

US EPA ARCHIVE DOCUMENT

Victoria WLC, L.P., Victoria Power Station
Prevention of Significant Deterioration Permit for Greenhouse Gas Emissions
PSD-TX-1348-GHG

Summary of Revisions
And
Responses to Public Comments

U.S. Environmental Protection Agency, Region 6

October 3, 2014

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I. Summary of the Formal Public Participation Process

The U.S. Environmental Protection Agency, Region 6 (EPA) proposed to issue a Prevention of Significant Deterioration (PSD) permit to Victoria WLE, L.P. (Victoria), Victoria Power Station on August 12, 2014. The public comment period on the draft permit began August 12, 2014 and closed on September 11, 2014. EPA announced the public comment period through a public notice published in the Victoria Advocate on August 12, 2014 and on Region 6's website. EPA also notified agencies and municipalities on August 11, 2014 in accordance with 40 CFR Part 124.

The Administrative Record for the draft permit was made available at EPA Region 6's office. EPA also made the draft permit, statement of basis and other supporting documentation available on Region 6's website, and at the Victoria Public Library, Victoria, Texas.

EPA's public notice for the draft permit also provided the public with notice of the public hearing explaining that it was subject to cancellation if no requests for a hearing were received or if EPA determined that there was not a significant degree of public interest. EPA did not receive any written requests for a public hearing, and the public hearing arrangements were cancelled on September 5, 2014. EPA received written comments from the permit applicant on September 5, 2014, which we respond to below.

II. EPA's Response to Public Comments

This section summarizes the comments received by EPA from the permit applicant and provides our responses.

1. Comment: Page 19 of the statement of basis reads:

"VPS is subject to all applicable requirements for fuel flow monitoring and quality assurance pursuant to 40 CFR Part 75, Appendix D, which include:

- Fuel flow meter shall meet an accuracy of 2.0% and is required to be tested *once each calendar quarter* pursuant to 40 CFR Part 75, Appendix D §§ 2.1.5 and 2.1.6(a)." (emphasis added).

40 CFR Part 75 Appendix D § 2.1.6, Quality Assurance, reads:

(a) Test the accuracy of each fuel flowmeter prior to use under this part and at least *once every four fuel flowmeter QA operating quarters*, as defined in § 72.2 of this chapter, thereafter. Notwithstanding these requirements, no more than 20 successive calendar quarters shall elapse after the quarter in which a fuel flowmeter was last tested for accuracy without a subsequent flowmeter accuracy test having been conducted. Test the flowmeter accuracy more frequently if required by manufacturer specifications. (emphasis added).

Since the rule requirement for QA testing is once every four fuel flowmeter QA operating quarters, why will Victoria have to complete testing once each calendar quarter? Victoria requests that QA testing be required once every four fuel flowmeter QA operating quarters as defined by 40 CFR Part 75 Appendix D § 2.1.6.

Response: The definition of “QA operating quarter” as used in Part 75, Appendix D, is provided at 40 CFR § 72.2 and means: “a calendar quarter in which there are at least 168 unit operating hours... or, for a common stack or bypass stack, a calendar quarter in which there are at least 168 stack operating hours....”

The project is described as a base-load electric power generation unit and the supporting calculations for the BACT emission limits are based on 7,760 hours per year of normal operation and 1,000 hours per year of maintenance, startup and shutdown. With baseload operations, EPA anticipated that the QA operating quarter and calendar quarter would coincide with each other and therefore had not differentiated them in the portion of the statement of basis cited by the comment.

The language of the draft permit appropriately proposed that the Permittee be required to meet fuel flow meter requirements specified in 40 CFR Part 75, Appendix D, and with the clarification provided here, we have determined no changes to final permit language are needed as a result of this comment.

2. Comment: Page 19 of the statement of basis reads:

“An initial stack test demonstration will be required for CO₂ emissions from EPN: VIC10. VPS proposes to demonstrate compliance with the proposed heat rate with an initial compliance test at or above 90% load (corrected to ISO conditions) *and subsequent annual testing*. The conditions of the performance demonstration tests shall be conducted under such conditions to ensure representative performance of the affected facility and shall be recorded and made available for review upon request. *VPS will demonstrate compliance with the proposed heat rate with an annual compliance test at or above 90 percent load, corrected to ISO conditions.* An initial stack test demonstration for CH₄ and N₂O emissions is not required because the CH₄ and N₂O emissions comprise approximately 0.01% of the total CO_{2e} emissions from the combustion turbines.” (emphasis added)

We request that annual testing not be required for continuous compliance demonstration of the proposed heat rate. VPS proposed to demonstrate compliance with the heat rate by testing within 90 days after the completion of each gas turbine major maintenance inspection. Is there any reason why annual testing is proposed in the draft permit?

Response: The permittee will be operating the proposed facility over various load ranges (between 50%-100% load) with 1,000 hours per year of startup and shutdown events. A 10 percent compliance margin was added to the base heat rate limit to account for variations in margins associated with design, performance and degradation. Referenced literature notes that the original gas turbine power and efficiency can be expected to progressively decline a few percentage points, and then stabilize, as the result of normal wear and tear. With these expected performance changes under normal operations, it is important for the permittee to measure and provide a continuous demonstration of compliance with the BACT limit prescribed by the permit. The annual performance test will provide a point for reference (at 90 percent loading) to compare the calculations relying on measured fuel combustion and emissions factors with the demonstrated performance testing results. The results of the test will inform the permittee and EPA of the source’s ability to comply with the

CO₂ emission limit at the maximum normal operating scenario. Further, terms that are equivalent to Special Condition IV.A.3.e have been consistently applied to other GHG permits issued by EPA Region 6 for similar facilities. See, for example, La Paloma Energy Center (PSD-TX-955-GHG), Pinecrest Energy Center (PSD-TX-1298-GHG), Lon C. Hill Power Station (PSD-TX-955-GHG) and Austin Energy (PSD-TX-1012-GHG). Special Condition IV.A.3.e, is not changed in the final permit.

3. Comment: Page 20 (IX Process Fugitives Step 3) of the statement of basis reads:

“However, since pipeline natural gas is odorized with very small quantities of mercaptan, AVO observation is a very effective method for identifying and correcting leaks in natural gas systems.”

Natural gas fired at Victoria does not necessarily have to meet the § 72.2 definition of pipeline natural gas.

Response: We agree with the comment, and it is consistent with the absence of terms and conditions in the draft permit that would require use of pipeline natural gas. The comment is also consistent with an earlier-provided chemical composition analysis for the natural gas proposed to be used that is part of our administrative record. The analysis provides the following information:

Type Fuel	Chemical Composition (% by Weight)	
Natural Gas	Carbon Dioxide	4.11%
	Oxygen	-
	Nitrogen	0.28%
	Methane	89.15%
	Ethane	4.71%
	Propane	0.60%
	Iso-Butane	0.18%
	n-Butane	0.15%
	Iso-Pentane	0.09%
	n-Pentane	0.05%
	neo-Pentane	0.00%
	n-Hexane	0.15%
	C6+	0.32%
	n-Heptane	0.13%
	Octane	0.07%

We do not understand this comment to suggest that gas would not be odorized with mercaptan, and thus the associated BACT discussion remains valid. We believe no changes to the final permit are needed in response to this comment requesting clarification.

4. Comment: Page 22 (XI SF6 Emissions from Electrical Equipment Insulation Leaks Step 5) reads:

“An LDAR program to identify and repair leaks and leaking equipment as quickly as possible;...”

LDAR is not a technology discussed in Step 1 of the BACT analysis. VPS has proposed to use circuit breakers with totally enclosed insulation systems equipped with a temperature compensated density monitor that alarms, and if pressure drops sufficiently, prevents the closing or opening of the circuit breaker. Therefore we do not believe LDAR should be imposed.

Response: We agree that the stray reference to LDAR in the Step 5 of the BACT discussion for the SF₆ circuit breakers was misplaced and not discussed an earlier parts of that BACT analysis. The terms of the draft permit appropriately specify that daily AVO monitoring applies to natural gas piping components, while the circuit breakers shall be equipped with a leak detection system that includes a low pressure alarm and a low pressure lockout. See Special Condition IV.B.1. While LDAR merely stands for “leak detection and repair,” we understand that special usages for the term may not apply to SF₆ circuit breakers. It remains the case, however, that repair efforts would be expected for any leaking, malfunctioning circuit breaker. See Special Condition IV.B.2-3. We note the permit elsewhere requires that maintenance be consistent with “good air pollution control practice for minimizing emissions.” See Section I.C. We do not believe any changes to the final permit are warranted as a result of this comment.

III. Final Revisions to the Permit

No changes were made to the final permit of the Victoria WLC, L.P., Victoria Power Station (PSD-TX-1348-GHG)

IV. National Historic Preservation Act (NHPA)

On July 9, 2014, EPA sent a letter to the State Historic Preservation Officer (SHPO) requesting concurrence on EPA findings for Victoria’s cultural survey. The SHPO sent concurrence to the EPA on July 14, 2014.