

1 KEVIN POLONCARZ (State Bar No. 211434)
2 TIMOTHY DUNCHEON (State Bar No. 338184)
3 COVINGTON & BURLING LLP
4 Salesforce Tower
5 415 Mission Street, Suite 5400
6 San Francisco, California 94105-2533
7 Telephone: (415) 591-6000
8 Facsimile: (415) 591-6091
9 Email: kpoloncarz@cov.com

10 Attorneys for Chevron Products Company

11 **BEFORE THE HEARING BOARD OF THE**
12 **BAY AREA AIR DISTRICT**

13 CHEVRON PRODUCTS COMPANY,

14 Appellant,

15 v.

16 AIR POLLUTION CONTROL OFFICER of the
17 BAY AREA AIR DISTRICT,

18 Respondent.

Docket No. 3775

**CHEVRON PRODUCTS COMPANY'S
PETITION FOR APPEAL OF
CONDITIONS IN TEMPORARY
PERMIT TO OPERATE FOR
APPLICATION NO. 753424**



1 **I. ACTION BEING APPEALED**

2 On April 9, 2026, Chevron Products Company, a division of Chevron U.S.A. Inc., (“Chevron”)
3 that operates the Richmond Refinery (the “Refinery”), submitted Application No. (“AN”) 753424 to the
4 Bay Area Air District (“Air District”) requesting a temporary permit under the Accelerated Permitting
5 Program. *See* Ex. 1. Specifically, Chevron requested authority to power the Fluidized Catalytic Cracking
6 Unit (“FCCU,” or S-4285) blower without its Power Recovery Turbine (“PRT”), which ordinarily
7 generates most of the power to the FCCU blower, but needed to undergo repairs. The application
8 acknowledged that this would result in a net increase in steam usage at the FCCU and that the No. 1 Power
9 Plant consisting of Boilers #1, 3–5 and 7 (S-4129, S-4131, S-4132, S-4133, and S-4153) is one of the
10 primary sources of steam at the Refinery. The FCCU would continue to meet all its emissions limits and
11 would operate in this posture only until the PRT could be repaired and put back into operation, i.e., October
12 2026. All five power plant boilers would also continue to operate within their permitted daily and annual
13 emission and throughput limits throughout that period.

14 On April 29, 2026, after extensive discussions with Chevron on the scope of the permit, the Air
15 District issued a Temporary Permit to Operate. *See* Ex. 2 (“Initial 2026 Temporary PTO”). However, it
16 contained a provision requiring Chevron—in under eight months—to design, permit, and construct new
17 stacks (likely 125 feet in height) on Boilers #1, 3, 4, and 5 to facilitate more accurate testing of certain
18 pollutants that the boilers are not generally required to measure. Not only would this project likely cost
19 tens of millions of dollars, require extensive permitting from the City of Richmond, and provide little
20 benefit, but it was impossible to accomplish in the required timeframe. After Chevron explained this, the
21 Air District delivered a revised PTO to Chevron on April 30, 2026. *See* Ex. 3 (“Revised 2026 Temporary
22 PTO”). The permit still requires the same massive and unnecessary project but effectively offers more
23 time to construct it. Pursuant to Rule 8.1(b), Chevron hereby appeals the Conditions 2, 3, 4, and 7 of the
24 Revised Temporary PTO to the Air District Hearing Board (“Hearing Board”).¹

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28 ¹ At this time, Chevron waives the requirement for a hearing within 30 days under Rule 8.1(e)(3), but
 will request a hearing if progress is not made toward resolution of this matter.

1 **II. CHEVRON’S GROUNDS FOR APPEAL**

2 1. The Air District improperly issued the requirement in Part 2 to undertake a multimillion dollar
3 capital project to design, permit, and construct new stacks on the boilers because it is beyond the District’s
4 authority, unreasonable, and inconsistent with its prior permitting actions.

5 2. The Air District erroneously issued the requirements in Parts 3 and 4 that Chevron conduct stack
6 tests with the boilers at maximum firing rates and use emission factors based on those results to
7 demonstrate compliance with limits that were based on source tests conducted at the boiler’s as-found
8 firing rate, when emissions for carbon monoxide (“CO”) in particular are expected to be lower than when
9 operated at the maximum firing rate.

10 3. The District erred in establishing Part 7 to the extent that it is ambiguous as to when (if ever)
11 the temporary permit ceases to have effect.

12 **III. BACKGROUND**

13 California faces unique supply constraints on the production of transportation fuels. Due in part
14 to the closure and conversion of in-state petroleum refineries, California has become increasingly
15 dependent upon imported petroleum products.

16 Chevron’s Richmond Refinery, which opened in 1902, has played a central role in supplying
17 transportation fuels to Northern California for over 120 years. Chevron processes about 250 thousand
18 barrels of crude oil per day into refined petroleum products, supplying approximately 20 percent of the
19 gasoline in Northern California and about 60 percent of jet fuel for Bay Area airports including San Jose,
20 Oakland, San Francisco, and Sacramento. Put another way, in one day, the Refinery refines enough gas
21 to fill 400,000 cars and enough jet fuel to fly a commercial jet around the world twenty-five times. The
22 Refinery is also the City of Richmond’s largest employer.

1 **A. Richmond Refinery’s FCCU**

2 The FCCU is particularly critical for the Refinery’s production of gasoline. Under the Major
3 Facility (Title V) permit issued by the Air District, the FCCU is authorized to process up to 90,000 barrels
4 per day. Title V Permit, Condition #11066, Part 1.²

5 The FCCU includes a reactor vessel that uses heat and a catalyst to break up, or “crack,” high-
6 boiling point long-chain hydrocarbons into smaller-chain hydrocarbons. The catalyst consists of fine
7 particles that act as a fluid when aerated. Hydrocarbon feed is preheated and introduced into the bottom
8 of the reactor’s riser with hot regenerated catalyst. The hot catalyst vaporizes the feed, bringing both to
9 the desired reaction temperature, 470 to 525°C (880 to 980°F). The cracking reaction takes place in the
10 travel up the riser, as large paraffinic hydrocarbon molecules break up, or “crack,” into smaller molecules
11 that flow overhead to a fractionator for separation into products. The spent catalyst falls to the bottom of
12 the reactor and is routed to the regenerator, where the carbon on the catalyst is combusted off, after which
13 the catalyst returns to the reactor and is reused. A portion of flue gas from the regenerator is routed to the
14 PRT to power the main air blower (“MAB”). *See generally* Ex. 1 at 1–2.³

15 The FCCU’s Main Air Blower Train (“MABT”), which was designed in 1995, consists of four
16 primary components. Those components are: (1) the PRT, which reduces the pressure and temperature of
17 the flue gas to generate shaft horsepower to run the MAB; (2) the MAB, which supplies combustion air
18 to the regenerator; (3) the steam turbine, which provides power for start-up; and (4) the motor-generator,
19 which turns the remaining horsepower from the PRT and steam turbine into electricity. Although the PRT
20 provides most of the power to the MAB during typical operation, the MAB was designed to operate when
21 the PRT is out of service. During these times, the steam turbine and the motor generator must fully power
22 the MAB, which requires increased steam consumption of about 2.88 million pounds per day. *See* Ex. 1
23 at 3–4.

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26 ² Available at [https://www.baaqmd.gov/~media/files/engineering/title-v-](https://www.baaqmd.gov/~media/files/engineering/title-v-permits/a0010/a0010_2_28_2018_sr_final_permit_02-pdf.pdf)
27 [permits/a0010/a0010_2_28_2018_sr_final_permit_02-pdf.pdf](https://www.baaqmd.gov/~media/files/engineering/title-v-permits/a0010/a0010_2_28_2018_sr_final_permit_02-pdf.pdf).

28 ³ The FCCU is subject to many emissions and throughput limits, but they are not described here because they are not relevant to this appeal.

1 **B. The Power Plant Boilers**

2 The Refinery's No. 1 Power Plant has five water-tube boilers (#1, 3–5, and 7) that produce process
3 steam for refinery operations. The boilers burn refinery fuel gas in balanced-draft furnaces, after which
4 the combustion gases follow a three-pass path through generating tubes, superheater tubes, and an air
5 preheater before exhausting through the stacks. The steam that is generated is delivered to the refinery's
6 high-pressure steam distribution header.

7 Boilers #1 and #3 were constructed in 1936. Boilers #4 and #5 were constructed in 1942. Boiler
8 #7 was built in the 1950s. The stacks were built around the same time as the boilers themselves. Each
9 boiler has its own stack, except for Boilers #3 and #4, which share the same stack. The stacks are 125 feet
10 in height and are tapered, with an inside diameter of 9 feet, 7 ½ inches at grade and 8 feet at the top. Each
11 stack is made of concrete that is 7 ½ inches thick at the base and 5 inches thick at the top. They are lined
12 with an internal refractory layer of brick.

13 As set out in the Refinery's Major Facility (Title V) permit, the boilers must comply with
14 throughput limits (expressed in terms of MMBtu) on both a daily and an annual basis. *See* Title V Permit,
15 tbl. II.A.1. They are equipped with fuel flowmeters to ensure compliance with these limits. They are also
16 subject to emission limits on nitrogen oxide ("NOx") and accordingly are equipped with continuous
17 emissions monitoring systems ("CEMS") for NOx and O₂. *See* Title V Permit, tbl. VII.A.5.1; Air District
18 Reg. 9-10-502.1, 502.2. They are also subject to carbon monoxide ("CO") limits, for which compliance
19 is determined via semiannual source tests. Title V Permit, tbl. VII.A.5.1; Air District Reg. 9-10-305. In
20 accordance with Modernization permit condition #24136 part 97, Chevron estimates SO₂ emissions using
21 a conservative methodology submitted to the Air District on July 15, 2019, based on the sulfur content of
22 the fuel and the flow rate.

23 However, the boilers do not have specific emission limits for other pollutants, such as filterable
24 particulate matter ("PM10" and "PM2.5")⁴ or Precursor Organic Compounds ("POC"). Chevron has
25 never been required to measure emissions of these pollutants from all of the boilers, and they cannot be
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27 ⁴ "PM10" refers to particulate matter smaller than 10 microns, and "PM2.5" refers to particulate matter
28 smaller than 2.5 microns.

precisely estimated based on the stoichiometric composition of the fuel. To ensure compliance with a facility-wide emissions cap for these pollutants, permit condition #469 requires Chevron to estimate emissions of PM_{2.5}, PM₁₀, and POC from the boilers using the emission factors listed in that permit condition's Appendix I. *See* Title V permit, condition #469, App. I.

Given the absence of any specific emission limits for these pollutants, Chevron has not historically been required to conduct source testing for them at four of the boilers (i.e., for Boilers #1 and #3–5). Because construction of these boilers predated the development of modern emissions testing methods, their stacks were not designed and equipped with sampling facilities that meet the precise requirements of EPA Method 1.⁵ First, Method 1 requires sampling and/or velocity measurements to be (at a minimum) “at a position at least two stack or duct diameters downstream and a half diameter upstream from any flow disturbance.” *See* 40 CFR Part 60, App. A-1, 11.1.1. Due to the location of the boilers and the stacks, there is no way to make these measurements in the prescribed location.⁶ Second, Method 1 “cannot be used” if the flow is cyclonic, and although the stack flow for these four boilers has not yet been tested, it is possible that is true here. *See* App. A-1, 1.2; *id.* 11.5 (noting the requirement to measure directional flow at 40 or more traverse points to confirm that flow is not cyclonic). While the three stacks for these four boilers may not meet the precise requirements for testing under Method 1, they can be tested in accordance with the Air District's “Source Test Policy and Procedures” requirements in Volume IV of its Manual of Procedures (“MOP”), which generally require “representative sampling.”⁷ *See* MOP Vol. IV, 1.2.2.

C. The 2024 Temporary PTO

In September 2024, the PRT was damaged and became inoperable, and it was expected to require up to 190 days for repair. On September 16, 2024, Chevron submitted AN 714498 under the Accelerated Permitting Program to request a temporary PTO to authorize the FCCU to be operated without the PRT,

⁵ The stack for Boiler #7 does meet EPA Method 1 requirements.

⁶ Boilers #4 and 5 have ports between the air preheater and the ID fan. Boilers #1 and 3 have ports downstream of the ID fan. Boiler #4 also has five ports near the entrance to the stack.

⁷ Bay Area Air Quality Mgmt. Dist., Manual of Procedures, Vol. IV: Source Test Policy and Procedures (Jan. 20, 1982), <https://www.baaqmd.gov/~media/files/records/mop/vol-4/intro-4.pdf>.

acknowledging that this would result in a net increase in steam consumption at the FCCU and that the No. 1 Power Plant consisting of Boilers #1, 3–5 and 7 is one of the primary sources of steam for the Refinery. Ex. 4. Because these power plant boilers and the FCCU itself would continue to operate within their permitted daily and annual limits, the change would not increase potential to emit (“PTE”). As such, the application was an alteration under Section 2-1-233 of the Air District’s regulations.

On September 19, 2024, the Air District issued the temporary permit to operate for AN 714498. Ex. 5. To ensure that the change would not increase PTE and trigger other requirements, the permit required Chevron to ensure that each of the five power plant boilers maintains compliance with (1) daily emission limits for NO_x, CO, POC, PM₁₀, PM_{2.5}, and SO₂; (2) annual emission limits for those same pollutants; and (3) daily and annual fuel usage limits. *See* Ex. 5, Part 1, tbls. 1–3. It also provided that Chevron “shall maintain Air District approved records, such as but not limited to Air District approved emission calculations, CEMs monitoring information, fuel flow meter records, and such) to demonstrate compliance with emission and fuel usage limits . . . for the entire term of the [permit],” to be “made available to Air District personnel for review on request.” Ex. 5, Part 2. The permit did not require any specific measurement methodology while the permit was in effect, nor did it require new capital projects. Accordingly, while the permit was in effect, Chevron determined compliance with the fuel usage limits using its existing fuel flowmeters, with the NO_x limits using its existing CEMS, with the CO limits using semiannual source test results, with the SO₂ limits using continuous sulfur in fuel gas monitoring data, and with the limits for the other pollutants using the emissions factors for preparing emissions inventories under Rule 12-15.

On September 21, 2024, Chevron started up the FCCU without the PRT. On January 13, 2025, Chevron shut down the FCCU to repair the PRT and complete additional maintenance. It started up the FCCU with the repaired PRT a few weeks later. In all, Chevron operated the FCCU under the 2024 Temporary PTO for 114 days. The District issued the final PTO for the FCCU to operate without the PRT on January 29, 2025, with an expiration date of March 18, 2025. Ex. 6, at 1 and Part 3.

D. The Initial 2026 Temporary PTO

In April 7, 2026, the FCCU experienced an unplanned shutdown, and shortly thereafter, Chevron concluded that operational issues at the PRT required extended troubleshooting. On April 8, 2026,

1 following the same procedure as in September 2024, Chevron notified the Air District. On April 9, 2026,
2 it submitted AN 753424 under the Accelerated Permitting Program to request a Temporary PTO to
3 authorize the FCCU to operate without the PRT, acknowledging that this would result in a net increase in
4 steam consumption at the FCCU and that the No. 1 Power Plant (consisting of Boilers #1, 3–5 and 7) is
5 one of the primary sources of steam for the Refinery. *See* Ex. 1. Again, the FCCU would only need to
6 operate without the PRT for several months, until the PRT could be repaired and put back into operation.
7 Chevron and Air District staff corresponded regarding the content of this permit, and Chevron understood
8 that the Air District would issue the permit with conditions similar to those in the prior permit regarding
9 the substantively identical temporary mode of operation.

10 On April 29, 2026, the Air District issued the Initial 2026 Temporary PTO for AN 753424. Ex. 2.
11 In some respects, it was similar to the 2024 Temporary Permit. For example, the Initial 2026 Temporary
12 PTO required Chevron to ensure that each of the five power plant boilers meets (1) daily emission limits
13 for NO_x, CO, POC, PM₁₀, PM_{2.5}, and SO₂; (2) annual emission limits for those same pollutants; and (3)
14 daily and annual fuel usage limits. Ex. 2, Part 1, tbls. 1–3. It also specified additional limits, including
15 hourly and daily maximum heat input limits for each of the boilers, which correspond to the Title V limits
16 and/or the design capacities Chevron submitted previously. *See* Ex. 2, Part 6, tbl. 7.

17 But Parts 2 through 7 were additions to what had appeared in the Initial 2026 Temporary PTO and
18 Part 2, in particular, was very significant. In Part 2, the Air District purported to require Chevron to initiate
19 a massive, costly project to build new stacks and that was impossible to accomplish in the prescribed
20 timeframe:

21 *On/before the next scheduled turnaround for S-4285 but no later than*
22 *December 31, 2026, the owner/operator of S-4129, S-4131, S-4132, and*
23 *S-4133 shall ensure each boiler stack meets EPA Method 1 requirements,*
24 *or shall install at each of the above boilers a permanent stack, or*
25 *temporary stack, that meets EPA Method 1 requirements each time Air*
District approved source tests required by this permit condition are
conducted at each of the above boilers.

26 Ex. 2, Part 2 (emphases added). As noted, the three existing stacks for Boilers #1 and 3–5 do not meet
27 EPA Method 1 requirements. Thus, this provision of the temporary permit purported to require Chevron—
28 in under eight months and potentially even sooner—to design, permit, and construct “a permanent stack,

1 or temporary stack, that meets EPA Method 1 requirements” for these four boilers for purposes of
2 estimating PM_{2.5}, PM₁₀, and POC emissions—pollutants that the Refinery is not even required to
3 measure from the boilers during ordinary operation.⁸

4 Not only would such a capital project cost millions of dollars per stack and provide little air quality
5 benefit (as discussed in more detail *infra* Part V.A), but it was physically impossible under the terms of
6 the April 29 initial permit. The only conceivable options for compliance would be (1) to modify the
7 existing 125-foot stacks to achieve compliance with Method 1, or (2) to demolish the existing ones and
8 build brand new ones.⁹

9 To attempt to comply with Method 1 at the three existing eighty- or ninety-year-old stacks for
10 Boilers # 1 and 3–5, Chevron would likely need to core drill four new ports into each stack at an elevation
11 of approximately eighty feet. Drilling would damage the internal refractory layer of brick, which may
12 contain asbestos. Structural reinforcement would be needed to ensure stack integrity after four holes at
13 least three inches diameter are drilled through the stack. As the existing stacks are not rated to modern
14 building codes, the project would likely trigger significant upgrades. It would also trigger a seismic
15 evaluation and associated retrofit. Due to the age of these structures, additional design and construction
16 problems may well arise once the project begins. All of this would be infeasible, cost millions, and take
17 far longer than eight months.

18 To demolish and replace the existing stacks would take far longer and be even more costly. Not
19 only would this implicate many of the above concerns, but the larger footprint of the new stacks and
20 associated scaffolding would likely require clearing out more existing equipment than just the stacks.
21 Such a massive project would take many months to design while addressing current engineering standards.
22 Permitting would take still longer, as the City of Richmond could not issue the necessary permits in such
23 an abbreviated time period (and air permits may be required as well). And even assuming a completed
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25 ⁸ Based on past source test results at the furnaces and Boiler #7, Chevron believes that PM_{2.5}, PM₁₀,
26 and POC emissions from these boilers are likely very low.

27 ⁹ Although the permit referred to a “temporary stack” as an option, Chevron is not aware of what this
28 could mean. Installing Method 1-compliant stacks is a large and complex project, there is no location
for such stacks to go as a “temporary” matter, and even if there were, routing the exhaust to those stacks
would implicate the same design, permitting, and construction hurdles discussed here.

1 design and permits, construction would still be infeasible in that timeframe. To accomplish a capital
2 project of this magnitude, Chevron would have to shut down the boilers for 2–3 months, further reducing
3 refining capacity at a time when the state desperately needs gasoline supplies.

4 In short, in the guise of a temporary permit, the Air District purported to require Chevron to
5 complete a massive capital project that *could not be completed in the allotted time* simply to more
6 accurately measure pollutants for which the sources *do not have specific emission limits except in a*
7 *temporary permit that expires in a few months*. Further, the project would require shutting down units at
8 the Refinery at a time that California has lost roughly 17% of its in-state refining capacity in less than a
9 year.

10 Chevron immediately communicated to the Air District that this provision of the permit was
11 impossible to comply with and beyond its authority and requested that the Air District revise the permit.

12 **E. The Revised 2026 Temporary PTO**

13 On April 30, 2026, the Air District issued the Revised Temporary PTO for AN 753424. Ex. 3.
14 Although the Air District no longer purports to require the large project to be completed in less than eight
15 months—implicitly acknowledging that the provision was impossible as originally drafted—it still
16 purports to require a project of the same infeasible, prohibitively costly, and unreasonable scope.

17 Although the revised Part 2 does not require the project to be completed in the next eight months,
18 it nonetheless requires that Chevron “submit for review and approval a plan *to ensure [Boilers #1, 3, 4,*
19 *and 5] are each equipped with stacks that meet with and comply with EPA Method 1 requirements.*” Ex.
20 3, Part 2 (emphasis added). Chevron’s “plan” to “ensure” that each boiler is equipped with Method 1-
21 compliant stacks is due to be submitted along with “the final source test report” for an “initial source test”
22 to be conducted at each of the boilers. *Id.* Chevron “shall comply with all applicable source testing, stack
23 installation, sampling port location and safe access requirements as specified in Volume IV of the Air
24 District’s Manual of Procedures.” *Id.* The revised Part 2 thus requires Chevron to undertake (in the near
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term) a project implicating all of the costs and logistical challenges noted above—all in order to more accurately measure pollutants for which the boilers are not subject to limits during ordinary operation.¹⁰

The Revised Temporary PTO also requires an initial “Air District approved source test” at each boiler “within 60 days from the date of issuance of this Permit to Operate . . . using only Air District approved source test methodologies and emission calculation procedures to demonstrate compliance with the” emission limits for NO_x, PM_{2.5}, PM₁₀, POC, CO, and SO₂ (to the extent that such pollutants are not measured with CEMS).¹¹ Ex. 3, Part 2. It allows that, “[u]ntil such time Air District approved EPA Method 1 compliant stacks are installed at [Boilers #1, 3, 4 and 5], the owner/operator shall use PM_{2.5}, PM₁₀, and POC source test results for [Boiler #7] in concert with the requirements outlined in Part 4 of this permit condition to estimate PM_{2.5}, PM₁₀, and POC emissions.” *Id.*

Part 4 provides that, for pollutants for which there are not CEMS, Chevron must demonstrate compliance using “activity-based emission factors” from “[t]he most recent Air District-approved boiler specific source test” and that must be “approve[d]” by the Air District. Ex. 3, Part 4. Specifically, those factors must be based on “Air District-approved boiler specific source test results in combination with records of boiler specific activity at the time of the source test (such as boiler specific steam production, fuel usage for each fuel burned in each boiler, the heat input (HHV) in millions of BTUs for each fuel burned in each boiler) in order to determine activity-based emission factors for each boiler.” Ex. 3, Part 4. However, Part 3 specifically requires Chevron to conduct “all source tests (initial and subsequent) required by this permit condition when operating [the boilers] at their respective maximum production capacities.” Ex. 3, Part 3. As a consequence, Chevron will need to calculate activity-based emissions factors for each boiler based upon source tests conducted at their maximum firing rates – when emissions are expected to be higher for CO in particular – to demonstrate compliance with emissions limits the District established based on historic source tests, which were required to be conducted at the boiler’s “as-

¹⁰ Chevron reserves the right to develop and introduce additional factual evidence on the logistical, physical, and financial challenges to compliance with the Part 2 stack requirements.

¹¹ This source test is also required once every 12 months until the FCCU resumes normal operation with the PRT back in service. Due to the short length of the anticipated temporary method of operation, this test is unlikely to be required.

1 found firing rate.” This mismatch would artificially inflate emissions, posing a significant compliance
2 risk for Chevron.

3 Part 7 of the Temporary PTO provides that permit “shall expire when” Chevron “notifies the Air
4 District . . . that the PRT has been placed back into service and the FCC has resumed normal operations
5 with the PRT.” Ex. 3, Part 7. Confusingly, it then provides that “the annual rolling 12-month period
6 limits in Part 1 of this permit condition *will remain valid until compliance is achieved with all emission*
7 *and fuel usage limits*,” possibly suggesting that it might have no end date. *Id.* (emphasis added).

8 After the revised permit was issued, Chevron contacted Air District staff and leadership to explain
9 its concerns about the stack requirements (among other issues) and requesting reissuance or amendment
10 of the permit. On May 1, 2026, Chevron began start-up at the FCCU pursuant to the Temporary PTO
11 while continuing discussions with the Air District. On May 6, 2026, Chevron initiated feed to the FCCU
12 and resumed producing much-needed gasoline for Northern California.

13 **F. Subsequent Communications with the Air District**

14 On May 20, 2026, Chevron met with the Air District to propose alternative options for compliance.
15 First, Chevron explained in detail why it cannot feasibly design, permit, and construct the massive capital
16 project ostensibly required by Part 2 in the Revised PTO. Then, Chevron outlined a tentative proposal to
17 source test for PM2.5, PM10 and POC at each of the boilers in order to get representative samples, albeit
18 not conforming to EPA Method 1. Chevron has engaged Onterris, a source testing company, to perform
19 the required source tests and assist Chevron in finding ways to obtain representative source test data from
20 the existing stacks. It would be conducting its initial source tests at Boiler #7 on June 17, 2026, and at
21 that time it would also explore potential improvements. Chevron proposed possible measurement
22 locations that could comply with alternative procedures in Method 1 and stated that it planned to measure
23 flow direction to ensure no cyclonic flow at those locations the week of June 16. The Air District
24 expressed some concern that stratification and/or turbulent flow could also impact measurements from
25 those locations. Chevron also proposed additional alternatives to strict compliance with Method 1,
26 including the alignment approach in EPA GD-008, sampling at the fuel induced recirculation line,
27 additional traverse points at existing ports, and/or the use of one or more Method 1-compliant boilers to
28 estimate emissions from the others. Chevron also noted that the existing ports at most boilers were two

1 inches in diameter and thus smaller than the size recommended by the MOP, but explained that it could
2 still obtain representative samples or could install larger ports at the existing sample points during the next
3 boiler shutdowns. Although the Air District indicated that it might be amenable to some of Chevron's
4 proposals, it did not take an affirmative position. It suggested some openness to the possibility of revising
5 the permit language requiring that Chevron submit a plan to "ensure" that all boilers have a Method 1-
6 compliant stack, but did not agree to do so.¹²

7 **IV. LEGAL STANDARD**

8 The petitioner has the burden of proof to demonstrate that the Air District's "action was erroneous"
9 and that the "conditions were improperly issued." Hearing Board Rule 8.4, 8.4(b). The Hearing Board
10 determines whether the Air District's interpretation of the applicable legal requirements "is fair and
11 reasonable and consistent with other actions of the [District]." Hearing Board Rule 8.6.

12 The Air District may issue a temporary PTO under the Accelerated Permitting Program if it finds
13 that a change is "[a]n alteration of an existing source, as defined in Section 2-1-233." Air District Reg. 2-
14 1-302.2.3. An "alteration" is a change that "*may* affect air pollutant emissions and that *does not qualify*
15 *as a modification* under the criteria set forth in Section 2-1-234." Section 2-1-233 (emphases added). A
16 modification is a change that "*results in* an increase in emissions"—that is, either (1) an increase in
17 "potential to emit" ("PTE") under the Air District's test or (2) an increase that qualifies as a "major
18 modification" under the federal backstop test. Section 2-1-234 (emphasis added). Under the Air District
19 test, PTE can be determined by a "legally enforceable limitation" at a source, including both "direct
20 limitations on the source's emissions and surrogate limits on operating conditions such as production rate
21 or capacity that have the effect of limiting emissions." Section 2-1-234.1.1. If a source lacks such a
22 limitation, then PTE is determined by the source's "actual physical ability to emit air pollution." Section
23 2-1-234.1.1, 1.2. Under the federal backstop test, a modification is an increase over actual emissions
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26 ¹² At this meeting, the Air District also confirmed that (1) an initial source test must be completed at
27 *each* boiler within 60 days of permit issuance, but that (2) the initial source tests at Boilers #1, 3, 4 and 5
28 do not need to measure PM2.5, PM10 and POC data because the PM2.5, PM10, and POC data from
Boiler #7 can be used to estimate emissions from the other boilers.

1 baseline that qualifies as a “major modification” by federal regulations. *See* Section 2-1-234.2; 40 C.F.R.
2 51.165(a)(1)(v), 52.21(b)(2)(i).

3 “During periods that the source is operating under the temporary Permit to Operate, the operator
4 shall keep records sufficient to demonstrate that emissions do not exceed applicable qualifying levels for
5 the Accelerated Permitting Program.” Section 2-1-302. In general, “the APCO may impose any permit
6 condition that the APCO deems reasonably necessary to insure compliance with federal or California law
7 or District regulations” and it “may require the installation of devices for measurement or analysis of
8 source emissions or ground-level concentrations of air contaminants.” Section 2-1-403.

9 **V. SUMMARY OF ARGUMENT**

10 The Hearing Board should modify or set aside Parts 2, 3, 4, and 7 of the condition in the 2026
11 Revised Temporary PTO. First, Part 2’s requirement to initiate a capital project to design, permit, and
12 construct new stacks is beyond its authority in issuing a temporary permit, unreasonable, and inconsistent
13 with the Air District’s prior permitting actions. Second, the requirements in Parts 3 and 4 that Chevron
14 conduct stack tests with the boilers at maximum firing rates and use emission factors based on those results
15 to demonstrate compliance are arbitrary because the emissions limits with which Chevron must comply
16 are based on stack tests conducted with the boilers at typical rates. Third, Part 7 is ambiguous as to when
17 the permit conditions cease to have effect.¹³

18 **A. The requirement to undertake a massive capital project to equip the boilers with**
19 **Method 1-compliant stacks is beyond the District’s authority, unreasonable, and**
inconsistent with its prior permitting actions.

20 The requirement for Chevron to produce a “plan” that will “ensure” Method-1 compliant stacks
21 on the boilers is improperly issued for three independent reasons. First, although the Air District can
22 require reasonable monitoring to confirm that there is no increase in emissions, the requirement for a
23 “plan” for Method 1-compliant stacks is unreasonable because existing approaches to measure and
24 estimate emissions at the boilers provide adequate accuracy for a temporary permit. Second, the Air
25 District’s requirement is unreasonable because the exorbitant costs of building new stacks (or retrofitting
26

27 ¹³ Chevron reserves the right to supplement its argument and evidence in a brief to be filed prior to the
28 hearing on its Petition.

1 the existing ones) vastly exceed any putative benefits, and new or retrofitted stacks could not even be
2 completed or serve any function until long after this temporary permit has ceased to have effect. Third,
3 the Air District’s requirements are inconsistent with its prior permitting actions.

4 **1. Existing cost-effective approaches to estimate emissions at the boilers provide**
5 **adequate accuracy for purposes of a temporary permit.**

6 Although the Air District may impose reasonable conditions to ensure that any potential increased
7 operation of the boilers does not increase emissions and result in a “modification” during the short period
8 of time the Revised Temporary PTO is in effect, the requirement for Method 1-compliant stacks is
9 unlawful and unreasonable because existing methodologies provide a reasonably accurate estimate of
10 emissions of pollutants. Currently, NO_x is measured via CEMS, CO is calculated based on established
11 source test methodologies, and SO₂ is estimated using a conservative methodology based on fuel input
12 and continuous monitoring data of sulfur in fuel gas. But Chevron has not previously been required to
13 meet specific emission limits for PM₁₀, PM_{2.5}, and POC at the boilers¹⁴ or to use Method 1. Previously,
14 the *only* time the boilers were subject to specific limits as to these pollutants was on a temporary basis for
15 114 days when Chevron was operating the FCCU pursuant to the 2024 Temporary PTO, for which period
16 Chevron determined compliance using the emissions factors it uses for its emissions inventories under
17 Rule 12-15. Until conversations regarding the 2026 Temporary PTO, Chevron was not aware that the Air
18 District believed Chevron’s approach to estimating emissions under the 2024 Temporary PTO was
19 insufficient or problematic.

20 As it is now aware that the Air District wants improved estimates and measurement to ensure
21 compliance with these short-term limits, Chevron is seeking to address these concerns in a reasonable,

22
23 ¹⁴ Two generally applicable District rules – Regulation 6, Rule 1 (“Particulate Matter, General
24 Requirements”) and Regulation 8, Rule 2 (“Organic Compounds, Miscellaneous Operations”) – provide
25 limits on total suspended particulate (“TSP”) and POCs that apply to the boilers, among many other
26 sources. However, historic source tests results provide confidence that the boilers will continue to
27 comply with these limits. For example, Rule 8-2-301 provides a generally applicable prohibition on
28 emissions containing more than 300 parts per million total carbon on a dry basis. As a point of
comparison, POC emissions have been measured at Boiler # 7 at concentrations of 2.7 parts per million
or less – or a hundred times lower than Rule 8-2-301’s limit – and the CO limits appearing in the
Temporary PTO are based on source test results equivalent to approximately 2 parts per million or less,
indicating complete combustion.

1 cost-effective way. Chevron has engaged Onterris to conduct the source tests required by the Temporary
2 PTO and help the Refinery improve measurement at Boilers #1 and 3–5. In its meeting of May 20, 2026,
3 Chevron proposed potential means by which it could obtain representative measurements of PM2.5,
4 PM10, and POC at these stacks without the exorbitant logistical challenges of Method 1 compliance. The
5 proposed methodologies are sufficient to confirm that the change at the boilers is not an emissions increase
6 that would qualify as a “modification” during the short duration of this Temporary PTO, and no further
7 measures are “reasonably necessary to insure compliance with federal or California law or District
8 regulations.” Section 2-1-403.

9 **2. The exorbitant costs of building new stacks (or retrofitting the existing ones)**
10 **vastly exceed any putative benefits in accuracy, and new stacks could not be**
11 **built until long after the permit has ceased to have effect.**

12 As suggested above, the Air District’s requirement is unreasonable (relative to feasible cost-
13 effective approaches) because “ensur[ing]” that Boilers #1, 3, 4, and 5 each have a stack that “meet[s]
14 with and compl[ies] with EPA Method 1 requirements” would require an extremely costly and challenging
15 project. Ex. 3, Part 2. Chevron currently has 125-foot high concrete-and-brick stacks that are nearly
16 ninety years old. The only theoretical options for compliance would be (1) to attempt to modify the
17 existing stacks to achieve compliance with Method 1, or (2) to demolish the existing ones and build new
18 compliant ones. Both of these options pose insurmountable challenges. *See supra* Part II.D. Neither is
19 reasonable. Retrofits (if physically feasible) would likely implicate significant seismic and asbestos-
20 related issues and take millions of dollars and years. Installation of new stacks would entail a multi-phase
21 project that likely would cost tens of millions of dollars in total. It would take many months to design
22 while addressing current engineering standards. Permitting with the City of Richmond would likely take
23 a very long time, and air permits may be required as well. And even assuming a completed design and
24 permits, construction would be expensive and infeasible. Chevron would likely have to shut down the
25 boilers for 2–3 months for construction, which would require curtailing the refinery and reducing gasoline
26 production.

27 Even as this large project would be exorbitantly expensive, it would provide no demonstrable air
28 quality benefits. Moreover, it would provide only limited improvements in accuracy of emissions

1 estimates of PM10, PM2.5 and POC relative to the Refinery’s proposed approach. And such limited
2 improvements in accuracy in measurement of PM10, PM2.5 and POC would have little to no bearing on
3 Chevron’s compliance with existing laws and regulations. The boilers are not subject to specific limits
4 for these pollutants outside of the short time when the Temporary PTO would remain in effect.¹⁵

5 Indeed, whatever the putative benefits of Method 1-compliant stacks, they would not even be
6 realized while the Revised Temporary PTO is in effect. Chevron will operate the FCCU without the PRT
7 only until the PRT can be repaired and put back into operation, i.e., October 2026. In amending its Initial
8 Temporary PTO and requiring a “plan” for new stacks, the Air District’s permit acknowledges that the
9 Method 1-compliant stacks will not be in place for the duration of this operating posture. Purportedly to
10 measure emissions during a temporary permit, the Air District is effectively requiring tens of millions of
11 dollars to be spent installing four new stacks that will not be in place during the temporary permit and will
12 not be needed for compliance *at all* during subsequent ordinary operation. Such stacks would serve a
13 purpose only if a problem at the PRT recurs—and, even then, only to provide slightly better data for
14 compliance with PM10, PM2.5, and POC limits for a short period of time. It is unreasonable to require
15 such a large capital project that will serve no purpose except for a temporary period if a speculative future
16 event occurs. As EPA has explained, the “requirements of [Method 1] must be considered *before*
17 *construction of a new facility from which emissions are to be measured.*” 40 CFR Part 60, App. A-1
18 (emphasis added). The time to design, permit, and construct new Method 1-compliant stacks is when a
19 facility is being constructed or modified. There is no reasonable basis to do so when there is no
20 construction or modification but rather simply a temporary mode of operation that will last only a few
21 months. Accordingly, the Air District’s interpretation of its regulations to the contrary is not “fair and
22 reasonable,” and the condition is “improperly issued.” Hearing Board Rule 8.4, 8.6.

23 **3. The Air District’s approach to this temporary permit is inconsistent with its**
24 **past actions.**

25
26
27 ¹⁵ If the Air District believes that boilers should be subject to limits on PM2.5, PM10, and/or POC
28 emissions during ordinary operation, it could promulgate a rule providing these limits, which might also
include monitoring requirements. It has not done so.

1 Finally, the Air District’s approach to the legal requirements that apply here is not “consistent with
2 other actions of the [District].” Hearing Board Rule 8.6. Less than two years ago, the Air District
3 permitted an identical temporary mode of operation without the requirements that it now has imposed.
4 The FCCU is designed to operate without the PRT and the boilers are permitted to generate the total
5 quantity of steam necessary to do so. The Air District’s previous action prescribed limits based on
6 historical data and required Chevron to meet those limits. It did not prescribe specific new methodologies
7 or require new capital spending. That action was reasonably tailored to the scope of a temporary permit
8 that lasted only until repairs on the PRT could be completed (i.e., under six months).

9 There is no change that justifies the Air District’s newly aggressive approach to permitting. The
10 Air District did not issue any Notice of Violation (“NOV”) as to Chevron’s *measurement* of emissions
11 during the duration of the 2024 Temporary PTO.¹⁶ To the extent that the Air District believes that
12 Chevron exceeded a limit, this only serves to underscore that the measurement methodologies employed
13 with respect to PM2.5, PM10, and POC were satisfactory to determine compliance.

14 Under the guise of a Temporary PTO that will last just a few months, the Air District is arbitrarily
15 departing from past practice in requiring a massive and exorbitantly expensive capital project to design,
16 permit, and construct new stacks on the boilers. This is beyond its authority, unreasonable, and
17 inconsistent with its past actions.

18 **B. The Air District erroneously issued the requirements in Parts 3 and 4 that Chevron**
19 **conduct stack tests with the boilers at maximum firing rates and use emission**
20 **factors based on those results to demonstrate compliance with limits based on**
21 **historic source tests conducted at the boilers’ as-found firing rates.**

22 The Air District’s emissions limits for CO, PM2.5, PM10, and POC in the Revised Temporary
23 PTO are based on previous “snapshot-in-time” source tests that were conducted in accordance with
24 Condition 21232 “at the as-found firing rate” for the boilers, i.e., at typical firing rates. The boilers do not
25

26 ¹⁶ The Air District issued five NOVs alleging that Chevron exceeded the “emissions and throughput
27 limits” in that permit. *See, e.g.*, NOV A65441. Chevron’s understanding is that these NOVs concern
28 alleged errors in Chevron’s mathematical calculation of the 12-month rolling average and may also
allege one or more exceedances, but they do not go to the accuracy of measurement during source tests.

1 typically operate at maximum firing rates. They supplement steam from the refinery's steam producers
2 based on steam demand.

3 However, under the 2026 Temporary PTO, emissions factors that must be used to demonstrate
4 compliance are derived from source tests conducted at maximum firing rates. Part 4 of the Temporary
5 PTO provides that, for pollutants for which there are not CEMS, Chevron must demonstrate compliance
6 using "activity-based emission factors" from "[t]he most recent Air District-approved boiler specific
7 source test" and that must be "approve[d]" by the Air District. Ex. 3, Part 4. Specifically, those factors
8 must be based on "Air District-approved boiler specific source test results in combination with records of
9 boiler specific activity at the time of the source test (such as boiler specific steam production, fuel usage
10 for each fuel burned in each boiler, the heat input (HHV) in millions of BTUs for each fuel burned in each
11 boiler) in order to determine activity-based emission factors for each boiler." Ex. 3, Part 4. However,
12 Part 3 specifically requires Chevron to conduct "all source tests (initial and subsequent) required by this
13 permit condition when operating [the boilers] at their respective maximum production capacities." Ex. 3,
14 Part 3. As a consequence, all of the boiler-specific emission factors will be based on a snapshot-in-time
15 source tests conducted at maximum firing rates.

16 The mismatch between the basis of the emissions limits and the basis of the emissions factors
17 could pose a significant compliance issue. There is little data available to confirm that emissions factors
18 from source tests conducted at maximum firing rates accurately estimate emissions from the boilers during
19 normal operation. Chevron suspects that CO emissions at certain boilers are likely higher in the rare
20 circumstances when they are operated at maximum rates. If activity-based emissions factors are based on
21 these results, Chevron would have to calculate improperly high factors for CO, which may artificially
22 indicate noncompliance with emission limits the District established based on source tests Chevron was
23 required to conduct at each boiler's "as-found firing rate," and "at as-found conditions" (Cond. 21232,
24 parts 7 and 8). Inaccurate emissions factors deriving from this data mismatch could pose a significant
25 obstacle to Refinery operation.

26 Chevron does not object to using source test-based emissions factors to comply with emissions
27 limits. But the discrepancy between the source test-based emissions factors and the emissions limits
28 makes the permit requirements arbitrary as written. Either the permit should provide that the short-term

emissions limits – which were based on historic source tests conducted “at the as-found firing rate” and “at as-found conditions” (Cond. 21232, parts 7 and 8) – will be revised upwards if a source test demonstrates that emissions are higher from a given boiler at maximum rates, or it should provide for source tests (and emissions factors) that are consistent with typical operation.

C. The District erred in establishing Part 7 to the extent that it is ambiguous as to when (if ever) the temporary permit ceases to have effect.

Part 7 of the Temporary PTO provides that it “shall expire when” Chevron “notifies the Air District . . . that the PRT has been placed back into service and the FCC has resumed normal operations with the PRT.” Ex. 3, Part 7. But it then states that “the annual rolling 12-month period limits in Part 1 of this permit condition *will remain valid until compliance is achieved with all emission and fuel usage limits.*” *Id.* (emphasis added). It is unclear what this latter provision means, and it poses risk that the District could deem Chevron to be not in “compliance” with all of the limits in the temporary permit, thereby converting a temporary permit into a permanent one—even long after the FCCU has returned to its normal mode of operation with the PRT.

Chevron requests that the Hearing Board order the Air District to delete the latter provision, thereby ensuring that this Temporary PTO has a clear end date. This is aligned with the approach taken in the 2024 Temporary PTO, which provided that the TPO “shall expire within 6 months from the date of issuance.” Ex. 5, Part 3; *accord* Ex. 6 at 1 and Part 3 (final PTO with an expiration date of March 18, 2025).

VI. PRELIMINARY PLAN FOR PRESENTATION OF EVIDENCE AT HEARING

Should a hearing be necessary for this appeal, Chevron will put forth testimony from several participating witnesses. Chevron reserves the right to select its witnesses and identify the topics on which they will testify at a future date. Chevron also anticipates that it will have cross-examination for witnesses called by the Air District, which may include Pamela Leong, Christopher Thompson, and Bhagavan Krishnaswamy and others responsible for processing Application No. 753424.

VII. PRAYER FOR RELIEF

WHEREFORE, Chevron prays for relief as follows:

1. The Hearing Board grant this appeal for the reasons stated herein;

2. The Hearing Board strike the unlawful and unreasonable conditions from the temporary permit to operate;
3. The Hearing Board remand to the Air District with instructions not to include such conditions in any finalized permit to operate;
4. For such other and further relief as the Hearing Board deems proper.

1 DATED: May 29, 2026

By: /s/ Kevin Poloncarz
KEVIN POLONCARZ

3 KEVIN POLONCARZ (State Bar No. 211434)
4 TIMOTHY DUNCHEON (State Bar No. 338184)
5 COVINGTON & BURLING LLP
6 Salesforce Tower
7 415 Mission Street, Suite 5400
8 San Francisco, California 94105-2533
9 Telephone: (415) 591-6000
10 Facsimile: (415) 591-6091

11 Counsel for Chevron Products Company

VERIFICATION

I, Kris Battleson, declare:

I am the HSE Manager of the Richmond Refinery, and am authorized to make this verification for and on Appellant's behalf.

I have read the above Petition and know the contents thereof. I declare under penalty of perjury that the Petition and its contents are true and correct, except as to the matters which are therein stated on information or belief and, as to those matters, I believe them to be true.

DATED: May 29, 2026, at Orinda, California





Kris Battleson
HSE Manager, Richmond Refinery

April 9, 2026

Via Electronic Mail

Mr. Christopher Thompson
Air Quality Engineer
BAAQMD Engineering Division
375 Beale Street, Suite 600
San Francisco, CA 94105

**Application for a Temporary Permit to Operate under the Accelerated Permitting Program
Alteration to Operate the FCCU Without a Power Recovery Turbine**

Dear Mr. Thompson:

The Chevron Richmond Refinery (Facility # A0010) is submitting this application to the Bay Area Air District (District) for a Temporary Permit To Operate (PTO) the FCCU (S-4285) without its Power Recovery Turbine (PRT). Chevron requests that the District process this application under the Accelerated Permitting Program. This submittal includes two copies - one copy labeled "Trade Secret Copy" and a second copy labeled "Public Copy" with each trade secret item redacted.

Trade Secret Information

Portions of this submittal contain confidential business information and are trade secrets of Chevron Products Company, a division of Chevron U.S.A. Inc, as defined by the California Public Records Act, Government Code Section 6254.7 et seq., and 40 CFR Part 2, Subpart B, 18 USC 1905 and 5 USC 552(b)(4). Because of the sensitive and competitive nature of the information, Chevron Products Company requests that the District afford the information Confidential Business Information treatment indefinitely. Specifically, the attached trade secret emission calculations and process description contain "a compilation of information that is not patented" that can be used by competitors to estimate Richmond Refinery's actual process rates or equipment design, which can cause market economic manipulation.

Accelerated Permitting Program Certification

The sources in this application, FCCU (S-4285), Boiler # 1 (S-4129), Boiler # 3 (S-4131), Boiler # 4 (S-4132), Boiler # 5 (S-4133) and Boiler # 7 (S-4135) meet the standard for Section 2-302.2 subsection 2.3 as the Project meets the criteria for an alteration as defined under Section 2-1-233. As required in Section 2-302.2 subsection 2.3 items (iv)(v) and (vi) this letter certifies that **(1)** the altered sources in this application meet all of the requirements of 2-302.2 subsection 2.3(iv) with the exception of subsection 2.3(ii) as the applicable fees will be provided subsequent to this submittal, **(2)** the altered sources are not subject to Sections 2-1-316 through 2-1-319 (v); and **(3)** that all applicable New Source Performance Standards have been reviewed and the altered sources will comply with the standards (vi).

Please contact Laurie Mintzer at (510) 680-0539 if you have any questions or need additional information regarding this submittal.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kris Battleson', with a stylized flourish at the end.

Kris Battleson

cc: Bhagavan Krishnaswamy, District
Greg Solomon, District
Pam Leong, District

**APPLICATION FOR PERMIT TO OPERATE
ALTERATION FOR FCC POWER RECOVERY TURBINE
ACCELERATED PERMITTING PROGRAM**

1. FACILITY INFORMATION

Owner:	Chevron Products Company
Facility Name:	Chevron Richmond Refinery
District Facility No.:	A0010
Address:	841 Chevron Way Richmond, CA 94801
Contact Name:	Laurie Mintzer
Phone Number:	(510) 680-0539

2. INTRODUCTION

Chevron Products Company (Chevron) is submitting this application to the Bay Area Air Quality Management District (District) for an accelerated, Temporary Permit to Operate the Fluidized Catalytic Cracking Unit (FCCU, S-4285) without its Power Recovery Turbine (PRT). This application is identical to A/N 714498, except that updates were made for:

- Reason PRT is inoperable
- States plans to comply with temporary condition 100544 issued for A/N 714498
- Notes that application cover letter provides Accelerated Permitting Program certifications
- Fees
- Current District forms

While the PRT is inoperable, the FCCU and boilers would comply with the temporary condition 100544 issued for A/N 714498. Chevron only plans to operate the FCCU without the PRT when it is in need of repair. Chevron requests that the District process this application under the Accelerating Permitting Program. This application meets the criteria for an accelerated permit under Regulation 2-1-302 as it is an alteration and not subject to the provisions of Sections 2-1-316 through 2-1-319 as further described below.

This application and the following attachments contain the required information for an Accelerated Permit under 2-1-302.2.3.

Attachment A - Project Location Map
Attachment B - District Forms
Attachment C - Emissions Calculations

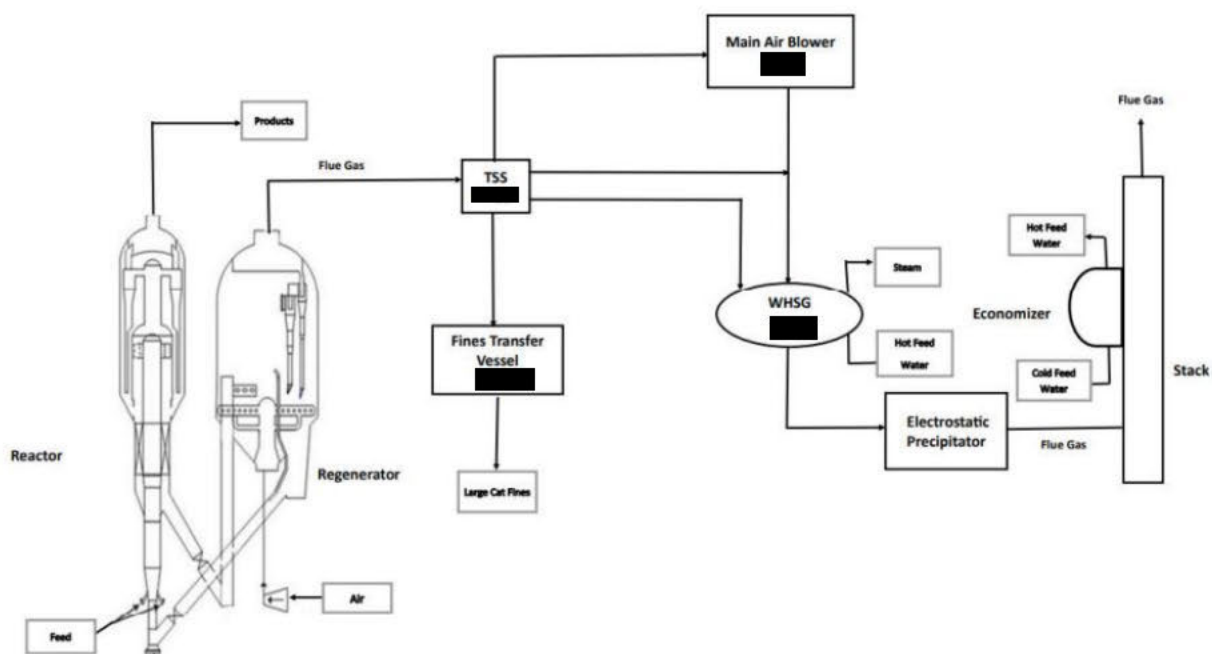
3. PROJECT DESCRIPTION

3.1 FCCU Process Description

The FCCU converts high-boiling point hydrocarbon fractions of crude oil into gasoline and other petroleum products. The conversion process is achieved through a chemical process that occurs in a

reactor vessel that incorporates the use of heat and a catalyst to break up, or “crack,” long-chain hydrocarbons into smaller-chain hydrocarbons.¹ The catalyst is in the form of fine particles that act as a fluid when aerated. Hydrocarbon feed is preheated and introduced into the bottom of the reactor’s riser with hot regenerated catalyst. The hot catalyst vaporizes the feed, bringing both to the desired reaction temperature, 470 to 525°C (880 to 980°F). Nearly 100% of the desired cracking reaction takes place in the travel up the riser. Large paraffinic hydrocarbon molecules break up, or “crack,” into smaller molecules that flow overhead to a fractionator for separation into products. The spent catalyst falls to the bottom of the reactor and is steam stripped as it exits the reactor bottom to remove absorbed hydrocarbons. The spent catalyst is then routed to the regenerator where the carbon deposited on the catalyst from the cracking reactions is combusted off with preheated air. The hot regenerated catalyst then returns to the reactor for another cracking cycle. The flue gas from the Regenerator is then routed to the V-65 TSS. The cyclones in V-65 TSS remove the larger catalyst fines. The larger catalyst fines gravity flow to the fines transfer vessel, V-66 and then are collected in the unit’s vessel fines hoppers for transfer off-site.

Figure 1: FCCU Simplified Process Flow Diagram



¹ Additional information is available at https://www.epa.gov/sites/default/files/2020-09/documents/5.1_petroleum_refining.pdf Section 5.1.2.2.1

3.2 FCCU Main Air Blower Train (MABT)

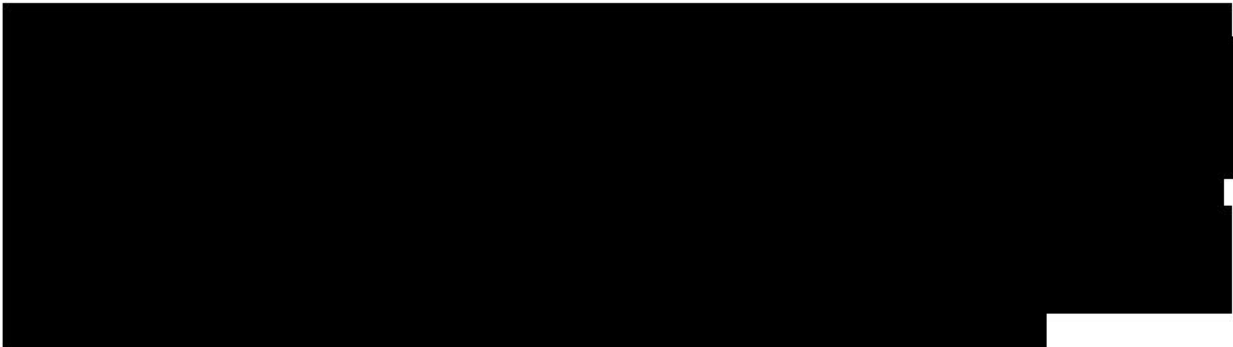
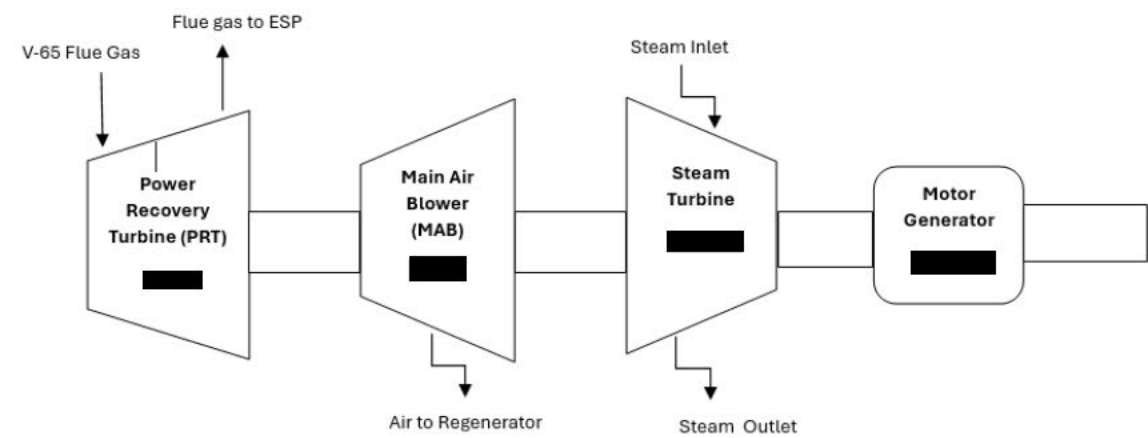


Figure 2: Main Air Blower Train Process Flow Diagram



3.2.1 [Redacted]



3.2.2 Typical Operating Pressures With and Without the PRT

	With PRT	Without PRT
TK50 Suction	[Redacted]	[Redacted]
TK50 Discharge	[Redacted]	[Redacted]
TK50A Suction	[Redacted] g	[Redacted]
TK50A Discharge	[Redacted]	[Redacted]

3.3 Project Summary

The Refinery’s FCCU PRT is vibrating and needs to be shut down to resume safe operation of the main air blower train. The PRT will be removed from its housing prior to restarting the MABT. Chevron is troubleshooting the cause of the vibration. The FCCU may need to operate without the PRT until the next scheduled shutdown of the FCCU [Redacted]. During this time, the PRT casing will fundamentally function as a large piping

elbow. Most of the flue gas from the Third Stage Separator will flow to the Waste Heat Steam Generator. Sufficient flue gas will be routed through the PRT casing to keep the FCCU's safety instrumentation system functioning.

The MAB can be powered by the PRT, the steam turbine and/or the motor-generator. During typical operation, the PRT provides most of the power to the MAB. When the PRT is not operating, the steam turbine must operate with the motor generator to fully power the MAB. Since the FCCU will be unable to operate the PRT, the FCCU will need to utilize steam turbine capacity, thus increasing steam consumption by about 2.88 million pounds per day (lb/day). The steam turbine has the flexibility to receive steam from the [REDACTED] headers and may vent [REDACTED] to the atmosphere. This is the same steam vent used during FCCU start-up. Further, [REDACTED] steam may be injected upstream of the PRT casing to decrease flue gas temperature and protect downstream equipment. The capability to inject steam currently exists, however resized instrumentation was installed to accommodate the higher flow of steam [REDACTED]. Since most flue gas flow from the third stage separator will be routed directly to the Waste Heat Steam Generator instead of the PRT, Chevron expects that an additional [REDACTED] pounds of steam per day will be produced. Thus, the net change in steam production/consumption at the FCCU while the PRT is not operating follows.

Steam Change	Approximate Quantity (million lb/d)
Steam Turbine	[REDACTED] consumed
Steam Quenching	[REDACTED] consumed
Waste Heat Steam Generator	[REDACTED] produced
Total	2.88 consumed

The Refinery's # 1 Power Plant is one the primary sources of steam to support various Refinery processes and equipment. The Refinery's # 1 Power Plant consists of five boilers, S-4129, S-4131, S-4132, S-4133 and S-4135 and have a total combined permitted capacity of 1,213 million British thermal units per hour (MMBtu/hr) of Refinery Fuel Gas (RFG) and natural gas and a total rated steam production capacity of [REDACTED] pounds of steam per hour (lb/hr) or 17.76 million lb/d. As mentioned above operating the FCCU without the PRT is expected to result in a net increase of steam usage of about 2.88 million lb/day at the FCCU. Table 4-2 in Section 4 of this application summarizes the estimated maximum increase in annual emissions due to the increase in steam production at the boilers. The boilers will not be operating above their permitted throughputs (MMBTU/hr) and will comply with condition 100544 issued in the temporary permit A/N 714498. The FCCU is subject to emission limits in Permit Condition 11066. The FCCU will continue to comply with the emissions limits of Condition 11066 when operating without the PRT and will comply with the condition 100544 in temporary permit A/N 714498.

This Project does not meet the definition of a modification. Section 2-1-234 defines a modification as any physical change, change in method of operation, change in throughput or production, or similar change at an existing source that results in an increase in emissions that is either of the following:

- ▶ An increase in the source's daily or annual potential emissions determined in accordance with the definition in Section 2-1-217 and the requirements in Section 2-1-234.1; or
- ▶ An increase in actual emissions over the baseline is such that it is a major modification under the definitions outlined in Section 2-1-234.2.

This project does not increase the daily or annual potential to emit of S-4285 nor the Refinery Boilers, because they will continue to comply with applicable daily and annual throughput and emission limits. The project does not meet the definition of a major modification in 40 CFR Part 52.21(b)(2), because projected actual emissions

(i.e., after the project) will not exceed the baseline actual emissions (i.e., historic baseline) for any pollutant in an amount that would qualify as a major modification (i.e. does not exceed any significance thresholds). As such, it meets the alteration's definition as defined in Section 2-1-233.

4. EMISSIONS ESTIMATES

A summary of the post-Project potential criteria pollutant emissions for the Refinery Boilers likely to provide incremental steam needed to the FCC are summarized in Table 4-1 below. As previously mentioned, the project does not change any of the sources' daily or annual PTE. See Attachment C for calculation workbooks.

Table 4-1: Pre-project and Post-project Boilers PTE

	Criteria Emissions					
	CO	NO _x	PM ₁₀	PM _{2.5}	SO ₂	POC
	tpy	tpy	tpy	tpy	tpy	tpy
Boiler 1 + Boiler 3 PTE, Pre-Project ¹	604.5	67.8	11.9	11.9	31.6	28.6
Boiler 1 + Boiler 3 PTE, Post-Project ¹	604.5	67.8	11.9	11.9	31.6	28.6
Change in PTE	0.0	0.0	0.0	0.0	0.0	0.0
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Boiler 1 + Boiler 3 PTE, Pre-Project ¹	3312.2	371.4	65.3	65.3	173.2	156.4
Boiler 1 + Boiler 3 PTE, Post-Project ¹	3312.2	371.4	65.3	65.3	173.2	156.4
Change in PTE	0	0	0	0	0	0

1. Boiler PTE based on maximum daily emission factor calculated using submitted 12-15 Emission Inventory data for 2017-2023 and maximum firing rates per Chevron Richmond Refinery Title V permit for CO, PM, SO_x, and POC. NO_x PTE calculated using emission factor for 1 Boiler per Condition #23872, Part 3; NO_x emission factor for 3 Boiler per BAAQMD Rule 9-10-301.

Table 4-2 shows that the projected emissions increase from 2.88 million lb/d of additional steam production by the boilers will not exceed "significant" thresholds in 40 CFR 52.21(b)(23)(i) and 40 CFR 51.165(a)(1)(x)(A).

Table 4-2: Federal Backstop Summary

	Criteria Emissions					
	CO	NO _x	PM ₁₀	PM _{2.5}	SO ₂	POC
	tpy	tpy	tpy	tpy	tpy	tpy
Baseline Period Ending Date ¹	1/23/2023	5/19/2023	12/31/2019	12/31/2019	12/31/2019	5/28/2023
No.1 and No.3 Boilers Actual Average Annual Baseline Emissions ¹	0.9	29.4	4.1	4.1	3.8	3.0
No.1 and No.3 Boilers Average Annual Baseline Fuel Gas Flow Rate (MMBtu/yr) ¹						
No.1 and No.3 Boilers Projected Actual Emissions ²	43.7	67.8	8.6	8.6	22.9	7.2
Difference of "Baseline Actual Emissions" and "Projected Actual Emissions"	42.8	38.4	4.5	4.5	19.0	4.3
Federal Backstop Significant Emission Rate Thresholds	100	40	15	10	40	40
(PAE-BAE) < SERs? (Y/N)	Y	Y	Y	Y	Y	Y

1. "The source's baseline emissions are its actual emissions as measured during any consecutive 24-month period during the previous 10 years immediately prior to the receipt of a complete application (or the date construction commences, if earlier). The choice of which 24-month period to use is up to the applicant. Different 24-month periods can be used for different pollutants under review." (BAAQMD Complex Permitting Handbook, pg. 29/206). Therefore, the baseline period reflects the 24-month period which returns the maximum actual average annual emissions.

2. Steam Plant's PAE calculated based on projections, daily emissions, and steam production in 2020-2023 for 1 Boiler and 3 Boiler.

5. ACCELERATED PTO RULE 2-1-302.2.3

The Project also qualifies for an accelerated permit under Rule 2-1-302.2.3, as it is an alteration of an existing source as defined in Section 2-1-233. Additionally, the Project is not subject to any of the provisions of Sections 2-1-316 through 319 as discussed later in this Application. As such, the accelerated PTO may be obtained to authorize operations of an alteration of an existing source per the Accelerated Permitting Program by submitting an application as follows (the requirements of Section 2-1-302.2 are listed below in *italic, bold text*, and a description of how each requirement is met is in plain text):

(i) a permit application form and source data form(s) properly filled out with all required information;

The required forms are included in Attachment B of the Application.

(ii) payment of applicable fees (the minimum permit fee required to install and operate each source);

Chevron is submitting a check as soon as possible and will pay any invoices issued by District for the Project promptly upon receipt.

(iii) a statement explaining which of the categories in subsections 2.1 through 2.3 above the source is in;

As previously discussed, the Project qualifies for the category in Subsection 2.3, an alteration of an existing source, as defined in Section 2-1-233. Please refer to Section 6 of the Application for a detailed discussion of why the Project qualifies as an alteration.

(iv) a certification that the source meets all the requirements of that category;

The application cover letter provides this certification. As stated previously, this application meets all the requirements listed under District Rule 2-1-302.2.

(v) a certification that the source is not subject to Sections 2-1-316 through 2-1-319; and

The application cover letter provides this certification. As discussed below, District Rules 2-1-316 through 2-1-319 do not apply.

(vi) a certification that the applicant has reviewed all applicable New Source Performance Standards, and that the application will comply.

The application cover letter provides this certification. As discussed in Section 6 of this application report, Chevron has reviewed all applicable NSPS and will continue to comply with any applicable requirements.

6. APPLICABLE REQUIREMENTS

The Refinery is subject to various federal, state, and local air quality regulations. This section summarizes the air permitting requirements and key air quality regulations that apply to the Project. Specifically, the applicability of Prevention of Significant Deterioration (PSD) permitting requirements, New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), and District regulations are addressed in this section.

Federal Regulations

Prevention of Significant Deterioration

PSD requirements have been established in 40 CFR Part 52.21 and apply to modifications at existing major stationary sources in an area designated as attainment or unclassifiable under the Clean Air Act. The FCCU will experience a physical and operational change and emits several criteria pollutants, however the Project does not meet the definition of a major modification in 40 CFR Part 52.21(b)(2) since emissions of criteria pollutants associated with the project will be below significance thresholds.

New Source Performance Standards (NSPS)

NSPS have been established in 40 CFR Part 60 and apply to certain types of equipment that are newly constructed, modified, or reconstructed after a given applicability date. NSPS subparts potentially applicable to the proposed changes are addressed below.

40 CFR Part 60 Subpart Db – Industrial – Commercial Steam Generating Units

NSPS Subpart Db, *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*, applies to steam generating units constructed after June 19, 1984, and that has a heat input capacity greater than 100 MMBtu/hr. The existing boilers are steam generating units constructed prior to 1984 and are not modified as explained previously. Thus, the existing boilers are not subject to Subpart Db.

40 CFR Part 60 Subpart J – Petroleum Refineries

NSPS Subpart J applies to any fluid catalytic cracking unit or fuel gas combustion device in petroleum refineries which commence construction, reconstruction, or modification after June 11, 1973, and on or before May 14, 2007. S-4285 is already subject to NSPS Subpart J, and this project does not modify the boilers. As such, the Project does not affect compliance under Subpart J and Chevron will continue to comply with all applicable provisions of this subpart.

40 CFR Part 60 Subpart Ja – Petroleum Refineries

NSPS Subpart Ja applies to any FCCU or fuel gas combustion device in a petroleum refinery which commences construction, reconstruction, or modification after May 14, 2007. The Project does not qualify as a modification as defined in 40 CFR § 60.14 as there are no physical or operational changes which result in an increase on a short-term basis in the emission rate of a pollutant to which a standard applies. The boilers will continue to operate within their typical operating ranges. Regardless, Condition 11066 already contains emission limits that are at least as stringent as NSPS Ja as shown in Table 6-1.

Table 6-1. NSPS Ja Limits in Condition 11066

NSPS Ja Citation, 60.102a(b)	Condition 11066 Part	Emissions Limitation
(1)(i) or (1)(iii)	3.b	1 pound PM per 1,000 lb coke burn-off.
(2)	5.b	80 ppmvd NO _x corrected to 0% excess air, on a 7-day rolling average basis.
(3)	4.b	50 ppmvd SO ₂ corrected to 0% excess air on a 7-day rolling average basis and 25 ppmvd corrected to 0% excess air on a 365-day rolling average basis.
(4)	6.b	500 ppmvd CO corrected to 0% excess air on an hourly average basis.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

NESHAPs have been established in 40 CFR Part 63 to control the emissions of hazardous air pollutants (HAPs). Only those NESHAPs that are potentially applicable to the proposed changes are addressed below.

Subpart UUU – Hazardous Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units

NESHAP Subpart UUU applies to the process vent or group of process vents on fluidized catalytic cracking units that are associated with regeneration of the catalyst used in the unit and are part of a petroleum refinery located at

a major source of HAPs. The Project does not affect compliance under Subpart UUU and Chevron will continue to comply with all applicable provisions of this subpart.

Subpart DDDDD – Industrial, Commercial, and Institutional Boilers And Process Heaters

NESHAP Subpart DDDDD applies to commercial, industrial, or institutional boilers that are located at a major source of HAPs. The boilers are already subject to NESHAP Subpart DDDDD, and this project does not modify the boilers. As such, the Project does not affect compliance, and Chevron will continue to comply with all applicable provisions of this subpart.

District Regulations

In addition to the federal air regulations described previously, District establishes regulations applicable at the emission unit level and at the facility level. The regulations also contain requirements related to construction and/or operating permits. Potentially applicable regulations for the proposed Project are detailed in the following sections.

Regulation 2 – Permits

Rule 2-1 General Requirements

District Section 2-1-301, *Authority to Construct*, requires facilities to obtain written authorization from District prior to installing and operating new, modified, or altered emission units. The purpose of this Application is to obtain an Authority to Construct as required under District Section 2-1-301. The Project does not install any new sources. Instead, the project alters the existing FCCU, by removing operation of the PRT. Section 3.3 explains further why the project is an alteration.

District Section 2-1-310, *Applicability of CEQA*, describes the California Environmental Quality Act (CEQA) applicability for various projects. Note that District Section 2-1-310 applies to new or modified sources and as previously stated, the Project is not a modification as it does not include any change of the source that results in an increase in PTE.

District Rule 2-1-316, *New or Modified Sources of TAC or HAP*, requires an Authority to Construct or Permit to Operate for new or modified sources of TACs under certain circumstances and for a new or modified source that will emit 2.5 or more tons per year of any single HAP or 6.25 or more tons per year of any combination of HAPs. The Project is an alteration, and thus, is not subject to Section 2-1-316.2.

District Section 2-1-317, *Public Nuisance Sources*, requires permitting of exempt sources that receive two or more public nuisance violations in a 180-day period. Chevron will continue to operate the FCCU in such a way that Chevron will not receive two or more public nuisance violations in a 180-day period.

District Section 2-1-412, *Public Notice, Schools & Overburdened Communities*, requires District to prepare and distribute a public notice to addresses within 1,000 feet of the source if a new or modified source is within 1,000 feet of the outer boundary of a K-12 school, or within an Overburdened Community as defined in Section 2-1-243 and for which an HRA is required pursuant to Section 2-5-401. The Project is not within 1,000 feet of a K-12 school site or within 1,000 feet of an address other than the Refinery itself. The Project is located within an overburdened community; however, it does not result in an increase in TACs for which an HRA would be required; thus, the Project does not require public notice.

Rule 2-2 New Source Review

District Rule 2-2, *New Source Review*, implements the provisions of the California Clean Air Act and incorporated by reference the provisions of 40 CFR 52.21. This rule establishes Best Available Control Technology (BACT), and emission offset requirements for all new and modified sources that are subject to District Section 2-1-301, Authority to Construct, and/or Section 2-1-302, Permit to Operate. The Project will not install new or modify any sources listed in District Section 2-1-234. Therefore, District Rule 2-2 is not applicable and not further discussed.

Rule 2-5 New Source Review of Toxic Air Contaminants

District Rule 2-5 applies to new or modified sources of TACs for which an application is submitted on or after July 1, 2005. All TAC emissions from new and modified sources are subject to risk assessment if emissions of any individual TAC exceed the trigger thresholds specified in Table 2-5-1 of Rule 2-5. The Project is not installing a new source or modifying an existing source. Therefore, the Project is not subject to this rule's requirements via Section 2-5-114.

Rule 2-6 Major Facility Review

District Rule 2-6, *Major Facility Review*, implements permitting requirements of Title V of the Clean Air Act and is applicable to Major Facilities and other facilities designated as requiring a Title V permit. Chevron is currently operating under an MFR permit issued by District. As this Application is intended to get an Accelerated PTO for the Project from District, Chevron is applying under a separate cover to address the MFR revisions.

Regulation 3 – Fees

District Regulation 3 specifies fees that must be paid as part of this Application. Fees are outlined in Section 7 of this application.

Regulation 6 – Particulate Matter Requirements

Rule 6-1 General Requirements

District Rule 6-1 prohibits sources from emitting visible emissions for a period or periods aggregating more than three minutes in one hour which are as dark, or darker, than No. 1 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree. Additionally, per Section 6-1-305, sources may not emit visible particulates which cause a public nuisance. The Project will not affect the FCCU's applicability or the Boilers (S-4129, S-4131, S-4132, S-4133, S-4135) to Rule 6-1, and Chevron will continue to comply with the applicable provisions.

Rule 6-5 Fluid Catalytic Cracking Units

District Rule 6-5 limits particulate matter and precursors of secondary particulate matter from FCCUs per the standards outlined in Regulation 6-5-301, which the TPM10 standards are effective July 21, 2026. The current Project will not impact the FCCU's, S-4285 applicability to Regulation 6-5 and Chevron remains subject to the applicable provisions.

Regulation 8 – Organic Compound Requirements

Rule 8-8 Wastewater Collection and Separation Systems

District Rule 8-8 limits organic compound emissions from wastewater collection and separation systems that handle liquid organic compounds from industrial processes. The Project will not install new individual drain systems nor affect compliance with Rule 8-8 standards for the existing wastewater collection system components.

Rule 8-9 Vacuum Producing Systems

District Rule 8-9 limits POC emissions from vacuum producing systems. Section 8-9-301 stipulates that POC emissions from vacuum producing systems shall be controlled by piped to an appropriate firebox or incinerator for combustion, and hot wells and/or accumulators associated with vacuum system condensers must be covered and POC vapors must either be incinerated or contained. The Project will not affect the FCCU's applicability to Rule 8-9, and Chevron will continue to comply with the applicable provisions.

Rule 8-10 Process Vessel Depressurization

District Rule 8-10 limits POC emissions from depressurizing and opening of process vessels at refineries and chemical plants. Section 8-10-301 requires refineries to control organic compound emissions by venting to a treatment system. Section 8-10-302 stipulates procedures for opening process vessels to limit POC emission releases. The Project will not affect the FCCU's and Boilers (S-4129, S-4131, S-4132, S-4133, S-4135) applicability to Rule 8-10, and Chevron will continue to comply with the applicable provisions.

Rule 8-18 Equipment Leaks

District Rule 8-18 limits POC emissions from equipment leaks at refineries. Sections 8-18-301 through 311 require operators to repair leaks detected more than 100 ppm from potential fugitive emission sources. The Project will not affect the FCCU's and Boilers (S-4129, S-4131, S-4132, S-4133, S-4135) applicability to Rule 8-18, and Chevron will continue to comply with the applicable provisions. This Project will not be installing any new or replacing any components subject to Rule 8-18.

Rule 8-28 Episodic Releases from Pressure Relief Devices at Petroleum Refineries and Chemical Plants

District Rule 8-28 prevents episodic POC emissions from pressure relief devices and collects information on such episodic releases. The Project will not affect the FCCU's Boilers (S-4129, S-4131, S-4132, S-4133, S-4135) applicability to Rule 8-28, and Chevron will continue to comply with the applicable provisions.

Regulation 9 – Inorganic Gaseous Pollutants

Rule 9-1 Sulfur Dioxide

District Rule 9-1 limits the SO₂ concentration of any source exhaust stream to 300 ppm (dry) and requires that a person shall not burn any liquid fuel with a sulfur content in excess of 0.5 weight percent.

Rule 9-10 Nitrogen Oxides and Carbon Monoxide, Steam Generators, and Process Heaters in Petroleum Refineries.

District Rule 9-10 limits the emission of NO_x and CO from boilers, steam generators, and process heaters, including CO boilers, in petroleum refineries. The Boilers (S-4129, S-4131, S-4132, S-4133, S-4135) will continue to comply with applicable provisions.

Regulation 10 – New Source Performance Standards

District Regulation 10 incorporates certain federal NSPS provisions codified at 40 CFR 60, which are discussed in Section 4.1 of this Application.

Regulation 11 – Hazardous Pollutants

District Regulation 11 limits the quantity of HAPs that may be emitted into the atmosphere from any source. Chevron will continue to comply with all applicable provisions of District Regulation 11.

7. FEES

Source No.	Source Description	Fee	Fee Description
S4285	FCCU	\$669.00	Reg 3-304 Filing Fee
S4285	FCCU	\$13,255.00	Reg 3-304.2: Initial Fee-100% Schedule G-2
S4129	Boiler 1	\$669.00	Reg 3-304 Filing Fee
S4129	Boiler 1	\$12,498.12	Reg 3-304: 50% Initial Fee-Schedule B: \$104.36 MMBTU/HR*233 MMBTU/HR
S4131	Boiler 3	\$669.00	Reg 3-304 Filing Fee
S4131	Boiler 3	\$12,659.04	Reg 3-304: 50% Initial Fee-Schedule B: \$104.36 MMBTU/HR*236 MMBTU/HR
S4132	Boiler 4	\$669.00	Reg 3-304 Filing Fee
S4132	Boiler 4	\$12,605.40	Reg 3-304: 50% Initial Fee-Schedule B: \$104.36 MMBTU/HR*235 MMBTU/HR
S4133	Boiler 5	\$669.00	Reg 3-304 Filing Fee
S4133	Boiler 5	\$12,712.68	Reg 3-304: 50% Initial Fee-Schedule B: \$104.36 MMBTU/HR*237 MMBTU/HR
S4135	Boiler 7	\$669.00	Reg 3-304 Filing Fee
S4135	Boiler 7	\$14,590.08	Reg 3-304: 50% Initial Fee-Schedule B: \$104.36 MMBTU/HR*272 MMBTU/HR
		\$50.00	CEQA Fee
	Total	\$82,385.32	

Attachment 1-Site Map/Project Location

Alteration To Operate FCC Without a Power Recovery Turbine

Site Map/Project Location



Attachment 2-District Forms

(See signed pdf files)

Attachment 3-Emissions Calculations

CHEVRON CONFIDENTIAL BUSINESS INFORMATION

Table 1. Inputs - Boiler PTE

Parameter ¹	Value	Units
1 Boiler (S-4129) Max Daily Firing Rate	5,592	MMBtu/day
1 Boiler (S-4129) Max Annual Firing Rate	2,041,080	MMBtu/year
3 Boiler (S-4131) Max Daily Firing Rate	5,664	MMBtu/day
3 Boiler (S-4131) Max Annual Firing Rate	2,067,360	MMBtu/year

1. Maximum firing rates per Chevron Products Company Title V Permit, Table II-A-1.

Table 2. Boiler Maximum Emission Factors

Source	Emission Factor (lb pollutant/MMBtu) ¹				
	CO	NO _x ²	PM ₁₀	SO ₂	POC
1 Boiler	0.2943	0.033	0.0058	0.0154	0.016
3 Boiler	0.2943	0.033	0.0058	0.0154	0.012

1. Maximum emission factors calculated based upon submitted 12-15 Emission Inventory data for 2017-2023 using reported lb/day and MMBtu/day.

2. Max NO_x emission factor for 1 Boiler per Condition #23872, Part 3. Max NO_x emission factor for 3 Boiler per BAAQMD Rule 9-10-301.

Table 3. Boiler Max PTE

Source	Emissions (lb/day) ¹					Emissions (tpy) ¹				
	CO	NO _x	PM ₁₀	SO ₂	POC	CO	NO _x	PM ₁₀	SO ₂	POC
1 Boiler	1645.49	184.54	32.43	86.06	89.52	300.30	33.68	5.92	15.71	16.34
3 Boiler	1666.68	186.91	32.85	87.16	66.93	304.17	34.11	6.00	15.91	12.22
Total	3312.17	371.45	65.28	173.22	156.45	604.47	67.79	11.91	31.61	28.55

1. Maximum PTE = Max firing rate (MMBtu/day or MMBtu/year) x Emission Factor (lb pollutant/MMBtu).

Table 4. Inputs - Boiler Projected Actual Emissions (PAE)

Parameter	Value	Units
Average Steam Production (2020 - 2023) ¹	3,333	Mlb/day
Incremental Projected Steam Production ²	2,880	Mlb/day
Event Duration ²	190	days
Remaining Days in Year	175	days

1. Average Steam Production from Steam Plant per 2020-2023 data for 1 Boiler and 3 Boiler, weighted by fuel gas firing rate.

2. Per Chevron projections.

Table 5. Boiler Emission Factors (lb pollutant/Mlb steam) Averaged Over Duration of PRT Outage

Pollutant	Emission Factor ¹
CO	0.0496
NO _x	0.0782
PM ₁₀	0.0098
SO ₂	0.0259
POC	0.0082

1. Calculated on a daily basis using 2020-2023 data for 1 Boiler and 3 Boiler.

Table 6. PAE - Boilers

Pollutant	Daily Emissions ¹ (lb/day)	Annual Emissions ² (tpy)
CO	307.94	43.708
NO _x	485.53	67.789
PM ₁₀	60.70	8.615
SO ₂	161.05	22.858
POC	50.83	7.215

1. Daily emissions (lb/day) = Maximum steam emission factor (lb pollutant/Mlb steam) x [Average steam production (2020-2023), Mlb/day + Incremental projected steam production, Mlb/day].

2. Annual emissions (tpy) = Event duration (days/year) x Daily emissions (lb/day) + Maximum steam emission factor (lb pollutant/Mlb steam) x [Average steam production (2020-2023), Mlb/day] x Remaining days in year (days).

4/29/2026

Kris Battleson
PO BOX 1272
Richmond, CA 94802-0272

Dear Owner/Operator:

SUBJECT: TEMPORARY PERMIT TO OPERATE – ACCELERATED PERMITTING PROGRAM

This letter is regarding the following application:

Application No.: 753424

Facility ID: 10
Chevron Products Company
841 Chevron Way
Richmond, CA 94801-4801

Because you have provided all the elements required per Regulation 2-1-302 for a temporary Permit to Operate under the Accelerated Permitting Program, you are being issued a temporary Permit to Operate to start up and operate the equipment described below:

**S4285 Fluidized Catalytic Cracking Unit (FCC Plant) 90,000 barrels per day;
29,200,000 barrels per year Operating without Power Recovery Turbine until
12/31/26**

Abated by

A14 FCC Electrostatic Precipitator (single stage)

And

S-4129 800# Steam Boiler #1 (#1PP)

**Riley Stoker Corp.; 5,592 MMBtu/day (HHV); 2,041,080
MMBtu/year (HHV)**

S-4131 Steam Boiler #3 (#1PP)

**Riley Stoker Corp.; 5,664 MMBtu/day (HHV); 2,067,360
MMBtu/year (HHV)**

S-4132 Steam Boiler #4 (#1PP)

**Riley Stoker Corp.; 5,640 MMBtu/day (HHV); 2,058,600
MMBtu/year (HHV)**

S-4133 Steam Boiler #5 (#1PP)

**Riley Stoker Corp.; 5,688 MMBtu/day (HHV); 2,076,120
MMBtu/year (HHV)**

S-4135 Steam Boiler #7 (#1PP)

**Babcock & Wilcox.; 6,528 MMBtu/day (HHV); 2,382,720
MMBtu/year (HHV)**

This letter serves as your temporary Permit to Operate and is valid until **December 31, 2026** while your application is being processed and finalized. This temporary permit is based on your submitted application. Any change or misrepresentation while in operation may cause this Temporary Permit to Operate to be rescinded and/or an enforcement action.

The equipment listed above is also subject to the following/attached additional conditions while operating under the accelerated permit.

You will be contacted by staff as we continue to process your application.

If you have any questions on this matter, please contact Christopher Thompson, Senior Air Quality Engineer at cthompson@baaqmd.gov (Preferred) or (415) 749-8733. Please include your application number with any correspondence. The Air District's regulations may be viewed online at www.baaqmd.gov.

Very truly yours,

**Pamela J.
Leong**

Digitally signed by Pamela J. Leong
DN: cn=Pamela J. Leong, o=Bay Area
Air District, ou=Engineering Division,
email=pleong@baaqmd.gov, c=US
Date: 2026.04.29 15:00:44 -07'00'

Pamela J. Leong
Director, Engineering Division

Enclosed: Temporary Permit to Operate Condition

Application #753424
Temporary Permit to Operate Conditions

1. The owner/operator of Fluidized Catalytic Cracking (FCC) Unit S-4285 shall abate FCC emissions at all times of operation by a properly installed, maintained, and operated per manufacturer specifications Single Stage Electrostatic Precipitator (A-14) without a Power Recovery Turbine (PRT) issued under Application 753424 in compliance with the following emission limits and fuel usage limits:
[Basis: Regulation 2-1-233]

Table 1: Individual Daily Limits for Power Plant Boilers					
Pounds per day	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
NO _x	180.5	156.99	184.02	240.12	248.43
CO	4.06	3.59	4.16	3.73	9.66
POC	23.70	22.08	21.49	20.74	27.81
PM ₁₀	22.85	21.28	20.72	19.99	26.81
PM _{2.5}	22.85	21.28	20.72	19.99	26.81
SO ₂	58.13	48.79	45.88	47.65	72.74

Table 2: Individual Annual Limits for Power Plant Boilers					
Tons in any rolling 12-month period	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
NO _x	16.00	15.03	15.65	12.96	20.57
CO	0.52	0.48	0.54	0.42	0.89
POC	2.74	2.50	2.60	2.63	3.86
PM ₁₀	2.26	2.33	2.51	2.53	3.53
PM _{2.5}	2.26	2.33	2.51	2.53	3.53
SO ₂	1.66	1.65	1.96	2.02	2.62

Application #753424
Temporary Permit to Operate Conditions

Table 3: Individual Fuel Usage Limits for Power Plant Boilers Fuel Source: V-701A Fuel Gas Drum					
MMSCF	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
Daily	4.58	4.36	4.24	3.94	5.56
Annual in any rolling 12- month period	1154.33	1180.65	1146.09	997.13	1552.03

Table 4: Combined Daily Limits for Power Plant Boilers					
Pounds per day	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
NO _x	757.041				
CO	20.021				
POC	112.67				
PM ₁₀	101.403				
PM _{2.5}	101.403				
SO ₂	248.571				

Table 5: Combined Annual Limits for Power Plant Boilers					
Tons in any rolling 12-month period	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
NO _x	75.261				
CO	2.561				
POC	12.708				
PM ₁₀	11.219				
PM _{2.5}	11.219				
SO ₂	8.700				

Application #753424
Temporary Permit to Operate Conditions

Table 6: Combined Fuel Usage Limits for Power Plant Boilers Fuel Source: V-701A Fuel Gas Drum						
MMSCF	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7	
Daily	21.995					
Annual in any rolling 12-month period	5382.58					

2. Within 60 days from the date of issuance of this Permit to Operate (PO) and once every 12-months thereafter until such time S-4285 resumes normal operations with the PRT back in service, the owner/operator of S-4129, S-4131, S-4132, S-4133, and S-4135 shall measure and quantify emissions of criteria air pollutants (CAPs) such as NOx, PM2.5 and PM10 (applies to S-4135 as discussed below), POC (applies to S-4135 as discussed below), CO, and SO2 that are not measured by a properly installed, properly maintained and properly operating per manufacturer specifications, Air District approved CEMS by conducting an Air District approved source test at each one of the above five boilers using only Air District approved source test methodologies and emission calculation procedures to demonstrate compliance with the individual daily and annual emission limits summarized for each boiler in Tables 1 and 2 of Part 1 of this permit condition, and the combined daily and annual emission limits in Tables 4 and 5 of Part 1 of this permit condition for all five boilers in concert with the requirements outlined in Part 4 of this permit condition.

On/before the next scheduled turnaround for S-4285 but no later than December 31, 2026, the owner/operator of S-4129, S-4131, S-4132, and S-4133 shall ensure each boiler stack meets EPA Method 1 requirements, or shall install at each of the above boilers a permanent stack, or temporary stack, that meets EPA Method 1 requirements each time Air District approved source tests required by this permit condition are conducted at each of the above boilers. No later than December 31, 2026 and until such time Air District approved EPA Method 1 compliant stacks are installed at S-4129, S-4131, S-4132, and S-4133, the owner/operator shall use PM2.5, PM10, and POC source test results for S-4135 in concert with the requirements outlined in Part 4 of this permit condition to estimated PM2.5, PM10, and POC emissions for S-4129, S-4131, S-4132, and S-4133.

The owner/operator of S-4129, S-4131, S-4132, S-4133, and S-4135 shall comply with all applicable source testing, stack installation, sampling port location and safe access requirements as specified in Volume IV of the Air District's Manual of Procedures. The owner/operator shall notify the Air District's Source Test Section, in writing, of the source test protocols, sampling port locations, layout, access and projected test dates at least 30 days prior to source testing. The source test protocol submitted to the Air District's Source Test Section shall provide details on the stack at S-4129, S-4131, S-4132, S-4133, and S-4135 and shall include any pertinent drawings and details related to source test run times and method detection limits.

[Basis: Regulation 2-1-403]

3. All source test reports shall be submitted to the Manager of the Air District's Source Test Section within 60 days of the source test date, or as allowed by the Air District, and shall also include activity-based emission factors for each CAP emitted from each boiler S-4129, S-4131, S-4132, S-4133, and S-4135 measured during the Air District approved source test and/or with a properly installed, properly maintained and properly operating per manufacturer specifications, Air District approved CEMS to demonstrate compliance with the individual daily and annual emission limits summarized for each boiler

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in Tables 1 and 2 of Part 1 of this permit condition, and the combined daily and annual emission limits in Tables 4 and 5 of Part 1 of this permit condition for all five boilers of this permit condition. Each CAP activity-based emission factor for each one of the five boilers S-4129, S-4131, S-4132, S-4133, and S-4135 source tested shall be expressed in terms of pounds of CAP emitted per million BTUs of heat input (HHV) and/or pounds of CAP emitted per thousand pounds of steam produced at the time each boiler was source tested.

The owner/operator of S-4129, S-4131, S-4132, S-4133, and S-4135 shall conduct all source tests (initial and subsequent) required by this permit condition when operating S-4129, S-4131, S-4132, S-4133, and S-4135 at their respective maximum production capacities possible at the time of the source test that would result in maximum CAP emissions. If the maximum production capacity cannot be achieved during the source test, the activity-based emission factors shall be used to verify compliance at the maximum permitted capacities summarized in Table 7 of this permit condition.

On completion of any source test (initial and/or subsequent), if the owner/operator of S-4129, S-4131, S-4132, S-4133, and S-4135 is made aware of any exceedance of any emission limit in Tables 1, 2, 4, and/or 5 of Part 1 of this permit condition, the owner/operator shall immediately notify the Director and the assigned permit engineer in the Air District's Engineering Division and the Director and assigned inspector in the Air District's Compliance & Enforcement Division within the next working day. The notification shall summarize the emission limit(s) that was/were exceeded, the associated boiler(s) Air District source number, and the duration of each exceedance (start and end dates).

[Basis: Regulation 2-1-233]

4. To demonstrate compliance with the individual daily and annual emission limits summarized for each boiler in Tables 1 and 2 of Part 1 of this permit condition, and the combined daily and annual emission limits in Tables 4 and 5 of Part 1 of this permit condition for all five boilers, the owner/operator of S-4129, S-4131, S-4132, S-4133, and S-4135 shall use measurements from either Air District-certified continuous emissions monitors (if available) or Air District-approved boiler specific source test results in combination with records of boiler specific activity at the time of the source test (such as boiler specific steam production, fuel usage for each fuel burned in each boiler, the heat input (HHV) in millions of BTUs for each fuel burned in each boiler) in order to determine activity-based emission factors for each boiler source tested expressed in terms of pounds of CAP emitted per million BTUs of heat input (HHV) and/or pounds of CAP emitted per thousand pounds of steam produced at the time each boiler was source tested.

The owner/operator of S-4129, S-4131, S-4132, S-4133, and S-4135 shall calculate emissions for each of the above boilers using activity-based emission factors gathered from the source tests conducted at each boiler to demonstrate compliance with the individual daily and annual emission limits summarized for each boiler in Tables 1 and 2 of Part 1 of this permit condition, and the combined daily and annual emission limits in Tables 4 and 5 of Part 1 of this permit condition for all five boilers.

The most recent Air District-approved boiler specific source test shall be used for determining compliance for the time period the FCC was first operated without the PRT and going forward until the FCC resumes normal operations with the PRT operating. If multiple Air District-approved source tests are performed when the FCC is operating without the PRT, then an Air District approved boiler specific average emission factor may be used for determining compliance for the time period the FCC was first operated without the PRT going forward until the FCC resumes normal operations with the PRT operating. The Air

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Temporary Permit to Operate Conditions

District shall approve any boiler specific average emissions factors prior to their use to demonstrate compliance with the individual daily and annual emission limits summarized for each boiler in Tables 1 and 2 of Part 1 of this permit condition, and the combined daily and annual emission limits in Tables 4 and 5 of Part 1 of this permit condition.

[Basis: Regs 2-1-403 and 2-1-233]

5. The owner/operator of S-4129, S-4131, S-4132, S-4133, and S-4135 shall maintain an Air District-approved record containing all measurements, calculations, and any other data required to demonstrate compliance with Parts 1 through 7 of this condition for the entire term of the PO. The records shall include, but are not limited to:
 - a. For each boiler and for each fuel burned in it, the daily fuel usage records recorded by Air District approved fuel flow meters for each fuel burned, the daily firing rate records for each fuel, including volumetric flowrate and high heating value of each fuel, and all records required to demonstrate compliance with Parts 4 and 6.
 - b. Air District approved boiler specific activity-based emissions factors derived from Air District-approved source tests and/or Air District approved CEMS that are properly installed, properly operating, and properly maintained per manufacturer specifications, used to determine compliance with the individual daily and annual emission limits summarized for each boiler in Tables 1 and 2 of Part 1 of this permit condition, and the combined daily and annual emission limits in Tables 4 and 5 of Part 1 of this permit condition for all five boilers.
 - c. Continuous emissions monitoring data gathered via Air District approved CEMS that are properly installed, properly operating, and properly maintained per manufacturer specifications, on a minute basis, used to determine compliance with the individual daily and annual emission limits summarized for each boiler in Tables 1 and 2 of Part 1 of this permit condition, and the combined daily and annual emission limits in Tables 4 and 5 of Part 1 of this permit condition for all five boilers
 - d. All emissions calculations used for determining compliance with any Parts of this condition.
 - e. Air District approved boiler specific activity-based emission factors for each boiler expressed in terms of pounds of CAP emitted per million BTUs of heat input (HHV) and/or pounds of CAP emitted per thousand pounds of steam produced at the time each boiler was source tested.
 - f. All boiler specific source test data used to determine activity-based emissions factors.
 - g. The evaluation and use of any boiler specific source test results to demonstrate compliance with any part of this condition shall include the detailed emission calculation used to determine the Air District approved activity-based emission factor, and a determination that the source throughput and operating conditions during the source test are representative of the source conditions during the period for which the source test results are applied.
 - h. The evaluation and use of any continuous emissions monitoring data to comply with any part of this condition shall include all data substitution calculations and rationale for periods where accurate monitoring data is not available (e.g., periods of certification, maintenance, calibration, inoperative, or when the monitor is measuring above its maximum high span “pegged”).

All of the above information shall be made available for Air District inspection for a period of at least 5 years following the date on which such measurements, records and/or data are made or recorded.

[Basis: Reg 2-1-233, 2-1-403]

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6. The owner/operator of S-4129, S-4131, S-4132, S-4133, and S-4135 shall ensure the following maximum heat input limits for each respective boiler in Table 7 is not exceeded at all times each one of the five boilers operates.
[Basis: Regulation 2-1-233]

Table 7: Individual Hourly and Daily Maximum Heat Input Limits for Power Plant Boilers					
Maximum Heat Input (HHV)	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
MMBtu/hour	233	236	235	237	272
MMBtu/day	5592	5664	5640	5688	6528

7. The PO issued under Application 753424 shall expire when the owner/operator of S-4285 notifies the Air District's Director and the assigned permit engineer in the Air District's Engineering Division and the Director and assigned inspector in the Air District's Compliance & Enforcement Division that the PRT has been placed back into service and the FCC has resumed normal operations with the PRT. However, the annual rolling 12-month period limits in Part 1 of this permit condition will remain valid until compliance is achieved with all emission and fuel usage limits.
[Basis: Regulation 2-1-403]

4/30/2026

Kris Battleson
PO BOX 1272
Richmond, CA 94802-0272

Dear Owner/Operator:

SUBJECT: TEMPORARY PERMIT TO OPERATE – ACCELERATED PERMITTING PROGRAM

This letter is regarding the following application:

Application No.: 753424

Facility ID: 10
Chevron Products Company
841 Chevron Way
Richmond, CA 94801-4801

Because you have provided all the elements required per Regulation 2-1-302 for a temporary Permit to Operate under the Accelerated Permitting Program, you are being issued a temporary Permit to Operate to start up and operate the equipment described below:

**S4285 Fluidized Catalytic Cracking Unit (FCC Plant) 90,000 barrels per day;
29,200,000 barrels per year Operating without Power Recovery Turbine until
12/31/26**

Abated by

A14 FCC Electrostatic Precipitator (single stage)

And

S-4129 800# Steam Boiler #1 (#1PP)

**Riley Stoker Corp.; 5,592 MMBtu/day (HHV); 2,041,080
MMBtu/year (HHV)**

S-4131 Steam Boiler #3 (#1PP)

**Riley Stoker Corp.; 5,664 MMBtu/day (HHV); 2,067,360
MMBtu/year (HHV)**

S-4132 Steam Boiler #4 (#1PP)

**Riley Stoker Corp.; 5,640 MMBtu/day (HHV); 2,058,600
MMBtu/year (HHV)**

S-4133 Steam Boiler #5 (#1PP)

**Riley Stoker Corp.; 5,688 MMBtu/day (HHV); 2,076,120
MMBtu/year (HHV)**

S-4135 Steam Boiler #7 (#1PP)

**Babcock & Wilcox.; 6,528 MMBtu/day (HHV); 2,382,720
MMBtu/year (HHV)**

This letter serves as your temporary Permit to Operate and is valid until **December 31, 2026** while your application is being processed and finalized. This temporary permit is based on your submitted application. Any change or misrepresentation while in operation may cause this Temporary Permit to Operate to be rescinded and/or an enforcement action.

The equipment listed above is also subject to the following/attached additional conditions while operating under the accelerated permit.

You will be contacted by staff as we continue to process your application.

If you have any questions on this matter, please contact Christopher Thompson, Senior Air Quality Engineer at cthompson@baaqmd.gov (Preferred) or (415) 749-8733. Please include your application number with any correspondence. The Air District's regulations may be viewed online at www.baaqmd.gov.

Very truly yours,

Pamela J. Leong

Digitally signed by Pamela J. Leong
DN: cn=Pamela J. Leong, o=Bay Area Air
District, ou=Engineering Division,
email=pleong@baaqmd.gov, c=US
Date: 2026.04.30 09:44:59 -0700

Pamela J. Leong
Director, Engineering Division

Enclosed: Temporary Permit to Operate Condition

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1. The owner/operator of Fluidized Catalytic Cracking (FCC) Unit S-4285 shall abate FCC emissions at all times of operation by a properly installed, maintained, and operated per manufacturer specifications Single Stage Electrostatic Precipitator (A-14) without a Power Recovery Turbine (PRT) issued under Application 753424 in compliance with the following emission limits and fuel usage limits:
[Basis: Regulation 2-1-233]

Table 1: Individual Daily Limits for Power Plant Boilers					
Pounds per day	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
NOx	180.5	156.99	184.02	240.12	248.43
CO	4.06	3.59	4.16	3.73	9.66
POC	23.70	22.08	21.49	20.74	27.81
PM ₁₀	22.85	21.28	20.72	19.99	26.81
PM _{2.5}	22.85	21.28	20.72	19.99	26.81
SO ₂	58.13	48.79	45.88	47.65	72.74

Table 2: Individual Annual Limits for Power Plant Boilers					
Tons in any rolling 12-month period	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
NOx	16.00	15.03	15.65	12.96	20.57
CO	0.52	0.48	0.54	0.42	0.89
POC	2.74	2.50	2.60	2.63	3.86
PM ₁₀	2.26	2.33	2.51	2.53	3.53
PM _{2.5}	2.26	2.33	2.51	2.53	3.53
SO ₂	1.66	1.65	1.96	2.02	2.62

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Table 3: Individual Fuel Usage Limits for Power Plant Boilers Fuel Source: V-701A Fuel Gas Drum					
MMSCF	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
Daily	4.58	4.36	4.24	3.94	5.56
Annual in any rolling 12- month period	1154.33	1180.65	1146.09	997.13	1552.03

Table 4: Combined Daily Limits for Power Plant Boilers					
Pounds per day	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
NO _x	757.041				
CO	20.021				
POC	112.67				
PM ₁₀	101.403				
PM _{2.5}	101.403				
SO ₂	248.571				

Table 5: Combined Annual Limits for Power Plant Boilers					
Tons in any rolling 12-month period	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
NO _x	75.261				
CO	2.561				
POC	12.708				
PM ₁₀	11.219				
PM _{2.5}	11.219				
SO ₂	8.700				

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Table 6: Combined Fuel Usage Limits for Power Plant Boilers Fuel Source: V-701A Fuel Gas Drum						
MMSCF	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7	
Daily	21.995					
Annual in any rolling 12-month period	5382.58					

2. Within 60 days from the date of issuance of this Permit to Operate (PO) and once every 12-months thereafter until such time S-4285 resumes normal operations with the PRT back in service, the owner/operator of S-4129, S-4131, S-4132, S-4133, and S-4135 shall measure and quantify emissions of criteria air pollutants (CAPs) such as NO_x, PM_{2.5} and PM₁₀ (applies to S-4135 as discussed below), POC (applies to S-4135 as discussed below), CO, and SO₂ that are not measured by a properly installed, properly maintained and properly operating per manufacturer specifications, Air District approved CEMS by conducting an Air District approved source test at each one of the above five boilers using only Air District approved source test methodologies and emission calculation procedures to demonstrate compliance with the individual daily and annual emission limits summarized for each boiler in Tables 1 and 2 of Part 1 of this permit condition, and the combined daily and annual emission limits in Tables 4 and 5 of Part 1 of this permit condition for all five boilers in concert with the requirements outlined in Part 4 of this permit condition.

When the final source test report is due for this initial source test, the owner/operator of S-4285 shall submit for review and approval a plan to ensure S-4129, S-4131, S-4132, and S-4133 are each equipped with stacks that meet with and comply with EPA Method 1 requirements. Until such time Air District approved EPA Method 1 compliant stacks are installed at S-4129, S-4131, S-4132, and S-4133, the owner/operator shall use PM_{2.5}, PM₁₀, and POC source test results for S-4135 in concert with the requirements outlined in Part 4 of this permit condition to estimate PM_{2.5}, PM₁₀, and POC emissions for S-4129, S-4131, S-4132, and S-4133.

The owner/operator of S-4129, S-4131, S-4132, S-4133, and S-4135 shall comply with all applicable source testing, stack installation, sampling port location and safe access requirements as specified in Volume IV of the Air District's Manual of Procedures. The owner/operator shall notify the Air District's Source Test Section, in writing, of the source test protocols, sampling port locations, layout, access and projected test dates at least 30 days prior to source testing. The source test protocol submitted to the Air District's Source Test Section shall provide details on the stack at S-4129, S-4131, S-4132, S-4133, and S-4135 and shall include any pertinent drawings and details related to source test run times and method detection limits.

[Basis: Regulation 2-1-403]

3. All source test reports shall be submitted to the Manager of the Air District's Source Test Section within 60 days of the source test date, or as allowed by the Air District, and shall also include activity-based emission factors for each CAP emitted from each boiler S-4129, S-4131, S-4132, S-4133, and S-4135 measured during the Air District approved source test and/or with a properly installed, properly maintained and properly operating per manufacturer specifications, Air District approved CEMS to demonstrate compliance with the individual daily and annual emission limits summarized for each boiler in Tables 1 and 2 of Part 1 of this permit condition, and the combined daily and annual emission limits in

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Tables 4 and 5 of Part 1 of this permit condition for all five boilers of this permit condition. Each CAP activity-based emission factor for each one of the five boilers S-4129, S-4131, S-4132, S-4133, and S-4135 source tested shall be expressed in terms of pounds of CAP emitted per million BTUs of heat input (HHV) and/or pounds of CAP emitted per thousand pounds of steam produced at the time each boiler was source tested.

The owner/operator of S-4129, S-4131, S-4132, S-4133, and S-4135 shall conduct all source tests (initial and subsequent) required by this permit condition when operating S-4129, S-4131, S-4132, S-4133, and S-4135 at their respective maximum production capacities possible at the time of the source test that would result in maximum CAP emissions.

On completion of any source test (initial and/or subsequent), if the owner/operator of S-4129, S-4131, S-4132, S-4133, and S-4135 is made aware of any exceedance of any emission limit in Tables 1, 2, 4, and/or 5 of Part 1 of this permit condition, the owner/operator shall immediately notify the Director and the assigned permit engineer in the Air District's Engineering Division and the Director and assigned inspector in the Air District's Compliance & Enforcement Division within the next working day. The notification shall summarize the emission limit(s) that was/were exceeded, the associated boiler(s) Air District source number, and the duration of each exceedance (start and end dates).

[Basis: Regulation 2-1-233]

4. To demonstrate compliance with the individual daily and annual emission limits summarized for each boiler in Tables 1 and 2 of Part 1 of this permit condition, and the combined daily and annual emission limits in Tables 4 and 5 of Part 1 of this permit condition for all five boilers, the owner/operator of S-4129, S-4131, S-4132, S-4133, and S-4135 shall use measurements from either Air District-certified continuous emissions monitors (if available) or Air District-approved boiler specific source test results in combination with records of boiler specific activity at the time of the source test (such as boiler specific steam production, fuel usage for each fuel burned in each boiler, the heat input (HHV) in millions of BTUs for each fuel burned in each boiler) in order to determine activity-based emission factors for each boiler source tested expressed in terms of pounds of CAP emitted per million BTUs of heat input (HHV) and/or pounds of CAP emitted per thousand pounds of steam produced at the time each boiler was source tested.

The owner/operator of S-4129, S-4131, S-4132, S-4133, and S-4135 shall calculate emissions for each of the above boilers using activity-based emission factors gathered from the source tests conducted at each boiler to demonstrate compliance with the individual daily and annual emission limits summarized for each boiler in Tables 1 and 2 of Part 1 of this permit condition, and the combined daily and annual emission limits in Tables 4 and 5 of Part 1 of this permit condition for all five boilers.

The most recent Air District-approved boiler specific source test shall be used for determining compliance for the time period the FCC was first operated without the PRT and going forward until the FCC resumes normal operations with the PRT operating. If multiple Air District-approved source tests are performed when the FCC is operating without the PRT, then an Air District approved boiler specific average emission factor may be used for determining compliance for the time period the FCC was first operated without the PRT going forward until the FCC resumes normal operations with the PRT operating. The Air District shall approve any boiler specific average emissions factors prior to their use to demonstrate compliance with the individual daily and annual emission limits summarized for each boiler in Tables 1 and 2 of Part 1 of this permit condition, and the combined daily and annual emission limits in Tables 4

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and 5 of Part 1 of this permit condition.

[Basis: Regs 2-1-403 and 2-1-233]

5. The owner/operator of S-4129, S-4131, S-4132, S-4133, and S-4135 shall maintain an Air District-approved record containing all measurements, calculations, and any other data required to demonstrate compliance with Parts 1 through 7 of this condition for the entire term of the PO. The records shall include, but are not limited to:
- a. For each boiler and for each fuel burned in it, the daily fuel usage records recorded by Air District approved fuel flow meters for each fuel burned, the daily firing rate records for each fuel, including volumetric flowrate and high heating value of each fuel, and all records required to demonstrate compliance with Parts 4 and 6.
 - b. Air District approved boiler specific activity-based emissions factors derived from Air District-approved source tests and/or Air District approved CEMS that are properly installed, properly operating, and properly maintained per manufacturer specifications, used to determine compliance with the individual daily and annual emission limits summarized for each boiler in Tables 1 and 2 of Part 1 of this permit condition, and the combined daily and annual emission limits in Tables 4 and 5 of Part 1 of this permit condition for all five boilers.
 - c. Continuous emissions monitoring data gathered via Air District approved CEMS that are properly installed, properly operating, and properly maintained per manufacturer specifications, on a minute basis, used to determine compliance with the individual daily and annual emission limits summarized for each boiler in Tables 1 and 2 of Part 1 of this permit condition, and the combined daily and annual emission limits in Tables 4 and 5 of Part 1 of this permit condition for all five boilers
 - d. All emissions calculations used for determining compliance with any Parts of this condition.
 - e. Air District approved boiler specific activity-based emission factors for each boiler expressed in terms of pounds of CAP emitted per million BTUs of heat input (HHV) and/or pounds of CAP emitted per thousand pounds of steam produced at the time each boiler was source tested.
 - f. All boiler specific source test data used to determine activity-based emissions factors.
 - g. The evaluation and use of any boiler specific source test results to demonstrate compliance with any part of this condition shall include the detailed emission calculation used to determine the Air District approved activity-based emission factor, and a determination that the source throughput and operating conditions during the source test are representative of the source conditions during the period for which the source test results are applied.
 - h. The evaluation and use of any continuous emissions monitoring data to comply with any part of this condition shall include all data substitution calculations and rationale for periods where accurate monitoring data is not available (e.g., periods of certification, maintenance, calibration, inoperative, or when the monitor is measuring above its maximum high span “pegged”).

All of the above information shall be made available for Air District inspection for a period of at least 5 years following the date on which such measurements, records and/or data are made or recorded.

[Basis: Reg 2-1-233, 2-1-403]

6. The owner/operator of S-4129, S-4131, S-4132, S-4133, and S-4135 shall ensure the following maximum heat input limits for each respective boiler in Table 7 is not exceeded at all times each one of the five boilers operates.

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[Basis: Regulation 2-1-233]

Table 7: Individual Hourly and Daily Maximum Heat Input Limits for Power Plant Boilers					
Maximum Heat Input (HHV)	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
MMBtu/hour	233	236	235	237	272
MMBtu/day	5592	5664	5640	5688	6528

7. The PO issued under Application 753424 shall expire when the owner/operator of S-4285 notifies the Air District's Director and the assigned permit engineer in the Air District's Engineering Division and the Director and assigned inspector in the Air District's Compliance & Enforcement Division that the PRT has been placed back into service and the FCC has resumed normal operations with the PRT. However, the annual rolling 12-month period limits in Part 1 of this permit condition will remain valid until compliance is achieved with all emission and fuel usage limits.

[Basis: Regulation 2-1-403]

**APPLICATION FOR PERMIT TO OPERATE
ALTERATION FOR FCC POWER RECOVERY TURBINE
ACCELERATED PERMITTING PROGRAM**

1. FACILITY INFORMATION

Owner:	Chevron Products Company
Facility Name:	Chevron Richmond Refinery
BAAQMD Facility No.:	A0010
Address:	841 Chevron Way Richmond, CA 94801
Contact Name:	Rachael Justice
Phone Number:	(510) 242-4466

2. INTRODUCTION

Chevron Products Company (Chevron) is submitting this application to the Bay Area Air Quality Management District (BAAQMD) for a Permit to Operate the Fluidized Catalytic Cracking Unit (FCCU), S-4285 without its Power Recovery Turbine (PRT). Chevron only plans to operate the FCCU without the PRT when it is inoperable. Chevron requests that BAAQMD process this application under the BAAQMD's Accelerating Permitting Program. This application meets the criteria for an accelerated permit under Regulation 2-1-302 as it is an alteration and not subject to the provisions of Sections 2-1-316 through 2-1-319 as further described below.

This application and the following attachments contain the required information for an Accelerated Permit under 2-1-302.2.3.

Attachment A - Project Location Map
Attachment B - BAAQMD Forms
Attachment C - Emissions Calculations

3. PROJECT DESCRIPTION

3.1 FCCU Process Description

The FCCU converts high-boiling point hydrocarbon fractions of crude oil into gasoline and other petroleum products. The conversion process is achieved through a chemical process that occurs in a reactor vessel that incorporates the use of heat and a catalyst to break up, or "crack," long-chain hydrocarbons into smaller-chain hydrocarbons.¹ The catalyst is in the form of fine particles that act as a fluid when aerated. Hydrocarbon feed is preheated and introduced into the bottom of the reactor's riser with hot regenerated catalyst. The hot catalyst vaporizes the feed, bringing both to the desired reaction temperature, 470 to 525°C (880 to 980°F). Nearly 100% of the desired cracking reaction takes place in the travel up the riser. Large paraffinic hydrocarbon molecules break up, or "crack," into smaller molecules that flow overhead to a fractionator for separation into products. The spent catalyst falls to the bottom of the reactor and is steam stripped as it exits the reactor bottom to remove absorbed hydrocarbons. The spent catalyst is then routed to the regenerator where the carbon deposited on the catalyst from the cracking reactions is combusted off with preheated air. The hot regenerated catalyst then returns to the

¹ Additional information is available at https://www.epa.gov/sites/default/files/2020-09/documents/5.1_petroleum_refining.pdf Section 5.1.2.2.1

[REDACTED]

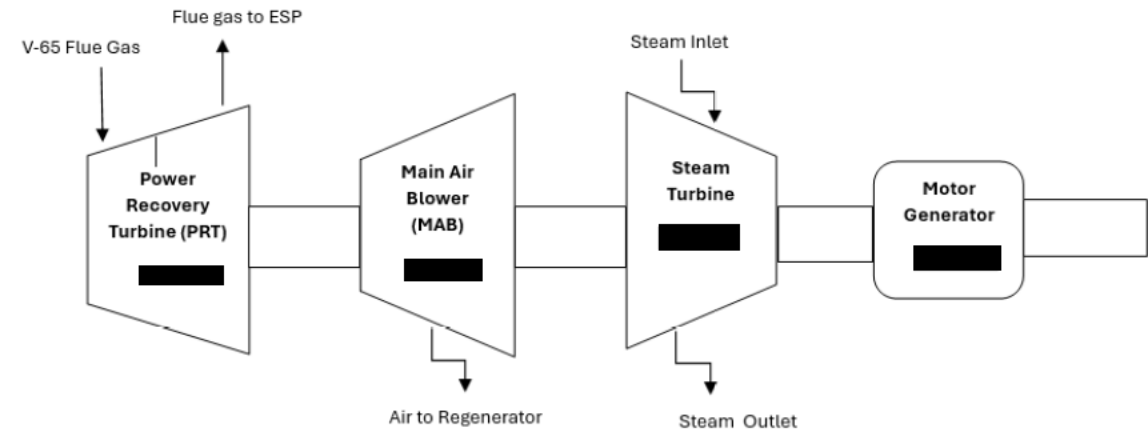
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graph LR
    Feed[Feed] --> Reactor[Reactor]
    Reactor --> Products[Products]
    Reactor --> Regenerator[Regenerator]
    Air[Air] --> Regenerator
    Regenerator --> TSS[TSS]
    TSS -- Flue Gas --> MainAirBlower[Main Air Blower]
    TSS -- Solids --> FinesTransferVessel[Fines Transfer Vessel]
    FinesTransferVessel --> LargeCellFines[Large Cell Fines]
    MainAirBlower --> WHSG((WHSG))
    WHSG -- Steam --> Steam[Steam]
    WHSG -- Hot Feed Water --> Economizer[Economizer]
    ColdFeedWater[Cold Feed Water] --> Economizer
    Economizer -- Hot Feed Water --> ElectrostaticPrecipitator[Electrostatic Precipitator]
    TSS -- Flue Gas --> ElectrostaticPrecipitator
    ElectrostaticPrecipitator -- Flue Gas --> Stack[Stack]
  
```

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

3.2.2 Typical Operating Pressures With and Without the PRT

	With PRT	Without PRT
TK50 Suction	[REDACTED]	[REDACTED]
TK50 Discharge	[REDACTED]	[REDACTED]
TK50A Suction	[REDACTED]	[REDACTED]
TK50A Discharge	[REDACTED]	[REDACTED]

3.3 Project Summary

The Refinery’s FCCU PRT was recently damaged and is inoperable. [REDACTED]. It is expected that the FCCU will need to operate without the PRT for less than 190 days per year contingent upon completion of repairs. During this time, the PRT casing will fundamentally function as a large piping elbow. Most of the flue gas from the Third Stage Separator will flow to the Waste Heat Steam Generator. Sufficient flue gas will be routed through the PRT casing to keep the FCCU’s safety instrumentation system functioning.

The MAB can be powered by the PRT, the steam turbine and/or the motor-generator. During typical operation, the PRT provides most of the power to the MAB. When the PRT is not operating, the steam turbine must operate with the motor generator to fully power the MAB. Since the FCCU will be unable to operate the PRT, the FCCU will need to utilize steam turbine capacity, thus increasing steam consumption by about 2.88 million pounds per day (lb/day). The steam turbine has the flexibility to receive steam from the [REDACTED] headers and will vent [REDACTED] to the atmosphere. This is the same steam vent used during FCCU start-up. Further, [REDACTED] psig steam may be injected upstream of the PRT casing to decrease flue gas temperature

and protect downstream equipment. The capability to inject steam currently exists, however resized instrumentation will be installed to accommodate the higher flow of steam [REDACTED]. Since most flue gas flow from the third stage separator will be routed directly to the Waste Heat Steam Generator instead of the PRT, Chevron expects that an additional [REDACTED] pounds of steam per day will be produced. Thus, the net change in steam production/consumption at the FCCU while the PRT is not operating follows.

Steam Change	Approximate Quantity (million lb/d)
Steam Turbine	[REDACTED] consumed
Steam Quenching	[REDACTED] consumed
Waste Heat Steam Generator	[REDACTED] produced
Total	2.88 consumed

The Refinery's # 1 Power Plant is one the primary sources of steam to support various Refinery processes and equipment. The Refinery's # 1 Power Plant consists of five boilers, S-4129, S-4131, S-4132, S-4133 and S-4135 and have a total combined permitted capacity of 1,213 million British thermal units per hour (MMBtu/hr) of Refinery Fuel Gas (RFG) and natural gas and a total rated steam production capacity of [REDACTED] pounds of steam per hour (lb/hr) or 17.76 million lb/d. As mentioned above operating the FCCU without the PRT is expected to result in a net increase of steam usage of 2.88 million lb/day at the FCCU. It is expected for the steam to be provided indirectly by No.1 Boiler or No.3 Boiler, but the remaining Power Plant boilers also supply steam to the refinery and could potentially offset FCC steam consumption. Table 4-2 in Section 4 of this application summarizes the estimated maximum increase in annual emissions due to the increase in steam production at the boilers. The boilers will not be operating above their permitted throughputs (MMBTU/hr). The FCCU is subject to emission limits in Permit Condition 11066. The FCCU will continue to comply with the emissions limits of Condition 11066 when operating without the PRT.

This Project does not meet the definition of a modification. Section 2-1-234 defines a modification as any physical change, change in method of operation, change in throughput or production, or similar change at an existing source that results in an increase in emissions that is either of the following:

- ▶ An increase in the source's daily or annual potential emissions determined in accordance with the definition in Section 2-1-217 and the requirements in Section 2-1-234.1; or
- ▶ An increase in actual emissions over the baseline is such that it is a major modification under the definitions outlined in Section 2-1-234.2.

This project does not increase the daily or annual potential to emit of S-4285 nor the Refinery Boilers, because they will continue to comply with applicable daily and annual throughput and emission limits. The project does not meet the definition of a major modification in 40 CFR Part 52.21(b)(2), because projected actual emissions (i.e., after the project) will not exceed the baseline actual emissions (i.e., historic baseline) for any pollutant in an amount that would qualify as a major modification (i.e does not exceed any significance thresholds). As such, it meets the alteration's definition as defined in Section 2-1-233.

4. EMISSIONS ESTIMATES

A summary of the post-Project potential criteria pollutant emissions for the Refinery Boilers likely to provide incremental steam needed to the FCC are summarized in Table 4-1 below. As previously mentioned, the project does not change any of the sources' daily or annual PTE. See Attachment C for calculation workbooks.

Table 4-1: Pre-project and Post-project Boilers PTE

	Criteria Emissions					
	CO	NO _x	PM ₁₀	PM _{2.5}	SO ₂	POC
	tpy	tpy	tpy	tpy	tpy	tpy
Boiler 1 + Boiler 3 PTE, Pre-Project ¹	604.5	67.8	11.9	11.9	31.6	28.6
Boiler 1 + Boiler 3 PTE, Post-Project ¹	604.5	67.8	11.9	11.9	31.6	28.6
Change in PTE	0.0	0.0	0.0	0.0	0.0	0.0
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Boiler 1 + Boiler 3 PTE, Pre-Project ¹	3312.2	371.4	65.3	65.3	173.2	156.4
Boiler 1 + Boiler 3 PTE, Post-Project ¹	3312.2	371.4	65.3	65.3	173.2	156.4
Change in PTE	0	0	0	0	0	0

1. Boiler PTE based on maximum daily emission factor calculated using submitted 12-15 Emission Inventory data for 2017-2023 and maximum firing rates per Chevron Richmond Refinery Title V permit for CO, PM, SO_x, and POC. NO_x PTE calculated using emission factor for 1 Boiler per Condition #23872, Part 3; NO_x emission factor for 3 Boiler per BAAQMD Rule 9-10-301.

Table 4-2 shows that the projected emissions increase from 2.88 million lb/d of additional steam production by the boilers will not exceed “significant” thresholds in 40 CFR 52.21(b)(23)(i) and 40 CFR 51.165(a)(1)(x)(A).

Table 4-2: Federal Backstop Summary

	Criteria Emissions					
	CO	NO _x	PM ₁₀	PM _{2.5}	SO ₂	POC
	tpy	tpy	tpy	tpy	tpy	tpy
Baseline Period Ending Date ¹	1/23/2023	5/19/2023	12/31/2019	12/31/2019	12/31/2019	5/28/2023
No.1 and No.3 Boilers Actual Average Annual Baseline Emissions ¹	0.9	29.4	4.1	4.1	3.8	3.0
No.1 and No.3 Boilers Average Annual Baseline Fuel Gas Flow Rate (MMBtu/yr) ¹						
No.1 and No.3 Boilers Projected Actual Emissions ²	43.7	67.8	8.6	8.6	22.9	7.2
Difference of "Baseline Actual Emissions" and "Projected Actual Emissions"	42.8	38.4	4.5	4.5	19.0	4.3
Federal Backstop Significant Emission Rate Thresholds	100	40	15	10	40	40
(PAE-BAE) < SERs? (Y/N)	Y	Y	Y	Y	Y	Y

1. "The source's baseline emissions are its actual emissions as measured during any consecutive 24-month period during the previous 10 years immediately prior to the receipt of a complete application (or the date construction commences, if earlier). The choice of which 24-month period to use is up to the applicant. Different 24-month periods can be used for different pollutants under review." (BAAQMD Complex Permitting Handbook, pg. 29/208). Therefore, the baseline period reflects the 24-month period which returns the maximum actual average annual emissions.

2. Steam Plant's PAE calculated based on projections, daily emissions, and steam production in 2020-2023 for 1 Boiler and 3 Boiler.

5. ACCELERATED PTO RULE 2-1-302.2.3

The Project also qualifies for an accelerated permit under Rule 2-1-302.2.3, as it is an alteration of an existing source as defined in Section 2-1-233. Additionally, the Project is not subject to any of the provisions of Sections 2-1-316 through 319 as discussed later in this Application. As such, the accelerated PTO may be obtained to authorize operations of an alteration of an existing source per the Accelerated Permitting Program by submitting an application as follows (the requirements of Section 2-1-302.2 are listed below in *italic, bold text*, and a description of how each requirement is met is in plain text):

(i) a permit application form and source data form(s) properly filled out with all required information;

The required forms are included in Attachment B of the Application.

(ii) payment of applicable fees (the minimum permit fee required to install and operate each source);

Chevron is submitting a check as soon as possible and will pay any invoices issued by BAAQMD for the Project promptly upon receipt.

(iii) a statement explaining which of the categories in subsections 2.1 through 2.3 above the source is in;

As previously discussed, the Project qualifies for the category in Subsection 2.3, an alteration of an existing source, as defined in Section 2-1-233. Please refer to Section 6 of the Application for a detailed discussion of why the Project qualifies as an alteration.

(iv) a certification that the source meets all the requirements of that category;

Form P-101B includes a certification statement that “all information contained herein is true and correct.” This statement certifies that the information contained in the Application and form is correct. As stated previously, this application meets all the requirements listed under BAAQMD Rule 2-1-302.2.

(v) a certification that the source is not subject to Sections 2-1-316 through 2-1-319; and

Form P-101B includes a certification statement that “all information contained herein is true and correct.” This statement certifies that the information contained in the application and form is correct. As discussed below, BAAQMD Rules 2-1-316 through 2-1-319 do not apply.

(vi) a certification that the applicant has reviewed all applicable New Source Performance Standards, and that the application will comply.

Form P-101B includes a certification statement that “all information contained herein is true and correct.” This statement certifies that the information contained in the application and form is correct. As discussed in Section 6 of this application report, Chevron has reviewed all applicable NSPS and will continue to comply with any applicable requirements.

6. APPLICABLE REQUIREMENTS

The Refinery is subject to various federal, state, and local air quality regulations. This section summarizes the air permitting requirements and key air quality regulations that apply to the Project. Specifically, the applicability of Prevention of Significant Deterioration (PSD) permitting requirements, New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), and BAAQMD regulations are addressed in this section.

Federal Regulations

Prevention of Significant Deterioration

PSD requirements have been established in 40 CFR Part 52.21 and apply to modifications at existing major stationary sources in an area designated as attainment or unclassifiable under the Clean Air Act. The FCCU will experience a physical and operational change and emits several criteria pollutants, however the Project does not meet the definition of a major modification in 40 CFR Part 52.21(b)(2) since emissions of criteria pollutants associated with the project will be below significance thresholds.

New Source Performance Standards (NSPS)

NSPS have been established in 40 CFR Part 60 and apply to certain types of equipment that are newly constructed, modified, or reconstructed after a given applicability date. NSPS subparts potentially applicable to the proposed changes are addressed below.

40 CFR Part 60 Subpart Db – Industrial – Commercial Steam Generating Units

NSPS Subpart Db, *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*, applies to steam generating units constructed after June 19, 1984, and that has a heat input capacity greater than 100 MMBtu/hr. The existing boilers are steam generating units constructed prior to 1984 and are not modified as explained previously. Thus, the existing boilers are not subject to Subpart Db.

40 CFR Part 60 Subpart J – Petroleum Refineries

NSPS Subpart J applies to any fluid catalytic cracking unit or fuel gas combustion device in petroleum refineries which commence construction, reconstruction, or modification after June 11, 1973, and on or before May 14, 2007. S-4285 is already subject to NSPS Subpart J, and this project does not modify the boilers. As such, the Project does not affect compliance under Subpart J and Chevron will continue to comply with all applicable provisions of this subpart.

40 CFR Part 60 Subpart Ja – Petroleum Refineries

NSPS Subpart Ja applies to any FCCU or fuel gas combustion device in a petroleum refinery which commences construction, reconstruction, or modification after May 14, 2007. The Project does not qualify as a modification as defined in 40 CFR § 60.14 as there are no physical or operational changes which result in an increase on a short-term basis in the emission rate of a pollutant to which a standard applies. The boilers will continue to operate within their typical operating ranges. Regardless, Condition 11066 already contains emission limits that are at least as stringent as NSPS Ja as shown in Table 6-1.

Table 6-1. NSPS Ja Limits in Condition 11066

NSPS Ja Citation, 60.102a(b)	Condition 11066 Part	Emissions Limitation
(1)(i) or (1)(iii)	3.b	1 pound PM per 1,000 lb coke burn-off.
(2)	5.b	80 ppmvd NO _x corrected to 0% excess air, on a 7-day rolling average basis.
(3)	4.b	50 ppmvd SO ₂ corrected to 0% excess air on a 7-day rolling average basis and 25 ppmvd corrected to 0% excess air on a 365-day rolling average basis.
(4)	6.b	500 ppmvd CO corrected to 0% excess air on an hourly average basis.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

NESHAPs have been established in 40 CFR Part 63 to control the emissions of hazardous air pollutants (HAPs). Only those NESHAPs that are potentially applicable to the proposed changes are addressed below.

Subpart UUU – Hazardous Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units

NESHAP Subpart UUU applies to the process vent or group of process vents on fluidized catalytic cracking units that are associated with regeneration of the catalyst used in the unit and are part of a petroleum refinery located at a major source of HAPs. The Project does not affect compliance under Subpart UUU and Chevron will continue to comply with all applicable provisions of this subpart.

Subpart DDDDD – Industrial, Commercial, and Institutional Boilers And Process Heaters

NESHAP Subpart DDDDD applies to commercial, industrial, or institutional boilers that are located at a major source of HAPs. The boilers are already subject to NESHAP Subpart DDDDD, and this project does not modify the boilers. As such, the Project does not affect compliance, and Chevron will continue to comply with all applicable provisions of this subpart.

BAAQMD Regulations

In addition to the federal air regulations described previously, BAAQMD establishes regulations applicable at the emission unit level and at the facility level. The regulations also contain requirements related to construction and/or operating permits. Potentially applicable regulations for the proposed Project are detailed in the following sections.

Regulation 2 – Permits

Rule 2-1 General Requirements

BAAQMD Section 2-1-301, *Authority to Construct*, requires facilities to obtain written authorization from BAAQMD prior to installing and operating new, modified, or altered emission units. The purpose of this Application is to obtain an Authority to Construct as required under BAAQMD Section 2-1-301. The Project does not install any new sources. Instead, the project alters the existing FCCU, by removing the PRT. Section 3.3 explains further why the project is an alteration.

BAAQMD Section 2-1-310, *Applicability of CEQA*, describes the California Environmental Quality Act (CEQA) applicability for various projects. Note that BAAQMD Section 2-1-310 applies to new or modified sources and as previously stated, the Project is not a modification as it does not include any change of the source that results in an increase in PTE.

BAAQMD Rule 2-1-316, *New or Modified Sources of TAC or HAP*, requires an Authority to Construct or Permit to Operate for new or modified sources of TACs under certain circumstances and for a new or modified source that will emit 2.5 or more tons per year of any single HAP or 6.25 or more tons per year of any combination of HAPs. The Project is an alteration, and thus, is not subject to Section 2-1-316.2.

BAAQMD Section 2-1-317, *Public Nuisance Sources*, requires permitting of exempt sources that receive two or more public nuisance violations in a 180-day period. Chevron will continue to operate the FCCU in such a way that Chevron will not receive two or more public nuisance violations in a 180-day period.

BAAQMD Section 2-1-412, *Public Notice, Schools & Overburdened Communities*, requires BAAQMD to prepare and distribute a public notice to addresses within 1,000 feet of the source if a new or modified source is within 1,000 feet of the outer boundary of a K-12 school, or within an Overburdened Community as defined in Section 2-1-243 and for which an HRA is required pursuant to Section 2-5-401. The Project is not within 1,000 feet of a K-12 school site or within 1,000 feet of an address other than the Refinery itself. The Project is located within an overburdened community; however, it does not result in an increase in TACs for which an HRA would be required; thus, the Project does not require public notice.

Rule 2-2 New Source Review

BAAQMD Rule 2-2, *New Source Review*, implements the provisions of the California Clean Air Act and incorporated by reference the provisions of 40 CFR 52.21. This rule establishes Best Available Control Technology (BACT), and emission offset requirements for all new and modified sources that are subject to BAAQMD Section 2-1-301, Authority to Construct, and/or Section 2-1-302, Permit to Operate. The Project will

not install new or modify any sources listed in BAAQMD Section 2-1-234. Therefore, BAAQMD Rule 2-2 is not applicable and not further discussed.

Rule 2-5 New Source Review of Toxic Air Contaminants

BAAQMD Rule 2-5 applies to new or modified sources of TACs for which an application is submitted on or after July 1, 2005. All TAC emissions from new and modified sources are subject to risk assessment if emissions of any individual TAC exceed the trigger thresholds specified in Table 2-5-1 of Rule 2-5. The Project is not installing a new source or modifying an existing source. Therefore, the Project is not subject to this rule's requirements via Section 2-5-114.

Rule 2-6 Major Facility Review

BAAQMD Rule 2-6, *Major Facility Review*, implements permitting requirements of Title V of the Clean Air Act and is applicable to Major Facilities and other facilities designated as requiring a Title V permit. Chevron is currently operating under an MFR permit issued by BAAQMD. As this Application is intended to get an Accelerated PTO for the Project from BAAQMD, Chevron is applying under a separate cover to address the MFR revisions.

Regulation 3 – Fees

BAAQMD Regulation 3 specifies fees that must be paid as part of this Application. Fees are outlined in Section 7 of this application.

Regulation 6 – Particulate Matter Requirements

Rule 6-1 General Requirements

BAAQMD Rule 6-1 prohibits sources from emitting visible emissions for a period or periods aggregating more than three minutes in one hour which are as dark, or darker, than No. 1 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree. Additionally, per Section 6-1-305, sources may not emit visible particulates which cause a public nuisance. The Project will not affect the FCCU's applicability or the Boilers (S-4129, S-4131, S-4132, S-4133, S-4135) to Rule 6-1, and Chevron will continue to comply with the applicable provisions.

Rule 6-5 Fluid Catalytic Cracking Units

BAAQMD Rule 6-5 limits particulate matter and precursors of secondary particulate matter from FCCUs per the standards outlined in Regulation 6-5-301, which the TPM10 standards are effective July 21, 2026. The current Project will not impact the FCCU's, S-4285 applicability to Regulation 6-5 and Chevron remains subject to the applicable provisions.

Regulation 8 – Organic Compound Requirements

Rule 8-8 Wastewater Collection and Separation Systems

BAAQMD Rule 8-8 limits organic compound emissions from wastewater collection and separation systems that handle liquid organic compounds from industrial processes. The Project will not install new individual drain systems nor affect compliance with Rule 8-8 standards for the existing wastewater collection system components.

Rule 8-9 Vacuum Producing Systems

BAAQMD Rule 8-9 limits POC emissions from vacuum producing systems. Section 8-9-301 stipulates that POC emissions from vacuum producing systems shall be controlled by piped to an appropriate firebox or incinerator

for combustion, and hot wells and/or accumulators associated with vacuum system condensers must be covered and POC vapors must either be incinerated or contained. The Project will not affect the FCCU's applicability to Rule 8-9, and Chevron will continue to comply with the applicable provisions.

Rule 8-10 Process Vessel Depressurization

BAAQMD Rule 8-10 limits POC emissions from depressurizing and opening of process vessels at refineries and chemical plants. Section 8-10-301 requires refineries to control organic compound emissions by venting to a treatment system. Section 8-10-302 stipulates procedures for opening process vessels to limit POC emission releases. The Project will not affect the FCCU's and Boilers (S-4129, S-4131, S-4132, S-4133, S-4135) applicability to Rule 8-10, and Chevron will continue to comply with the applicable provisions.

Rule 8-18 Equipment Leaks

BAAQMD Rule 8-18 limits POC emissions from equipment leaks at refineries. Sections 8-18-301 through 311 require operators to repair leaks detected more than 100 ppm from potential fugitive emission sources. The Project will not affect the FCCU's and Boilers (S-4129, S-4131, S-4132, S-4133, S-4135) applicability to Rule 8-18, and Chevron will continue to comply with the applicable provisions. This Project will not be installing any new or replacing any components subject to Rule 8-18.

Rule 8-28 Episodic Releases from Pressure Relief Devices at Petroleum Refineries and Chemical Plants

BAAQMD Rule 8-28 prevents episodic POC emissions from pressure relief devices and collects information on such episodic releases. The Project will not affect the FCCU's Boilers (S-4129, S-4131, S-4132, S-4133, S-4135) applicability to Rule 8-28, and Chevron will continue to comply with the applicable provisions.

Regulation 9 – Inorganic Gaseous Pollutants

Rule 9-1 Sulfur Dioxide

BAAQMD Rule 9-1 limits the SO₂ concentration of any source exhaust stream to 300 ppm (dry) and requires that a person shall not burn any liquid fuel with a sulfur content in excess of 0.5 weight percent.

Rule 9-10 Nitrogen Oxides and Carbon Monoxide, Steam Generators, and Process Heaters in Petroleum Refineries.

BAAQMD Rule 9-10 limits the emission of NO_x and CO from boilers, steam generators, and process heaters, including CO boilers, in petroleum refineries. The Boilers (S-4129, S-4131, S-4132, S-4133, S-4135) will continue to comply with applicable provisions.

Regulation 10 – New Source Performance Standards

BAAQMD Regulation 10 incorporates certain federal NSPS provisions codified at 40 CFR 60, which are discussed in Section 4.1 of this Application.

Regulation 11 – Hazardous Pollutants

BAAQMD Regulation 11 limits the quantity of HAPs that may be emitted into the atmosphere from any source. Chevron will continue to comply with all applicable provisions of BAAQMD Regulation 11.

7. FEES

Source No.	Source Description	Fee	Fee Description
S4285	FCCU	\$651.00	Reg 3-304 Filing Fee
S4285	FCCU	\$11,526.00	Reg 3-304.2: 50% Initial Fee-100% Schedule G-2
S4129	Boiler 1	\$651.00	Reg 3-304 Filing Fee
S4129	Boiler 1	\$12,157.94	Reg 3-304: 50% Initial Fee-Schedule B: \$104.36 MMBTU/HR*233 MMBTU/HR
S4131	Boiler 3	\$651.00	Reg 3-304 Filing Fee
S4131	Boiler 3	\$12,314.48	Reg 3-304: 50% Initial Fee-Schedule B: \$104.36 MMBTU/HR*236 MMBTU/HR
S4132	Boiler 4	\$651.00	Reg 3-304 Filing Fee
S4132	Boiler 4	\$12,262.30	Reg 3-304: 50% Initial Fee-Schedule B: \$104.36 MMBTU/HR*235 MMBTU/HR
S4133	Boiler 5	\$651.00	Reg 3-304 Filing Fee
S4133	Boiler 5	\$12,366.66	Reg 3-304: 50% Initial Fee-Schedule B: \$104.36 MMBTU/HR*237 MMBTU/HR
S4135	Boiler 7	\$651.00	Reg 3-304 Filing Fee
S4135	Boiler 7	\$14,192.96	Reg 3-304: 50% Initial Fee-Schedule B: \$104.36 MMBTU/HR*272 MMBTU/HR
		\$50.00	CEQA Fee
	Total	\$78,776.34	

Attachment A-Site Map/Project Location

Alteration for FCCU Power Recovery Turbine Maintenance

Site Map/Project Location



Attachment B-BAAQMD Forms

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

375 Beale Street, Suite 600. . . San Francisco, CA 94105. . . (415) 749-4990. . . FAX (415) 749-5030 Website:
www.baaqmd.gov

APPENDIX H**ENVIRONMENTAL INFORMATION FORM**

(To Be Completed By Applicant)

Date Filed: _____

General Information

1. Name and address of developer or project sponsor:
Chevron Products Company, 841 Chevron Way, Richmond, CA 94801
2. Address of project:
841 Chevron Way, Richmond, CA 94801
Assessor's Block and Lot Number: 561-341-005
3. Name, address, and telephone number of person to be contacted concerning this project:
Rachael Justice, 841 Chevron Way, Richmond, CA 94801; (510) 621-9790
4. Indicate number of the permit application for the project to which this form pertains:
Permit Application Number TBD, Facility Number A0010
5. List and describe any other related permits and other public approvals required for this project, including those required by city, regional, state, and federal agencies:
N/A
6. Existing zoning district:
Heavy Industrial
7. Proposed use of site (Project for which this form is filed):
Alteration for FCCU Power Recovery Turbine Maintenance

Project Description

8. Site size. – N/A
9. Square footage. – N/A
10. Number of floors of construction. – N/A
11. Amount of off-street parking provided. – N/A
12. Attach plans. – N/A.
13. Proposed scheduling. – September 19, 2024
14. Associated project. – None.
15. Anticipated incremental development. – N/A

(revised 4/12/16)

16. If residential, include the number of units, schedule of unit sizes, range of sale prices or rents, and type of household size expected. – N/A
17. If commercial, indicate the type, whether neighborhood, city or regionally oriented, square footage of sales area, and loading facilities. – N/A
18. If industrial, indicate type, estimated employment per shift, and loading facilities – N/A; no changes proposed
19. If institutional, indicate the major function, estimated employment per shift, estimated occupancy, loading facilities, and community benefits to be derived from the project. – N/A
20. If the project involves a variance, conditional use or rezoning application, state this and indicate clearly why the application is required. – N/A

Are the following items applicable to the project or its effects? Discuss below all items checked yes. Attach additional sheets as necessary.

	Yes	No
21. Change in existing features of any bays, tidelands, beaches, or hills, or substantial alteration of ground contours.	☐	☒
22. Change in scenic views or vistas from existing residential areas or public lands or roads.	☐	☒
23. Change in pattern, scale or character of general area of project.	☐	☒
24. Significant amounts of solid waste or litter.	☐	☒
25. Change in dust, ash, smoke, fumes or odors in vicinity.	☐	☒
26. Change in ocean, bay, lake, stream or groundwater quality or quantity, or alteration of existing drainage patterns.	☐	☒
27. Substantial change in existing noise or vibration levels in the vicinity.	☐	☒
28. Site on filled land or on slope of 10 percent or more.	☐	☒
29. Use of disposal of potentially hazardous materials, such as toxic substances, flammables or explosives.	☐	☒
30. Substantial change in demand for municipal services (police, fire, water, sewage, etc.).	☐	☒
31. Substantially increase fossil fuel consumption (electricity, oil, natural gas, etc.).	☐	☒
32. Relationship to a larger project or series of projects.	☐	☒

Environmental Setting

33. Describe the project site as it exists before the project, including information on topography, soil stability, plants and animals, and any cultural, historical or scenic aspects. Describe any existing structures on the site, and the use of the structures. Attach photographs of the site. Snapshots or Polaroid photos will be accepted.

The Project site is within the Richmond Refinery where the existing FCCU is located. No change in topography or soil stability is expected as a result of the project. The Project will not change the purpose of the FCCU or existing environmental setting.

34. Describe the surrounding properties, including information on plants and animals and any cultural, historical or scenic aspects. Indicate the type of land use (residential, commercial, etc.), intensity of land use (one-family, apartment houses, shops, department stores, etc.), and scale of development (height, frontage, set-back, rear yard, etc.). Attach photographs of the vicinity. Snapshots or Polaroid photos will be accepted.

There will be no impact on the surrounding area as a result of the proposed project.

Certification

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

September 16, 2024

Date

Rachael Justice

Signature

For Chevron Products Company

(Note: This is only a suggested form. Public agencies are free to devise their own format for initial studies.)

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT****Application Cover Form – “P-101B form”**

All fields are required unless otherwise noted. Please type or print.
No information provided on this form can be marked trade secret.

PUBLIC COPY

Send to:
BAAQMD
Engineering Division
375 Beale St., Suite 600
San Francisco, CA 94105
Email: permits@baaqmd.gov

Phone: (415) 749-4990

1. Facility and Project Information

- If this facility does not have a current BAAQMD permit or active permit application (new facility), fill out the **Facility Creation and Contacts Form** part of this form.
- If this application is in response to a Notice of Violation from BAAQMD Compliance & Enforcement Division, please enter the NOV number here **A0010**

Facility Name	Facility ID (except new facilities)
Chevron Products Company	
Application Title/ Project or Equipment Description	
Alteration for FCCU Power Recovery Turbine Maintenance	
Equipment/Project Location in relation to facility location (e.g., NW corner of facility OR 338 Washington Dr.) (Optional)	

2. Application Contact

First Name	Last Name		
Rachael	Justice		
Business Name of Contact (If different from facility)		Contact Title	
		Permitting Specialist	
Address Line 1		Address Line 2 (Optional)	
841 Chevron Way			
City	State	Zip Code	
Richmond	CA	94801	
E-mail Address			
RJGU@chevron.com			
Primary Phone (xxx-xxx-xxxx)	Alternate Phone (Optional)		Fax Number (Optional)
510-242-4466	510-621-9790		

3. Proximity to a School (K-12)Is the equipment/project located within 1,000 ft of the outer boundary of the nearest school? ☐ Yes ☒ No

4. Additional Information: The following additional information is required to complete all permit applications and should be included with your submittal. Failure to provide this information may delay the review of your application.

- ☒ A facility map with street address or location and the property boundary, drawn roughly to scale, that locates the equipment and its emission points, completed data form(s), and a pollutant flow diagram for each piece of equipment. (See www.baaqmd.gov/forms/permits)
- ☒ Equipment/project description, manufacturer's data
- ☒ Discussion and/or calculations of air pollutant emissions from the equipment

5. Small Business Certification (optional): If the facility identified in Part 1 qualifies as a small business as defined in Regulation 3, certify by checking boxes that your business meets all the following criteria. You may qualify for an application fee reduction.

- ☐ The business does not employ more than 10 persons and its gross annual income does not exceed \$750,000.
- ☐ And the business is not an affiliate of a non-small business. (Note: a non-small business employs more than 10 persons and/or its gross income exceeds \$750,000.)

6. Green Business Certification (optional): If the facility identified in Part 1 has been certified as a Green Business by the Association of Bay Area Governments and implemented by participating counties, check the box & include your documentation. You may qualify for an application fee reduction.

- ☐ Green Business certificate included

An electronic version of this form and instructions can be found at www.baaqmd.gov.



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

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375 Beale St., Suite 600
San Francisco, CA 94105
Email: permits@baaqmd.gov

Phone: (415) 749-4990

7. Accelerated Permitting (optional): The Accelerated Permitting Program entitles you to install and operate qualifying sources of air pollution and abatement equipment **while your permit application is being processed**. To qualify for this program, you must certify that your project will meet all of the following criteria. Please acknowledge each item by checking each box.

- ☐ Uncontrolled emissions of any single pollutant are each less than 10 lbs/highest day, or the equipment has been pre-certified by the BAAQMD.
- ☐ Uncontrolled emissions of toxic compounds do not exceed the trigger levels identified in Table 2-5-1 (see Regulation 2, Rule 5).
- ☒ The source is not a diesel engine.
- ☐ The project is not subject to public notice requirements (the source is either more than 1000 ft. from the nearest school, or the source does not emit any toxic compound in Table 2-5-1 of BAAQMD Regulation 2, Rule 5).
- ☐ For replacement of abatement equipment, the new equipment must have an equal or greater overall abatement efficiency for all pollutants than the equipment being replaced.
- ☒ For alterations of existing sources, the requested change does not result in an increase in emissions for all pollutants.
- ☐ Payment of all applicable permit application fees (the minimum permit fee to install and operate each source). See Regulation 3 or contact the Engineering Division for help in determining your fees.

8. CEQA Please answer the following questions pertaining to CEQA (California Environmental Quality Act).

- A Has another public agency prepared, required preparation of, or issued a notice regarding preparation of a California Environmental Quality Act (CEQA) document (initial study, negative declaration, environmental impact report, or other CEQA document) that analyzes impacts of this project or another project of which it is a part or to which it is related? If no, go to section 8B. Describe the document or notice, preparer, and date of document or expected date of completion:

N/A

- B List and describe any other permits or agency approvals required for this project by city, regional, state or federal agencies

N/A

- C List and describe all other prior or current projects for which either of the following statements is true: (1) the project that is the subject of this application could not be undertaken without the project listed below, (2) the project listed below could not be undertaken without the project that is the subject of this application:

N/A

9. Trade Secret Information: Under the California Public Records Act, all information in your permit application will be considered a matter of public record and may be disclosed to the public, unless you have asked BAAQMD to treat certain items as trade secret as specified in Regulation 2, Rule 1, Section 402.7.

Does this application contain Trade Secret information? ☒ Yes ☐ No

- ☒ Each page containing trade secret information must be labeled “trade secret” with the trade secret information **clearly marked** and you must provide a “public copy” with the information **redacted**.
- ☒ For each item asserted to be trade secret, you must provide a statement which provides the basis for your claim.

10. Certification/Signature

I hereby certify that I am authorized to complete this form for the facility and that all information contained herein is true and correct.

I acknowledge that all documentation in this application submittal is a matter of public record unless otherwise indicated per Section 9 of this form.

Name	Title	
Rachael Justice	Permitting Specialist	
Signature	Date (mm/dd/yy)	Phone (xxx-xxx-xxxx)
Rachael Justice	09/16/2024	510-242-4466

An electronic version of this form and instructions can be found at www.baaqmd.gov.

Attachment C-Emissions Calculations

CHEVRON CONFIDENTIAL BUSINESS INFORMATION

Table 1. Inputs - Boiler PTE

Parameter ¹	Value	Units
1 Boiler (S-4129) Max Daily Firing Rate	5,592	MMBtu/day
1 Boiler (S-4129) Max Annual Firing Rate	2,041,080	MMBtu/year
3 Boiler (S-4131) Max Daily Firing Rate	5,664	MMBtu/day
3 Boiler (S-4131) Max Annual Firing Rate	2,067,360	MMBtu/year

1. Maximum firing rates per Chevron Products Company Title V Permit, Table II-A-1.

Table 2. Boiler Maximum Emission Factors

Source	Emission Factor (lb pollutant/MMBtu) ¹				
	CO	NO _x ²	PM ₁₀	SO ₂	POC
1 Boiler	0.2943	0.033	0.0058	0.0154	0.016
3 Boiler	0.2943	0.033	0.0058	0.0154	0.012

1. Maximum emission factors calculated based upon submitted 12-15 Emission Inventory data for 2017-2023 using reported lb/day and MMBtu/day.

2. Max NO_x emission factor for 1 Boiler per Condition #23872, Part 3. Max NO_x emission factor for 3 Boiler per BAAQMD Rule 9-10-301.

Table 3. Boiler Max PTE

Source	Emissions (lb/day) ¹					Emissions (tpy) ¹				
	CO	NO _x	PM ₁₀	SO ₂	POC	CO	NO _x	PM ₁₀	SO ₂	POC
1 Boiler	1645.49	184.54	32.43	86.06	89.52	300.30	33.68	5.92	15.71	16.34
3 Boiler	1666.68	186.91	32.85	87.16	66.93	304.17	34.11	6.00	15.91	12.22
Total	3312.17	371.45	65.28	173.22	156.45	604.47	67.79	11.91	31.61	28.55

1. Maximum PTE = Max firing rate (MMBtu/day or MMBtu/year) x Emission Factor (lb pollutant/MMBtu).

Table 4. Inputs - Boiler Projected Actual Emissions (PAE)

Parameter	Value	Units
Average Steam Production (2020 - 2023) ¹	3,333	Mlb/day
Incremental Projected Steam Production ²	2,880	Mlb/day
Event Duration ²	190	days
Remaining Days in Year	175	days

1. Average Steam Production from Steam Plant per 2020-2023 data for 1 Boiler and 3 Boiler, weighted by fuel gas firing rate.

2. Per Chevron projections.

Table 5. Boiler Emission Factors (lb pollutant/Mlb steam) Averaged Over Duration of PRT Outage

Pollutant	Emission Factor ¹
CO	0.0496
NO _x	0.0782
PM ₁₀	0.0098
SO ₂	0.0259
POC	0.0082

1. Calculated on a daily basis using 2020-2023 data for 1 Boiler and 3 Boiler.

Table 6. PAE - Boilers

Pollutant	Daily Emissions ¹ (lb/day)	Annual Emissions ² (tpy)
CO	307.94	43.708
NO _x	485.53	67.789
PM ₁₀	60.70	8.615
SO ₂	161.05	22.858
POC	50.83	7.215

1. Daily emissions (lb/day) = Maximum steam emission factor (lb pollutant/Mlb steam) x [Average steam production (2020-2023), Mlb/day + Incremental projected steam production, Mlb/day].

2. Annual emissions (tpy) = Event duration (days/year) x Daily emissions (lb/day) + Maximum steam emission factor (lb pollutant/Mlb steam) x [Average steam production (2020-2023), Mlb/day] x Remaining days in year (days).



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

Ex. 5

September 19, 2024

Chevron Products Company
Attn: Rachael Justice, Permitting Specialist
841 Chevron Way
Richmond, CA 94801

Dear Owner/Operator:

SUBJECT: TEMPORARY PERMIT TO OPERATE – ACCELERATED PERMITTING PROGRAM

This letter is regarding the following application:

Application No.: 714498	located at:
	Facility ID: 10
	Chevron Products Company
	841 Chevron Way
	Richmond, CA 94801

Since your application has been deemed complete and qualifies for the limited exemption under the Accelerated Permitting Program in Regulation 2, Rule 1, you may start up and operate the equipment described below:

**S-4285 Fluidized Catalytic Cracking (FCC) Unit operating without Power Recovery Turbine
90,000 barrels per day; 29,200,000 barrels per year**

abated by

A-0014 FCC Electrostatic Precipitator (single stage)

And

**S-4129 800# Steam Boiler #1 (#1PP)
Riley Stoker Corp.; 5,592 MMBtu/day (HHV); 2,041,080 MMBtu/year (HHV)**

**S-4131 Steam Boiler #3 (#1PP)
Riley Stoker Corp.; 5,664 MMBtu/day (HHV); 2,067,360 MMBtu/year (HHV)**

**S-4132 Steam Boiler #4 (#1PP)
Riley Stoker Corp.; 5,640 MMBtu/day (HHV); 2,058,600 MMBtu/year (HHV)**

**S-4133 Steam Boiler #5 (#1PP)
Riley Stoker Corp.; 5,688 MMBtu/day (HHV); 2,076,120 MMBtu/year (HHV)**

**S-4135 Steam Boiler #7 (#1PP)
Babcock & Wilcox.; 6,528 MMBtu/day (HHV); 2,382,720 MMBtu/year (HHV)**

This letter serves as your temporary Permit to Operate while your application is processed and finalized. This temporary permit is based on your submitted application. Any change or misrepresentation while in operation may cause this Temporary Permit to Operate to be rescinded and or an enforcement action.

The equipment listed above is also subject to the following/attached additional conditions while operating under the accelerated permit.

You will be contacted by staff as we continue to process your application.

If you have any questions on this matter, please contact Christopher Thompson, Air Quality Engineer at cthompson@baaqmd.gov or (415) 749-8733. Please include your application number with any correspondence. The Air District's regulations may be viewed online at www.baaqmd.gov.

Very truly yours,

**Pamela
Leong**

Pamela J. Leong
Director, Engineering Division



Digitally signed by Pamela Leong
DN: cn=Pamela Leong, o, ou,
email=pleong@baaqmd.gov,
c=US
Date: 2024.09.19 18:19:16 -07'00'

Enclosed: Temporary Permit to Operate Conditions

Temporary Permit to Operate Conditions – AN 714498

1. The owner/operator of Fluidized Catalytic Cracking (FCC) Unit S-4285 shall abate FCC emissions at all times of operation by a properly installed, maintained, and operated per manufacturer specifications Single Stage Electrostatic Precipitator (A-14) without a Power Recovery Turbine (PRT) for the term of the Temporary Permit to Operate (TPO) issued under Application 714498 in compliance with the following emission limits and fuel usage limits: (Basis: Regulation 2-1-233)

Table 1: Individual Daily Limits for Power Plant Boilers					
Pounds per day	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
NO_x	180.50	156.99	184.02	151.14	210.27
CO	4.06	3.59	4.14	3.71	9.66
POC	23.70	22.08	21.49	20.74	27.81
PM₁₀	22.85	21.28	20.42	19.99	26.81
PM_{2.5}	22.85	21.28	20.42	19.99	26.81
SO₂	58.13	48.79	45.88	47.65	72.74

Table 2: Individual Annual Limits for Power Plant Boilers					
Tons per year	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
NO_x	13.71	15.03	15.13	12.96	20.38
CO	0.41	0.47	0.48	0.41	0.85
POC	2.17	2.37	2.60	2.55	3.67
PM₁₀	2.10	2.28	2.51	2.46	3.50
PM_{2.5}	2.10	2.28	2.51	2.46	3.50
SO₂	1.64	1.48	1.96	1.91	2.62

Table 3: Individual Fuel Usage Limits for Power Plant Boilers Fuel Source: V-701A Fuel Gas Drum					
MMDSCF	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
Daily	4.58	4.35	4.24	3.94	5.55
Annual	950.79	950.77	1007.69	962.28	1425.29

2. The owner/operator shall maintain Air District approved records, such as but not limited to Air District approved emission calculations, CEMs monitoring information, fuel flow meter records, and such) to demonstrate compliance with emission and fuel usage limits summarized in Tables 1 through 3 for the entire term of the TPO. These records shall be made available to Air District personnel for review on request. (Basis: Regulation 2-1-403)
3. The TPO issued under Application 714498 shall expire within 6 months from the date of issuance. (Regulation 2-1-403)



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

1/29/2025

Kris Battleson
PO BOX 1272
Richmond, CA 94802-0272

Ex. 6

Dear Owner:

SUBJECT: PERMIT TO OPERATE ALTERED EQUIPMENT

This letter is regarding the following application:

Application No.: 714498 located at:

Facility ID No.: 10
Chevron Products Company
841 Chevron Way
Richmond, CA 94801-4801

This letter is to advise you that your Permit to Operate for the following is approved:

**S4285 Fluidized Catalytic Cracking Unit (FCC Plant)
90,000 barrels per day; 29,200,000 barrels per year
Operating without Power Recovery Turbine until 3/18/25**

abated by

A14 FCC Electrostatic Precipitator (single stage)

And

**S-4129 800# Steam Boiler #1 (#1PP)
Riley Stoker Corp.; 5,592 MMBtu/day (HHV);
2,041,080 MMBtu/year (HHV)
S-4131 Steam Boiler #3 (#1PP)
Riley Stoker Corp.; 5,664 MMBtu/day (HHV);
2,067,360 MMBtu/year (HHV)
S-4132 Steam Boiler #4 (#1PP)
Riley Stoker Corp.; 5,640 MMBtu/day (HHV);
2,058,600 MMBtu/year (HHV)
S-4133 Steam Boiler #5 (#1PP)
Riley Stoker Corp.; 5,688 MMBtu/day (HHV);
2,076,120 MMBtu/year (HHV)
S-4135 Steam Boiler #7 (#1PP)
Babcock & Wilcox.; 6,528 MMBtu/day (HHV);
2,382,720 MMBtu/year (HHV)**

The equipment described above is subject to the temporary conditions attached for the period ending 3/18/2025.

If you have any questions on this matter, please contact Christopher Thompson, Air Quality Engineer at cthompson@baaqmd.gov (Preferred) or (415) 749-8733. Please include your application number with any correspondence. The Air District's regulations may be viewed online at www.baaqmd.gov.

Very truly yours,

**Pamela
Leong**

Digitally signed by Pamela Leong
DN: cn=Pamela Leong, o, ou,
email=pleong@baaqmd.gov,
c=US
Date: 2025.02.06 20:20:49 -08'00'

Pamela J. Leong
Director, Engineering Division

Permit to Operate Conditions – AN 714498

1. The owner/operator of Fluidized Catalytic Cracking (FCC) Unit S-4285 shall abate FCC emissions at all times of operation by a properly installed, maintained, and operated per manufacturer specifications Single Stage Electrostatic Precipitator (A-14) without a Power Recovery Turbine (PRT) for the term of the Permit to Operate (PO) issued under Application 714498 in compliance with the following emission limits and fuel usage limits:
(Basis: Regulation 2-1-233)

Table 1: Individual Daily Limits for Power Plant Boilers					
Pounds per day	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
NO _x	180.5	156.99	184.02	151.14	210.27
CO	4.06	3.59	4.14	3.71	9.66
POC	23.70	22.08	21.49	20.74	27.81
PM ₁₀	22.85	21.28	20.42	19.99	26.81
PM _{2.5}	22.85	21.28	20.42	19.99	26.81
SO ₂	58.13	48.79	45.88	47.65	72.74

Table 2: Individual Annual Limits for Power Plant Boilers					
Tons per year	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
NO _x	13.71	15.03	15.13	12.96	20.38
CO	0.41	0.47	0.48	0.41	0.85
POC	2.17	2.37	2.6	2.55	3.67
PM ₁₀	2.10	2.28	2.51	2.46	3.50
PM _{2.5}	2.10	2.28	2.51	2.46	3.50
SO ₂	1.64	1.48	1.96	1.91	2.62

Table 3: Individual Fuel Usage Limits for Power Plant Boilers Fuel Source: V-701A Fuel Gas Drum					
MMSCF	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
Daily	4.58	4.35	4.24	3.94	5.55
Annual	1061.07	1037.83	1146.09	962.28	1425.29

Table 4: Combined Daily Limits for Power Plant Boilers					
Pounds per day	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
NO _x	757.041				
CO	19.978				
POC	112.67				
PM ₁₀	101.403				
PM _{2.5}	101.403				
SO ₂	248.571				

Table 5: Combined Annual Limits for Power Plant Boilers					
Tons per year	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
NO _x	74.612				
CO	2.561				
POC	12.466				
PM ₁₀	11.219				
PM _{2.5}	11.219				
SO ₂	8.533				

Table6: Combined Fuel Usage Limits for Power Plant Boilers Fuel Source: V-701A Fuel Gas Drum					
MMSCF	S-4129 Boiler #1	S-4131 Boiler #3	S-4132 Boiler #4	S-4133 Boiler #5	S-4135 Boiler #7
Daily	21.995				
Annual	5266.667				

2. The owner/operator shall maintain Air District approved records, such as but not limited to Air District approved emission calculations, CEMs monitoring information, fuel flow meter records, and such) to demonstrate compliance with emission and fuel usage limits summarized in Tables 1 through 3 for the entire term of the PO. These records shall be made available to Air District personnel for review on request.
(Basis: Regulation 2-1-403)
3. The PO issued under Application 714498 shall expire on March 18, 2025. (Regulation 2-1-403)