusion, even if individual activities could be characterized as routine).

Importantly, in undertaking the RMRR analysis, it is critical not to focus inappropriately on any one factor such that the fundamental purpose of the *narrow* exclusion is forgotten. In *New York II*, 443 F.3d at 883-84, the D.C. Circuit Court underscored that, “EPA has for over two decades defined the [routine maintenance] exclusion as limited to ‘*de minimis* circumstances.’” This narrow approach has been reaffirmed numerous times prior to the July 2009 Order and KDAQ’s October 26, 2009, consideration of the issue in its permitting decision regarding TVA Paradise. *Id.*, and see also Letter from Charles Whitmore, EPA Region 7, at 1-2 (December 1, 1989) (1989 Whitmore Letter) (exclusion applies to “regular, customary or standard undertakings for the purpose of maintaining the plant/unit in its *present* condition”) (emphasis original); Letter from Robert Miller, EPA Region V (December 12, 1995); Letter from Donald Toensing, EPA Region VII, at 2 (August 28, 1998) (project not routine because it involved “redesigned” or “upgrad[ed]” components); *Monroe Elec. Generating Plant* (Order on Petition) at 11-12, 21-22 (confirming narrow interpretation of exclusion, such that even otherwise minor work may be non-routine if it is part of a large, extensive effort); *Detroit Edison* at 5-11. EPA has and continues to assess the routine maintenance exception in a manner consistent with these above-identified determinations (and others).¹¹ Because Kentucky’s analysis focused on the frequency prong, to the exclusion of the other elements of the multi-factor routine maintenance test, below is a discussion that specifically addresses the frequency prong.

C. Specific Discussion of the Frequency Prong of the Routine Maintenance Analysis

To ensure the proper application of the frequency prong of the routine maintenance exception, EPA believes it is appropriate to reiterate previous discussions regarding that element. As a general matter, frequency is not a tally of how many times an event has *occurred* in the industry; rather, it is a measure of how often that event *recurs*, that is, a measure of the event’s periodic character.¹² The distinction between *how many* and *how often* is an important one. This construct of “frequency” is particularly relevant in the context of the Clay Memorandum, which uses “frequency” as a measure of “routine maintenance,” which is itself naturally understood as a recurring event. See *United States v. S. Ind. Gas & Elec. Co.*, 245 F. Supp. 2d 994, 1009 (S.D. Ind. 2003) (“The EPA did not exempt ‘repair, maintenance and replacement;’ it exempted ‘*routine* repair, maintenance and replacement.’” (emphasis in original)).

In evaluating the specific modifications at issue in the Petition, the EAB rejected TVA’s position that only frequency of performance across the industry was relevant for the evaluation. Specifically, on that point, the EAB opined,

Indeed, the frequency with which certain kinds of activities have been undertaken at another comparable plant can be instructive in determining whether, for example, an activity never before undertaken, or seldom undertaken, at a unit under review should be regarded as “routine.” But it is the frequency of the activity at other *individual* units within the industry that seems to us most relevant

¹¹ Copies of these actions and other applicability determinations and guidance documents are available on EPA’s publicly-available databases, available at: <http://www.epa.gov/ttn>; <http://www.epa.gov/region07/air/policy/search.htm>; and <http://cfpub.epa.gov/adi/> (last visited on April 1, 2011).

¹² See, e.g., WEBSTER’S DICTIONARY 909 (3d ed. Unabridged 2002) (defining “frequency” in terms of an “occurrence often repeated” or as “the number of repetitions of a periodic process in a unit of time”).

in this context. The mere fact that a number of different facilities within an industry may have undertaken these projects strikes us as much less instructive with respect to whether a project under review should be considered “routine,” than the observation that this kind of replacement is, for an individual unit, an unusual or once or twice-in-a-lifetime occurrence. Further, we find nothing in the 1992 preamble passage that supports TVA’s view that such information should be treated as dispositive of routineness.

EAB Determination at 395-396. In addition, the EAB explained that EPA’s position on the frequency prong was most consistent with the statutory and regulatory objectives, as well as judicial interpretations:

Thus, in our view, the approach advocated by EPA Enforcement more reasonably implements the statutory objectives and the regulatory text in question. See *Fluor v. OSHA*, 861 F.2d 936, 941 (6th Cir. 1988) (“[T]he Commission’s interpretation of the regulation better serves the remedial purposes of the [Act].”) Unlike TVA’s construction, which tends to elevate a single consideration — the occurrence of an activity anywhere else within an industry— above all others, EPA Enforcement’s approach examines the full range of considerations contemplated by the four factor test historically embraced by the Agency and adopted by the court in *WEPCO*.

[...]

We further find this articulation more consonant with the principle, discussed above, that the exclusion be narrowly construed in light of the statutory intent, regulatory construction, and prior case law, including, most notably, the requirement that any regulatory exemption be applied to exclude only “de minimis” activity or for “administrative necessity.” *Alabama Power*, 636 F.2d at 400.

Id. See also Clay Memorandum at 5 (noting that a project was “not frequently done” when it was undertaken “only once or twice *during a unit’s expected life cycle*” and that, in response to its request concerning project frequency, WEPCo reported that most of the project had not before been undertaken at its generating facilities) (emphasis added).¹³

In the Detroit Edison determination, EPA noted that information about frequency of projects across the industry did “not indicate that the replacement of the high pressure section of the steam turbine is frequent at the typical utility source; to the contrary, the only available information reflects that projects like the Dense Pack project have been performed only one time, if ever, at individual sources.” Detroit Edison at 3. Thus, it is clear that EPA’s long-standing interpretation on routine maintenance has included a frequency component, and that component itself includes considerations of frequency of the project at the unit at issue. It has never been

¹³ We cite the Clay Memorandum regarding WEPCo for the strength of its analysis of what it means for a maintenance, repair, or replacement activity to be “routine.” As the Clay Memorandum explains, the underlying observations about RMRR are inherent in the exclusion itself.

EPA's position that consideration of frequency across an industry supplants the need to also consider frequency at the unit, and courts have supported a multi-factor analysis. For example, the court in *Ohio Edison* stated:

It is the frequency of an activity at a particular unit that is most instructive in the analysis of what can be considered 'routine.' The types of activities undertaken within the industry as a whole have little bearing on the issue if an activity is performed at a unit only once or twice in the lifetime of that particular unit.

U.S. v. Ohio Edison, 276 F. Supp. 2d. 829, 856 (S.D. Ohio 2003). See also, e.g., *United States v. East Kentucky Power Co. (EKPC)*, 498 F. Supp. 2d. 976 (E.D. Ky 2007). EPA also notes that the party asserting the benefit of a regulatory exclusion from a statutory requirement, which naturally has substantially greater access to the relevant information concerning its own project, bears the burden of proving that the projects at issue fall within the exclusion for routine maintenance. See, e.g., *Nat'l Parks Conservation Ass'n v. TVA*, 618 F. Supp. 2d. 815, 824 (E.D. Tenn. 2009); *United States v. Ala. Power Co.*, 681 F. Supp. 2d. 1292, 1313 (N.D. Ala. 2008); *EKPC*, 498 F. Supp. 2d. 976, 994-95; *United States v. Cinergy Corp.*, 2006 U.S. Dist. LEXIS 8774 at 13-14 (S.D. Ind. Feb. 16, 2006).

IV. EPA DETERMINATIONS

A. Petitioner's Claims Regarding PSD at Units 1-3

Petitioner's Comment. Petitioner claims that PSD is an applicable requirement that is not included in the title V permit issued by KDAQ for the TVA Paradise facility. The claim is based on Petitioner's allegation that modifications undertaken by TVA in 1984-1986 (primarily replacing cyclones at the three Paradise units) were "major modifications" that triggered PSD review. However, neither at that time, nor at any time, did TVA undertake a PSD review or BACT analysis associated with those modifications. As a result, Petitioner now claims that PSD requirements associated with those modifications should have been included in the title V permit and because the title V permit does not include any PSD requirements associated with those modifications, the permit omits several applicable requirements. In support of its claim that the modifications triggered PSD, the Petitioner relies in large part on documents submitted by EPA to the EAB as part of the 1999 enforcement proceedings initiated by EPA. The Petitioner includes some of these documents as part of the exhibits supporting the petition. In addition, in the petition itself, the Petitioner discusses at length the reasons it disagrees that the modifications at issue were routine maintenance (the majority of the petition is focused on this issue) and also provides some discussion on the emissions increases associated with the modification. The Petitioner addresses the 11th Circuit decision discussed earlier in this Order only briefly. The Petitioner does so by stating that the 11th Circuit "found the EAB proceeding to be non-final and, therefore, not reviewable." Petition at 7. The Petitioner also states that the 11th Circuit decision "did not find that the EAB's findings were wrong, nor that the findings [were] unconstitutional, as Kentucky DAQ seems to imply." *Id.*

EPA's Response. On April 14, 2011, a landmark multi-party settlement was approved by the TVA Board of Directors. The settlement involves many parties (including Sierra Club) and three separate documents: a consent decree, a Federal Facility Compliance Agreement (FFCA) and Consent Agreement and Final Order (CAFO). Together, these three documents memorialize one of the most substantial systemwide utility settlements ever achieved, and they resolve TVA's liability for the alleged PSD violations – cyclone replacements – that form the basis of the Petition. Because of the novel nature of this settlement, the three legal documents (the consent decree, FFCA, and CAFO) operate together to achieve the final end even though they are independent documents. The CAFO and FFCA are exhibits to the consent decree (and vice versa) in order to effectuate the end result. The consent decree resolves both citizen suits and state enforcement, and effectuates the civil penalty that is being paid to the States of Tennessee, Kentucky and Alabama (a total of \$2 million). The CAFO effectuates the federal civil penalty (\$8 million). The FFCA effectuates the compliance requirements (often called "injunctive relief"). Through the FFCA, EPA will oversee the compliance requirements.

The three legal documents that make up the settlement each have their own legal process in order to be properly executed and effective. The consent decree resolves federal litigation where EPA is not a party. As part of the settlement, on April 14, 2011, a complaint, consent decree, and motion to lodge the consent decree (along with other supporting pleadings and exhibits) were filed in the Eastern District of Tennessee between TVA, Sierra Club (the Petitioner), National Parks Conservation Association, Our Children's Earth Foundation and the States of Tennessee, Kentucky, and Alabama. *State of Alabama, et al. v. Tennessee Valley Authority*, Case No. 3:11-cv-00170. (E.D. Tenn.). This consent decree (once entered) would resolve allegations by Petitioner and the three State parties of violations of NSR and other CAA requirements at TVA Paradise Units 1-3, and 56 other units (for a total of 59 units). Paragraph 212 of the consent decree states that the decree will be entered after EPA has completed the public comment period on the FFCA. EPA is not a party to the consent decree or that litigation. Instead, as an integral part of this settlement, EPA is agreeing to resolve its allegation of violations of NSR at the TVA units through a CAFO (which effectuates an \$8 million civil penalty) and an FFCA (which effectuates compliance requirements). As part of the settlement, the specific NSR violations alleged by Petitioner in the 2010 Petition will be resolved.¹⁴ Further, as required by the settlement, TVA agrees to upgrade pollution control and monitoring at Plant Paradise including: continuous operation of SCR on Paradise Units 1-3; upgrades to the FGD efficiencies for Units 1-3 and the requirement for continuous operation of FGDs; installation of continuous emissions monitoring systems for particulate matter at Unit 3; and optimization of particulate matter control systems. In addition, TVA is making substantial pollution reductions at other units, as well as paying approximately \$350 million in mitigation projects to address the impacts of past emissions.

The FFCA was executed by EPA and TVA on April 14, 2011, and is undergoing a voluntary public notice and comment period that will expire on May 20, 2011. *76 Fed. Reg.* 22095 (April 20, 2011). At that time, EPA plans to publish a notice in the *Federal Register* announcing execution of the FFCA and the effective date of the FFCA. Due in part to stakeholder involvement in the settlement process (including by Petitioner), EPA currently

¹⁴ Neither the consent decree nor the FFCA contain an admission or finding that NSR requirements are applicable to TVA Paradise.

anticipates being able to expeditiously finalize the FFCA and the CAFO following the close of the public comment period.¹⁵ Like the FFCA, the CAFO itself is already signed by both EPA and TVA. The CAFO is not undergoing any public review and it is expected that it will be provided to the EPA Region 4 Regional Judicial Officer for ratification following completion of the public comment period on the FFCA. At that point, the CAFO would become effective.

In the title V petition order context, EPA has previously addressed the situation where a final settlement resolves the claims raised in a title V petition. *See In Re WE Energies Oak Creek Power Plant* (Order on Petition) (June 12, 2009) (Oak Creek Order). The analysis and ultimate determination in the Oak Creek Order are relevant to and inform EPA's determination on this Petition. In the Oak Creek Order, EPA explained,

As the petition raises the same issues EPA has resolved in the consent decree, this petition requires EPA to address the relationship between two distinct, but related parts of the CAA -- the enforcement provisions of the Act (in this case, sections 113 and 167) and EPA's obligation to respond to petitions to object to state permits issued under title V. Congress did not directly address how EPA must handle title V petitions that raise the same issues EPA has resolved through an enforcement settlement. The enforcement provisions of the Act do not address how EPA must treat a title V petition on an issue EPA has settled in an enforcement case. See CAA sections 113(b) and 167. Similarly, title V does not directly answer this question. Title V provides that "[t]he Administrator shall issue an objection ... if the petitioner demonstrates to the Administrator that the permit is not in compliance with the requirements of this chapter. . . ." CAA § 505(b)(2)...

... Where EPA has entered into a CD specifically designed to address a source's compliance with the Act, and the CD has been given the force of law by a court, it is not clear that Congress intended the Administrator to accept a contrary demonstration that could potentially force EPA to require a state to add additional permit terms and potentially undermine the CD in the title V context. A review of the legislative history does not further elucidate congressional intent on this matter.

As Congress has not directly spoken to this precise question at issue, EPA may adopt a reasonable interpretation to fill the gap. *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837,842-44 (1984). EPA adopts the approach that, once EPA has resolved a matter through enforcement resulting in a CD approved by a court, the Administrator will not determine that a demonstration of noncompliance with the Act has been made in the title V context. This approach is reasonable for several reasons, including: (1) it avoids conflicts between settlements of enforcement cases and responses to title V petitions (including potentially competing court proceedings); (2) it does not create disincentives for sources to agree to reasonable terms in settling

¹⁵ Copies of the settlement documents including the consent decree, CAFO, and FFCA are available on www.regulations.gov, Docket Identification No. EPA-HQ-OECA-2010-0710.

enforcement matters; (3) it does not require EPA to revisit complex applicability issues in the short 60 day timeframe for EPA to respond to title V petitions; (4) it does not unfairly prejudice sources that settled enforcement actions in good faith; and (5) EPA should not be forced to re-litigate issues of compliance with the Act where EPA and the source have settled. Further, the public *is* afforded an opportunity to comment on CDs, see 28 C.F.R. § 50.7.

Oak Creek Order at 8-10.

As was explained above, the three settlement documents – the consent decree, CAFO, and FFCA – encapsulate the settlement to which the Petitioner was a party, along with EPA, TVA, three states, and other non-governmental organizations. This settlement is a landmark, comprehensive systemwide settlement resolving contested allegations of CAA noncompliance at every one of TVA's 59 units, including the allegations of PSD having been triggered at Plant Paradise for the reasons stated in the Petition. Consistent with the settlement documents, TVA will be required to apply for permit revisions for the affected units to account for the terms and conditions of the settlement and have them permanently incorporated into permits such that they will become a permanent part of the title V operating permits for all the 59 units. Importantly, the FFCA and the CAFO reflect EPA's exercise of enforcement under the CAA and are between TVA and EPA. Further, they require significant injunctive relief and penalties, as well as resolving allegations of PSD violations including the modifications at issue in the Petition.


EPA recognizes that the consent decree at issue in the Oak Creek Order had already been found to be "fair, reasonable, adequate, and consistent with the policies underlying the CAA" and entered by the court at the time that the order was issued. The facts in the TVA case are somewhat different in that EPA itself will effectuate two fundamental components of the settlement – the FFCA and the CAFO. Further, the consent decree at issue in this matter is distinct from that at issue in the Oak Creek Order because EPA is not a party to the consent decree with TVA. Nonetheless, a final settlement has been reached, the settlement documents have been approved by TVA, EPA, the States, and the environmental groups that are party to the settlement (including the Petitioner), a consent decree has been lodged with the court, and the FFCA has been executed and noticed for public comment. As a result, it is appropriate and consistent with the CAA for EPA to defer to the resolution of the final steps of the settlement processes. Thus, consistent with the Oak Creek Order, in these circumstances the Administrator will not determine that a demonstration of noncompliance with the Act has been made in the title V context.

In light of the circumstances described above, EPA determines that the Petitioner has not “demonstrate[d] to the Administrator that the permit is not in compliance with the requirements of [the Act].” CAA § 505(b)(2). The petition is denied on this issue.

V. CONCLUSION

For the reasons set forth above, and pursuant to Section 505(b) of the CAA and 40 CFR § 70.8(d), I hereby deny the Petition received by EPA on January 9, 2010.

May 2, 2011
Dated



Lisa P. Jackson
Administrator