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Diving Deeper into PSD Applicability: The RMRR Exemption and the Demand Growth Exclusion

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John P. Iwanski, Trinity Consultants



Two Topics for Discussion

- > Routine Maintenance, Repair, and Replacement (RMRR)
- > Projected Actual Emissions (PAE) and Use of the Demand Growth Exclusion (DGE)

1. RMRR



Routine Maintenance, Repair, Replacement Exemption

- > Does a project qualify for the routine maintenance, repair, replacement exemption?
 - ❖ Assess nature, extent, purpose, frequency, and cost of project

Some Key Historical Interpretations of RMRR

- > Weyerhaeuser - Springfield OR (1975)
- > [Cyprus Casa Grande](#) (1987)
- > [WEPCO](#) (1988)
- > January 1999 EPA Enforcement Alert
- > EPA Region V - [Detroit Edison Evaluation](#)
- > EPA Region IV - [PCA Letter](#)
- > 2007 Federal Court Settlement
- > DOJ Interpretation (2002)
- > 1999 EPA Region II letter to NJ - Turbine maintenance
- > September 18, 2012 - [US v. Louisiana Generating](#)
- > February 6, 2014 - [PA v. Allegany Energy](#)
- > March 17, 2014 - [US v. Duke Energy](#)
- > February 24, 2016 - [EPA v. Ameren](#)



WEPCO (1988) (1 of 2)

- > Restoring five individual units to their original capacity to extend the useful life
- > Sought exemption under RMRR
- > EPA assessed “nature, extent, purpose, frequency, and cost of the work, as well as other findings to arrive at a common-sense finding”



WEPCO (1988) (2 of 2)

- > EPA ruled NOT routine based on the following:
 - ❖ Replacement of numerous major components (rear steam drum, air heaters, major mechanical and electrical auxiliary systems) over 4-year period (nature/extent)
 - ❖ Life extension project (purpose)
 - ❖ This type of work rarely, if ever, is performed at coal-fired electric plants (frequency)
 - ❖ Cost of the work was substantial (15% of replacement) (cost)

EPA v. Ameren (2016) (1 of 5)

- > Ameren allegedly undertook major modifications at their Rush Island Plant in Festus, Missouri without obtaining the requisite permits
- > Two projects are at issue with EPA. Units 1 and 2 of the Rush Island Plant are coal-fired electric generating units that operate nearly continuously when available.
 - ❖ EPA alleges that Ameren performed major modifications on Unit 1 from approximately February 2007 to May 2007 (“2007 Project”) when it replaced the Unit’s economizer, reheater, lower slope tubes, and air preheater.
 - ❖ EPA also alleges that Ameren performed major modifications on Unit 2 from approximately January 2010 to April 2010 (“2010 Project”) when it replaced the Unit’s economizer, reheater, and air preheater.
- > Nine separate motions for partial summary judgment - most were denied. Court-case will follow (or both sides will settle) - trial occurred early this Fall. But:
 - ❖ Insight provided on RMRR
 - ❖ Insight provided on demand growth exclusion (DGE)



EPA v. Ameren (2016) (2 of 5)

- > The RMRR related motions present overlapping questions on three topics:
 1. What is the legal standard for determining whether work qualifies under the RMRR exemption?
 2. Which party bears the burden of proof?
 3. Should the challenged component replacements be considered part of one “project” for purposes of determining whether a project is RMRR, or must each replaced component be analyzed independently?
- > EPA also wanted a summary judgment ruling that the projects at hand were not RMRR (Judge denied that request; will be settled at trial)



EPA v. Ameren (2016) (3 of 5)

> Legal standard for RMRR

- ❖ “I hold that the RMRR exemption is a narrow one and is generally limited to *de minimis* circumstances.” (Judge agrees with courts that have upheld EPA’s interpretation)
- ❖ Judge cites the 5 WEPCO factors
- ❖ Judge also addressed the frequency/routineness question
 - ♦ A three-part frequency analysis provides that the Court will consider all of the *WEPCO* factors, including frequency, taking into consideration the work conducted at the particular unit, the work conducted by others in the industry, and the work conducted at other individual units within the industry.”
 - ♦ “...I am persuaded that this three-part inquiry is consistent with *WEPCO* and the PSD requirements, I will adopt this as part of the standard.”
 - ♦ “Frequency will be evaluated by considering the work conducted at the particular unit, work conducted by others in the industry, and work conducted at other individual units within the industry. **In evaluating frequency, the most relevant inquiry is how often similar projects have been undertaken at particular units in the industry, not how many similar projects have been implemented industry wide.**”



EPA v. Ameren (2016) (4 of 5)

- > Which party bears the burden of proof?
 - ❖ “...while EPA must demonstrate that it is entitled to summary judgment to prevail in its motion, Ameren ultimately bears the burden of proving that the RMRR applies to the projects at issue.”
- > Should the challenged component replacements be considered part of one “project” for purposes of determining whether a project is RMRR, or must each replaced component be analyzed independently?
 - ❖ “Most persuasive to me is EPA’s interpretation of the exclusion, which, based on the determination letters EPA cites, indicates that EPA has consistently interpreted the RMRR exclusion as requiring review based on the “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.”



EPA v. Ameren (2016) (5 of 5)

For all of these reasons, I find that separate equipment or component replacements should be taken as a whole, i.e., multiple component replacements may constitute one “project,” for purposes of the RMRR analysis, if, consistent with the *WEPCO* four-factor analysis and the requirements that the review be made on a case-by-case basis to arrive at a common sense determination, it appears that the work was done as part of one project. Under this common sense framework, I agree with EPA that whether the challenged work was planned for together, budgeted together, performed together, and undertaken for the same purpose are relevant to the inquiry.

2. Projected Actual Emissions (PAE) and Use of the Demand Growth Exclusion (DGE)



Could Have Accommodated and Unrelated Exclusion (1 of 2)

- > Part of the “projected actual emissions” definition [40 CFR 52.21(b)(40)(ii)(c)]
- > “Shall exclude...that portion of the unit’s emissions following the project that an existing unit
 - ❖ *Could have accommodated* during the consecutive 24-month period used to establish the baseline actual emissions ...; and
 - ❖ that are also *unrelated to the particular project*, including increased utilization due to product demand growth”
- > These are the two “prongs” of the excluded emissions provision



Could Have Accommodated and Unrelated Exclusion (2 of 2)

- > Often referred to as the “demand growth exclusion” (DGE) but regulatory language is not specific to demand growth
- > Potential to avoid PSD by limiting emission increase calculation (reducing PAE) to just the effect of the project itself
- > Example:
 - ❖ Emission Unit A’s BAE = 100 TPY (average 24-month actual)
 - ❖ During **one** of the 24-baseline months, Unit A’s actual emissions = 10 tons/mo (= 120 TPY annualized)
 - ❖ One can argue that 20 TPY (120-100) can be “excluded” from any PAE calculation since the unit actually operated at this elevated level (during the chosen baseline period) at a time when the unit (and site as a whole) was clearly not influenced by the new (proposed) project
 - ❖ Note: Increasingly it would appear EPA is not satisfied with an across the board assumption that an achieved level of emissions during the baseline period (one month max or similar) *proves* the same level of emissions are “unrelated to the project”



Could Have Accommodated...

- > Be careful not to overestimate the capacity that the emission unit was capable of accommodating
 - ❖ Averaging period is annual
 - ◆ Could unit have sustained operation at that capacity for a full year?
 - ◆ Did you adjust downward to account for required maintenance
 - ❖ Think more broadly than just one emission unit
 - ◆ For a change to the boiler, can the plant actually handle the additional steam production?
 - ◆ Can it handle that steam year-round?



Unrelated to the Particular Project...

- > Not so simple as it looks
 - ❖ Prior to the project, how accurate are engineering estimates of what the project will accomplish?
 - ❖ How will source be able to demonstrate that an increase in production is not the result of the project?
 - ❖ States have allowed the use of historical “peak” actual emissions to establish the amount “excludable” in the projected actual emissions calculation (best if these emissions occur during the 24-month baseline period)
- > Overall, there is a relative void of EPA guidance for interpreting the rule language



2002 Rule Preamble

- > 67FR 80203 describes the exclusion
- > “...even if the operation of an emissions unit to meet a particular level of demand could have been accomplished during the baseline period, but the increase is related to the changes made at the unit, then the emissions increases resulting from the increased operation **must be attributed to the project**, and cannot be subtracted from the projection of the projected actual emissions.”



Could Have Accommodated and Unrelated Exclusion

- > Increase utilization that follows increases in reliability, lower operating costs or improving other operational characteristics should be attributable to the change
- > Any change that significantly alters the efficiency of a facility must be included in the projected emissions
- > If efficiency improvements are the predominant cause of the emissions increase, then the exclusion does not apply

The bottom-line: Although an emissions unit could have theoretically increased emissions without the project, other factors must be considered before these projected emissions are excluded

Could Have Accommodated - EPA Region 3 Letter

- > EPA Region 3 letter - April 20, 2010
 - ❖ “...a facility is permitted to burn coal with a sulfur content up to two percent but actually burns coal with one percent sulfur during the baseline period. The company bases the projected actual emissions on continuing to burn one percent sulfur coal. **Emissions that can be excluded would be limited to emissions associated with burning one percent coal, regardless of the limit that would allow them to burn a higher sulfur coal.**”
 - ❖ “In other words, the emissions that "could have been accommodated" are not defined by all the many different operating conditions that could have occurred during the baseline period; **rather emissions that may be excluded are limited by the proposed operating conditions used to project emissions into the future.**”
 - ❖ www.epa.gov/Region7/air/nsr/nsrmemos/psdanalysis.pdf



EPA v. DTE (2013) (1 of 2)

- > DTE construction project in March 2010
 - ❖ \$65 million project
 - ❖ Before DGE, PAE - BAE increase calculated at 3,700 tpy NO_x, 4,096 tpy SO₂
 - ❖ All of emissions increase was due to demand growth
 - ❖ Calculations submitted to agency ... “no reasonable possibility project results in a significant emissions increase”
- > EPA enforcement action “project constitutes a major modification”
- > Summary judgment, per district court, said “whether the projects at issue constitute a major modification is premature because EPA may pursue enforcement if and when post-construction monitoring shows a need to do so.” EPA appeals.
- > 6th Circuit court of appeals reverses and remands. Why?



EPA v. DTE (2013) (2 of 2)

- > “A preconstruction projection is subject to an enforcement action by EPA to ensure that the projection is made pursuant to the requirements of the regulations.”
 - ❖ A dissenting justice noted: “Does this allow EPA to initiate enforcement proceeding to challenge a source’s projections?”



EPA v. Ameren (2016) (1 of 4)

- > The DGE motions questioned:
 1. How to determine whether the physical changes would have caused a significant net emissions increase, and if so, whether any of the increased emissions may be excluded from review under the “demand growth exclusion”?
 2. Which party bears the burden to establish the demand growth exclusion applies?
- > EPA also wanted a summary judgment ruling that Ameren has failed to establish that the demand growth exclusion applies (Judge denied that request; will be settled at trial)



EPA v. Ameren (2016) (2 of 4)

The parties dispute how to interpret the language of the demand growth exclusion.

Ameren argues that, “[c]onsistent with the longstanding interpretation and application of the Demand Growth Provision by EPA’s permitting arm, when determining causation, if a unit had available but unused production capacity during the baseline period before a project, emissions associated with the use of such available capacity after the project are unrelated to the project.” [#552] at 2. In essence, Ameren argues that “unrelated” means any emissions increases a unit could have accommodated at baseline. EPA argues that such an interpretation impermissibly collapses the two prongs of the demand growth exclusion into one, and makes the entire second prong (“and that are also unrelated to the particular project, including any increased utilization due to product demand growth”) superfluous.



EPA v. Ameren (2016) (3 of 4)

- > Judge agreed with EPA writing:
 - ❖ “The difference between the two prongs of the demand growth exclusion - and in particular how to determine if emissions increases are “related” to a project - can perhaps be best understood by looking at different fact scenarios.”
 1. “If Ameren ran its units more often after the projects just because demand grew, for example, then we can easily say that any increased emissions were unrelated to the projects.”
 2. “Likewise, if emissions increased because of changes in weather patterns or in the type of coal being used, those increased emissions would probably not be related to the projects.”
 3. “However, if emissions increase because a project enables the unit to meet previously unmet demand during peak hours, for example, those emissions increases are likely related to the project and therefore do not qualify for the demand growth exemption.”



EPA v. Ameren (2016) (4 of 4)

¹⁷ EPA analogizes this scenario to that of a popular restaurant. A popular restaurant might be packed during lunch and dinner hours, operating at full capacity, with all of its tables full. But in the off-peak dining times, say around 3 p.m., very few of its tables will be full and the restaurant operates at much less than full capacity. Let's assume that the restaurant, if it had full tables all day every day, including during non-peak hours, could serve 100 customers each day. But in reality the restaurant only serves 85 customers per day because of the less-utilized off-peak hours. If the restaurant makes renovations that allow it to serve more customers during the peak hours, and starts serving 95 customers each day, we have to ask why they are serving the additional customers. Is it just a coincidence and more people suddenly started coming in the off-peak hours when unused capacity was always available? Or are those 10 new customers being served during peak hours only because the renovations allowed the restaurant to serve them? In the former example, the additional customers are being served for reasons unrelated to the renovations and they would likely be excluded under the demand growth exemption; but in the latter example, the additional service is related to the modifications and would not be exempted. As counsel for EPA phrased it, "the question is did they have that capacity when it mattered, when people want to eat, when they want to come into the restaurant and sit down; or were they booked up?" Summ, J. Tr. [#707] at 118, lns. 8-11.



What to Remember Regarding Use of DGE

- > The demand growth exclusion requires a showing that:
 - ❖ The unit “could have accommodated” the emissions at baseline; and
 - ❖ That those increases were unrelated to the project
- > The two prongs are distinct
 - ❖ “Satisfying the “could have accommodated” prong is necessary but not sufficient to justify application of the exclusion, and emissions that “could have been accommodated” at baseline are not per se “unrelated”
- > The source carries the burden of proving the DGE exception applies
- > Agency retains the burden to prove the source should have expected the projects to cause an increase in emissions





trinityconsultants.com

John P. Iwanski
Managing Director

15660 Midwest Road, Suite 250
Oakbrook Terrace, IL 60181

P: 630.495.1470 | E: jiwanski@trinityconsultants.com