

**SUPPLEMENT TO PETITION FOR MODIFICATION OF VARIANCE
ALTERNATIVE OPERATING CONDITION (AOC)**

PETITIONER: TORRANCE REFINING COMPANY LLC

CASE NO: 6060-20

FACILITY ID: 181667

FACILITY ADDRESS: 3700 West 190th Street

CITY, STATE, ZIP: Torrance, CA 90504

Petitioner is requesting an Alternative Operating Condition (AOC) which will act as a permit revision to the Title V facility permit. Last Revision issued on December 23, 2022.

1. Are you located within 50 miles of an affected state or Indian reservation? No Yes

State	Indian Reservation/Location

2. List below the SIP-approved or federally enforceable requirements from which you are seeking relief in the form of an AOC.

Device/Application No.	Explanation of Non-compliance	Applicable Rule	Date of Rule
FCCU Regenerator 2C-3 (Device No. D151) / AN 582075	Torrance Refining Company LLC ("TORC") is forced to seek an ex parte emergency variance and AOC because an unexpected shutdown of CO Boiler 2F-3 (Device ID No. C164) at the Torrance Refinery ("Refinery"), following state-mandated maintenance at the Refinery, will now prevent TORC from timely conducting a source test of the FCCU as required by District Rule 1105.1.	203(b)	1-5-1990 (12-3-2004 version pending approval);
CO Boiler 2F-3 (Device No. C164) / AN 582060		2004(f)(1);	4-6-2007;
Selective Catalytic Reduction ("SCR") System (Device No. C1772) / AN 595368		3002(c)(1) (as to Permit Conditions D29.3 and D29.4, and	11-5-2010

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If you require disability-related accommodations to facilitate participating in the hearing, contact the Clerk of the Board at least five (5) calendar days prior to the hearing.

[ALL DOCUMENTS FILED WITH CLERK'S OFFICE BECOME PUBLIC RECORD]

Electrostatic Precipitator 2D-17 (Device ID No. C2283) / AN 595363	While TORC hopes to identify and fix the root cause of the CO Boiler failure over the next week, this unfortunately will not occur in time to finish the Rule 1105.1 FCCU source test by the December 15 end of the source test vendor's availability window. The source test vendor informed TORC that the next available window it will have to conduct the source test will be February 13-14, 2024.	Administrative Permit Condition E.8 (first sentence only)).	
Electrostatic Precipitator 2D-18 (Device ID No. C2284) / AN 595366	For this reason, TORC has determined that it will not be possible to conduct the source test by Friday, December 15, and it now is forced to seek Ex Parte Emergency Variance and AOC relief for an extension of time until March 1, 2024 to complete the CO Boiler source test. No excess emissions will occur during the period of the requested Variance and AOC.	1105.1(e)(2)(A), (e)(2)(E)	11-7-2003

EXAMPLE:

<i>Device/Application No.</i>	<i>Explanation of Non-compliance</i>	<i>Applicable Rule</i>	<i>Date of Rule</i>
D1	<i>cannot use compliant printing ink</i>	1130(c)	9-8-95
D17	<i>cannot use compliant coating</i>	1128(c)(5)(A)	2-7-92
D18	<i>cannot test boiler for Rule 1146 CO compliance</i>	1146	5-12-94
		3004(a)(4)	8-11-95

3. List proposed AOC(s). **Each AOC must contain the elements specified in Rule 518.2(g).**

AOC #2 – Petitioner shall be subject to the entirety of Alternative Operating Condition (“AOC”) #1 issued in this matter, except for the following amended condition:

- Petitioner shall begin the required Rule 1105.1 annual source test no later than the week of April 29, 2024 and shall complete the test and transmit the results to the District no later than June 30, 2024.

4. Explain how operation under the AOC will not result in the source discharging such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or to the public, or which cause, or have a natural tendency to cause, injury or damage to business or property

Because no excess emissions or excess opacity are expected during the Variance and AOC, TORC does not anticipate that the activities will cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or could endanger the comfort, repose, health, or safety of any such persons or the public, or cause, or have a natural tendency to cause, injury, or damage to business or property.

5. Explain how the AOC will not violate any NSPS, NESHAP or other standard promulgated by the U.S. EPA under Sections 111 or 112 of the Clean Air Act, or any District rule that substitutes for such requirements, any standard or requirement under Titles IV or VI of the CAA or any requirements where an AOC cannot be granted.

The equipment at issue in this Variance and AOC action are subject to 40 CFR Part 60, Subpart A, which requires that Petitioner maintain and operate the facility, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. The purpose of the Variance and AOC is to allow an extension of time to complete the FCCU source test required by District Rule 1105.1 and the Refinery Permit, and will not result in any excess emissions or changes in the existing level of control of emissions from the FCCU. Further, because no excess emissions or excess opacity are expected during the Variance and AOC period, TORC does not expect any exceedance of Subpart J H₂S limits or other requirements. Accordingly, TORC will remain in compliance with Subpart A and J throughout the AOC period.

6. Explain how the excess emissions resulting from operation pursuant to the AOC would not, by themselves, cause an exceedance of a National Ambient Air Quality Standard

No excess emissions are anticipated as a result of extension of time for source testing that is the subject of the Variance and AOC Petitions, nor are any excess emissions anticipated as the result of the Variance and AOC.

7. Did the violation(s) result from a breakdown of technology? If Yes, explain below. If No, skip to No. 8.

- (A). Explain how the breakdown could not have been prevented through careful planning or design.

The request for modification of the AOC has been made necessary by an unexpected breakdown of the Compressor 8K-1 turbine in January 2024. Beginning on January 13, 2024, the Compressor 8K-1 turbine started demonstrating unexplained deterioration in axial thrust, thrust bearing temperature, and was producing less than demanded speed. These factors threatened to progress to levels that would trigger automatic compressor shutdown. Compressor 8K-1 is one of two compressors that support operation of the FCCU and must be operating at normal performance levels to allow the FCCU to maintain adequate FCCU feed rates (84 kbd) to run the Rule 1105.1 source test. Without Compressor 8K-1 available at full capacity, the Refinery is only able to maintain roughly 68-70 kbd feed rate in the FCCU, which is below the minimum FCCU feed rate for the source test (84 kpd).

TORC immediately began troubleshooting the Compressor 8K-1 issues to facilitate bringing the FCCU throughput to a level that would potentially allow the source testing to proceed as scheduled. The Refinery conducted X-rays of the steam system on January 16 and 17, 2024. The results of the X-rays showed no blockage in the steam system. A corporate subject matter expert suggested a possible water wash of the compressor system which would include temporary piping and developing a new procedure.

The Refinery was able to maintain Compressor 8K-1 at minimum operation while planning the water wash. But on January 27, 2024, at around 11:30 p.m., the Compressor automatically tripped offline. TORC personnel took steps to stabilize the FCCU unit by reducing FCCU feed rate. On January 29, 2024 TORC personnel determined an on-site repair was not feasible. They determined that a Compressor thrust bearing likely was broken, which was going to

require TORC to send the Compressor 8K-1 turbine to the GE subcontractor offsite facility for an overhaul to correct the issue. Based on discussions with GE subcontractor, TORC determined that overhaul and repair of the turbine, and its return to the Refinery, would take at least until March 1, followed by a 6-7 day re-installation of the repaired turbine into Compressor 8K-1.

Thrust bearings can and do fail from time to time, and TORC has observed no evidence at this time that the Compressor thrust bearing broke because of any shortcoming in unit planning or design.

- (B). Explain how the breakdown could not reasonably have been foreseen and avoided.

See answer to (A) above. The compressor operation is continually monitored and subject to audio-visual inspection daily, and had been running within its operating parameters until the breakdown. Based on past inspections of the system, TORC had no indication or warning that a breakdown was imminent.

- (C). Explain how at all times the equipment, including air pollution control equipment, or processes were maintained and operated in a manner consistent with good practice for minimizing emissions.

See answers to (A) and (B) above. At all times, TORC maintains its Refinery equipment in accordance with Federal and state regulations, industry standards, and best air pollution control practices, including performing routine scheduled and as-needed maintenance on the 8K-1 Compressor.

- (D). Explain how repairs were or will be made in an expeditious fashion using off-shift labor and overtime, to the extent practicable, to ensure that such repairs are made as expeditiously as practicable

After the unexpected breakdown of the 8K-1 Compressor turbine, TORC devoted significant resources – including bringing in representatives from the turbine manufacturer – to troubleshooting the issue to determine if the turbine could be repaired on site, or if not, mitigated enough to allow the FCCU to operate at adequate throughput rate to accommodate the source test as scheduled on February 14. Once TORC determined that it would not be able to repair the turbine at the Refinery, it made arrangements to ship the turbine to GE's repair subcontractor to diagnose, repair and return the turbine to the Refinery as quickly as possible. TORC also coordinated with the Rule 1105.1 source testing contract (Montrose) to find the next soonest available window to conduct the required source test, and will take all necessary steps to ensure that the FCCU and Compressor 8K-1 are ready for testing when Montrose conducts the rescheduled source testing during the week of April 29, 2024.

- (E). Explain how the breakdown is not part of a recurring pattern indicative of inadequate design, operation, or maintenance.

See answers to (A) and (B) above.

8. If the violation(s) will occur during startup or shutdown, explain how the frequency and duration of operation in startup or shutdown mode will be minimized to the maximum extent feasible.

None of the violations at issue will occur during equipment startup or shutdown.

9. Prepare an Excess Emission Calculation Attachment (Attachment I) for each device, or group of similar devices, that is or will be operating in non-compliance. **You should check with the Clerk of the Board prior to filing this petition to determine if there are any credits available in the AOC SIP allowance bank for the relevant pollutants. If no credits are available, you must demonstrate mitigation to zero excess emissions**

10. Identify below any Emission Reduction Credit (ERC) certificates that you will voluntarily relinquish during the term of the AOC in the event that the SIP allowance bank is depleted and is unavailable for use.

ERC Certificate Information

ERC No.	Pollutant	Pounds/Day	Pounds/Month (30 x lbs/day)
N/A			

***If there are no AOC credits for the relevant pollutant(s) available in the SIP allowance bank, skip to No. 13.**

11. Explain how any emissions resulting from AOC and all other AOCs in effect will not exceed AOC credits held in the AOC Credit Bank.

N/A.

12. Based on the required attachments and calculations, summarize (in pounds) [1] the combined, monthly excess emissions, [2] mitigating emission reductions, and [3], ERC and/or emissions you are requesting to be withdrawn from the AOC SIP allowance bank, Charts 12(A) and 12 (B).

(A)

Pollutant	Month/Year (Example: 6/98)	[1] Excess Emissions From Attachments	[2] Mitigating Emission Reductions from Attachments	[3] ERC Emissions Relinquished
N/A	N/A	N/A	N/A	N/A

(B) Using previous Chart, calculate total emissions required from bank, if available.

Pollutant	Emissions (pounds) Required from Bank (+1-2-3)
N/A	N/A

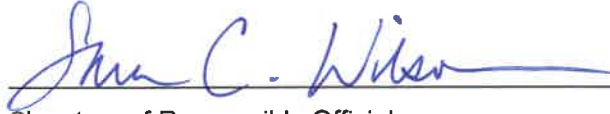
13. Prepare a Mitigation Measure Emission Calculation Attachment (Attachment II) for emission reductions that are feasible, to the maximum extent possible, during the period of the AOC; or explain why mitigation measures are not feasible.

N/A

I certify under penalty of law that I am the responsible official, or that official's designee, for this facility as defined in AQMD Regulation XXX and that based on information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments are true, accurate and complete.

Dated: _____

2/2/2024



Signature of Responsible Official

Sara Wilson

Print Name of Responsible Official

Refinery Manager

Title of Responsible Official

Telephone: (310) 212-4500

ATTACHMENT I
EXCESS EMISSION CALCULATION

PETITIONER: TORRANCE REFINERY CORPORATION LLC

CASE NO: 6060-20

FACILITY ID: 181667

Device/Application No.(s) D151 / 582075; C1590 / 582076; C2314 / 582076

- A. List all SIP-approved, federally-enforceable, emission limits, permit conditions, and other requirements for which an AOC is sought:

Requirement Violated	Rule Violated	Rule Date
TORC is forced to seek an ex parte emergency variance and AOC because an unexpected shutdown of CO Boiler 2F-3 (C164) at the Refinery, following state-mandated maintenance at the Refinery, will now prevent TORC from timely conducting an annual source test of the FCCU as required by District Rule 1105.1(e)(2)(A) and (e)(2)(E), and by Conditions D29.3 and D29.4 of the Permit.	203(b), 2004(f)(1) and 3002(c)(1) (as to Permit Conditions D29.3 and D29.4; and Administrative Permit Condition E.8 (first sentence only))	1-5-1990 (12-3-2004 version pending approval); 4-6-2007; 11-5-10.
This will also necessarily violate District Rules 203(b), 2004(f)(1), and 3002(c)(1), which generally require compliance with the permit; and the first sentence of Administrative Condition E.8, which requires all Refinery RECLAIM equipment to comply with all District Rules.	1105.1(e)(2)(A), (e)(2)(E)	11-7-2003

- B. Explain below how you can reduce emissions in excess of the federally enforceable emission limits from the affected devices to the maximum extent feasible during the period of the AOC.

No excess emissions are anticipated as a result of the extension of time requested in the Variance and AOC Petitions to conduct the FCCU source test, given that all required emissions control devices serving the FCCU will continue in operation in compliance with District Rules and the Permit during the Variance and AOC period.

- C. List the emission limits, activity levels and/or operating conditions that you propose to comply with in lieu of the AQMD requirement(s).

AOC #2 – Petitioner shall be subject to the entirety of Alternative Operating Condition (“AOC”) #1 issued in this matter, except for the following amended condition:

1. Petitioner shall begin the required Rule 11051 annual source test no later than the week of April 29, 2024, and shall complete the test and transmit the results to the District no later than June 30 2024.

D. Attach calculations of monthly excess emissions, done in accordance with Rule 518.2 (h)(1), from equipment subject to the AOC and summarize results here:

Pollutant	Month/Yr	Monthly Emissions (Pound)		
		[1] Based on Compliance with Rules, Existing Permit Conditions and Projected Activity Levels [518.2(h)(1)(A)]	[2] Based on Proposed Operating Conditions and Activity Levels [518.2(h)(1)(B)]	[3]* Excess Emissions (Difference)
N/A				

*Column 1 minus Column 2 = Column 3

If your proposed emission limits, operating conditions or activity levels will vary by calendar month, provide numbers for each month from the first day of non-compliance, or the day the AOC petition is submitted, whichever is later, until the last day of non-compliance.

E. Propose below the procedures you will use to monitor, record, and report excess emissions.

AOC #2 – Petitioner shall be subject to the entirety of Alternative Operating Condition (“AOC”) #1 issued in this matter, except for the following amended condition:

1. Petitioner shall begin the required Rule 11051 annual source test no later than the week of April 29, 2024, and shall complete the test and transmit the results to the District no later than June 30 2024.

ATTACHMENT II
MITIGATION MEASURE EMISSION CALCULATION

PETITIONER: TORRANCE REFINERY CORPORATION

CASE NO: 6060-18

FACILITY ID: 181667

A. Describe proposed mitigation measures that reduce emissions to maximum extent possible from equipment not in violation of an applicable requirement and the affected device/application no.(s):

No excess emissions are expected during the Variance and AOC period, given that all required emissions control devices serving the FCCU will continue in operation in compliance with District Rules and the Permit during the Variance and AOC period.

B. List proposed operating conditions and activity levels for each of the above affected activities or device/application no(s).

AOC #2 – Petitioner shall be subject to the entirety of Alternative Operating Condition (“AOC”) #1 issued in this matter, except for the following amended condition:

1. Petitioner shall begin the required Rule 11051 annual source test no later than the week of April 29, 2024, and shall complete the test and transmit the results to the District no later than June 30 2024.

C. Attach calculations of monthly emission mitigations, done in accordance with Rule 518.2 (h)(2)(D), from equipment not in violation of an applicable requirement and summarize results here:

		Monthly Emissions (Pound)		
Pollutant	Month/Yr	[1] Baseline Emission Rate	[2] Post Reduction Emission Rate X Activity Level	[3]* Intra-Facility Emission Reduction (Difference)
N/A				

*Column 1 minus Column 2 = Column 3

If emissions reductions you are committing to will vary by calendar month, provide numbers for each month from the first day of non-compliance, or the day the AOC petition is submitted, whichever is later, until the last day of non-compliance.

D. Propose below the procedures you will use to monitor, record, and report mitigating emission reductions.

AOC #2 – Petitioner shall be subject to the entirety of Alternative Operating Condition (“AOC”) #1 issued in this matter, except for the following amended condition:

1. Petitioner shall begin the required Rule 11051 annual source test no later than the week of April 29, 2024, and shall complete the test and transmit the results to the District no later than June 30 2024.

(E: HB:Petitions:AOC Supplement: Revised October 5, 2007)