

OFFICE MEMORANDUM

July 21, 2003

TO: WILLIAM de BOISBLANC

FROM: DOUG HALL

PLANT: VALERO REFINING CO., PLANT 12626

SOURCE: COGENERATION PROJECT – PHASE I

SUBJECT: POC SOURCE TEST RESULTS

As required by Condition #19177, Part 21, Valero was required to conduct a source test to demonstrate compliance with the various emission limits set in Condition #19177, Parts 18 and 19 for NO_x, CO, POC, PM₁₀, SO₂, SAM and NH₃. The required source tests were performed in January (14 through 17 and 21 and 22) under four test conditions:

1. Gas Turbine Fired On Natural Gas
2. Gas Turbine and Heat Recovery Steam Generator (HRSG) On Natural Gas
3. Gas Turbine Fired On Refinery Fuel Gas
4. Gas Turbine and Heat Recovery Steam Generator (HRSG) On Refinery Fuel Gas

A summary of the test results is attached. The initial source test demonstrated compliance with all of the emission limits except for POC emissions under test condition #1. When the gas turbine (S-1030) was fired only on natural gas, the POC mass emissions rate was 15.06 pounds per hour. The POC mass emissions rate is limited by Condition #19177, Part 18 to no more than 2.0372 pounds per hour. This number is suspect since the source test results for the other three test conditions, which included firing the entire Cogeneration system on natural gas, were less than ½ of the same compliance limit. A subsequent test done in the second quarter of 2003 on refinery fuel gas continued to demonstrate compliance in operating mode #4.

I have discussed this matter with Valero. The Owner/Operator has agreed to modify Condition #19177, Part 18(d) to not operate in operating mode #1 until such time that compliance has been demonstrated through source test. The modified condition is as follows:

~~18(d) Precursor organic compound (POC) mass emissions (as CH₄) from P-60 or P-62 shall not exceed 2.0372 pounds per hour or 0.002515 Lb/MM Btu of natural gas fired. Compliance will be based on the initial source test. (Basis: BACT for POC when firing natural gas)~~

18(d) Precursor organic compound (POC) mass emissions (as CH₄) from P-60 or P-62 shall not exceed 2.0372 pounds per hour or 0.002515 Lb/MM Btu when firing natural gas throughout each gas turbine/HRSG train. At this time, the operation of the gas turbine (S-1030) alone on natural gas is not allowed due to non-demonstration of compliance during the initial source test [Part 21, operating condition #1]. However, if the Owner/Operator demonstrates, in a subsequent source test, compliance with part 18(d) under operating condition #1, the gas turbine (S-1030) shall be permitted to operate on natural gas when the HRSG (S-1031) is idle. The Owner/Operator shall be allowed the following time to obtain the repeat source test to demonstrate compliance with operating condition #1:

Scheduled Events	2 days (48 hours)
Unscheduled Events	5 days (120 hours)

(Basis: BACT for POC when firing natural gas)

In the event that compliance is demonstrated in operating mode #1 in the future, the Part 18(d) of Condition #19177 will revert back to its original form. I recommend that the District issue the permits for Phase I of the Cogeneration project with the change to Part 18(d) of Condition #19177.

Attachment: Summary of Source Test Results