Chevron

Shawn Lee
HES Manager, Richmond Refinery

RECEIVED

2019 JAN 28 AM 9:57

BAY AREA AIR QUALITY
MANAGEMENT DISTRICT

January 24, 2019

Mr. Wayne Kino
Director of Compliance and Enforcement
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, California 94105
Attn: Title V Reports

Six-month Deviation Summary and Six-month Monitoring Report Submittal by Chevron Richmond Refinery (Plant #0010) For the Period of July 1, 2018 to December 31, 2018

Dear Mr. Kino:

Attached are the Chevron Six-month Deviation Summary Report, and the Six-month Monitoring Report for July 1, 2018 through December 31, 2018, which meets the requirements of the Title V Permit Standard Condition I. F. and 40 CFR 70.6 as described in the BAAQMD correspondence from Steve Hill to Jim Whiteside dated January 8, 2004.

If you have any questions, please contact Mr. Carlos Perez at (510) 242-4405.

Sincerely,

For

Shawn Lee

Attachment

Health, Environment & Safety
Chevron Products Company
P.O Box 1272
Richmond, CA 94802 – 0272
Tel 510 242 1400
Fax 510 242 5353
ShawnLee@chevron.com

BAAQMD Title V Permit
6 Month Deviation Summary Report

From 7/1/2018 *to* 12/31/2018

A0010 Chevron Richmond Refinery

Facility Address:
841 Chevron Way
City: Richmond
State: CA
Zip Code: 94801-

Mailing Address
PO Box 1272
City: Richmond
State: CA
Zip Code: 94802-0272

Contact: Katie Gong Title: Compliance Technician Phone: (510) 242-1930

Title V deviations for the reporting period are summarized below:

Event Started: 12/31/2004 11:59 PM
Stopped: ☑ Ongoing Event
Discovered On: 1/10/2005

Source Number:
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit: Title V Permit, Table II.A.3
AQMD:
Other:

Event Description: REVISED NOTIFICATION to reflect date & time change: The throughput limit for the Chevron Refinery Long Wharf contained in Table II A 3 (Grandfathered Sources) of the refinery's Title V permit are new limits -- they did not exist before December 1, 2003 (the date the refinery's Title V permit was issued). To determine compliance with the annual throughput limits listed in Table II A 3, the District directed that Chevron sum the total throughput for each of the twelve months preceeding the calculation date. Table II A 3 includes a 12-month throughput limit of 146,628,000 bbls for the sum of all 6 berths - S-9321, -9322, -9323, -9324, -9325 and -9326. As of January 1, 2005 the actual total throughput of these sources for the previous 12 months was approximately 148,340,000 bbls. Accordingly, based on data for the months January 2004 through December 2004, on January 10, 2005 Chevron determined that these sources exceeded their annual throughput limit listed in Table II A 3 of the refinery's Title V permit.

Pursuant to Standard Condition I.J.2 of the refinery's Title V permit, Chevron is required to report to the District any exceedance of a limit in Table II A 3. Such notice is for reporting purposes only -- it is not an indication of non-compliance with the refinery's Title V permit.

Probable Cause: The refinery has been operating at higher rates in order to meet the increased public demand for refined products, i.e., gasoline, diesel fuel and jet fuel. The refinery's feedstocks and incremental production are both handled at the Long Wharf. The 12-month throughput limit in the Title V Permit was artificially imposed and did not reflect the "as built" capabilities of the systems. No modifications have been made since February, 2000 that affected the wharf's throughput capabilities.

Corrective actions or preventative steps taken: Chevron has reported this to the District as required by the Title V permit.

Event Started: 7/1/2005

Stopped:

☑ Ongoing Event

Discovered On: 7/1/2005

Source Number: S1491

Abatement Device :

Emission Point:

May have resulted in a violation of :

Permit: Title V permit, Table II A 3

AQMD:

Other:

Event Description: REVISED: The throughput limit for the Chevron Refinery Tank 1491 (S#1491) contained in Table II A 3 (Grandfathered Sources) of the Refinery's Title V permit are new limits - they did not exist before December 1, 2003 (the date the refinery's Title V permit was issued). Table II A 3 includes a 12-month throughput limit of 1,093,160 bbls for 1491 Tank. As of July 31, 2006 the actual total throughput of this source for the previous 12 months was approximately 1,137,815 bbls. Accordingly, based on data for the months August 2005 through July 2006, Chevron determined that this source exceeded its annual throughput limit listed in Table II A 3 of the Refinery's Title V permit.

As of January 31, 2009, the actual throughput of S-1491 for the past 12 months was 1,119,918 bbls. Accordingly, based on data for the months of February 2008 through January 2009, on February 3, 2009, Chevron determined that S-1491 exceeded its annual throughput limit in Table II A 3 of the refinery's Title V permit.

Updated 9/1/2018: As of August 31, 2017, the actual throughput of S-1491 for the past 12 months was 1,611,125 bbls. Accordingly, based on data for the months of September 2017 through August 2018, on September 1, 2018, Chevron determined that S-1491 exceeded its annual throughput limit in Table II A 3 of the refinery's Title V permit.

Pursuant to Standard Condition I.J.2 of the Refinery's Title V permit, Chevron is required to report to the District any exceedance of a limit in Table II A 3. Such notice is for reporting purposes only - it is not an indication of non-compliance with the Refinery's Title V permit.

Probable Cause: T-3073 received gasoline components from two process units and the refinery decided to divert one of these streams to T-1491 (S-1491). T-1491 has contained a number of gasoline components during its life. Although no change occurred with plant operation or capacity, the diverted stream caused an increase in throughput to be seen by T-1491. Immediately prior to its current service, T-1491 contained MTBE/TAME which was the basis for the Title V grandfathered throughput limit. The throughput of the current process stream to T-1491 is much greater than the throughput of MTBE/TAME. No modifications have been made which affect T-1491's throughput capabilities and no modifications were made which enabled the change in service.

Corrective actions or preventative steps taken:

The grandfathered limit was established using the highest documented throughput for the tank which was not appropriate since design capacity would provide a higher throughput limit. This tank has not been part of any activity with NSR implications

Chevron will continue to report this to the District as required by the Title V permit.

According to Standard Condition J-2 of our Title V permit, this limit is for reporting purposes only. We are reporting this exceedance consistent with this permit condition.

Event Started: 11/23/2006 3:00 AM
Stopped: ☑ Ongoing Event
Discovered On: 12/4/2006

Source Number: S1688
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit: Title V Permit Table II.A.3
AQMD:
Other:

Event Description: The throughput limits for T1688 contained in Table II A 3 (Grandfathered Sources) of the refinery's Title V permit are new limits -- they did not exist before December 1, 2003 (the date the refinery's Title V permit was issued). To determine compliance with the annual throughput limits listed in Table II A 3, the District directed that Chevron sum the total throughput for each of the twelve months preceding the calculation date. Table II A 3 includes an annual throughput limit of 5,059,000 bbl. for S-1688. As of December 1, 2006 the actual throughput of S-1688 for the past 12 months was 5,206,861 bbl. Accordingly, based on data for the months December 2005 through November 2006, on December 1, 2006, Chevron determined that S-1688 exceded its annual throughput limit listed in Table II A 3 of the refinery's Title V permit.

Pursuant to Standard Condition I.J.2 of the refinery's Title V permit, Chevron is required to report to the District any exceedance of a limit in Table II A 3. Such notice is for reporting purposes only -- it is not an indication of non-compliance with the refinery's Title V permit.

Probable Cause: The grandfathered limit was established using the highest documented throughput for the tank which was not appropriate since design capacity would provide a higher throughput limit. This tank has not been part of any activity with NSR implications.

Corrective actions or preventative steps taken: According to Standard Condition J-2 of our Title V permit, this throughput limit is for reporting purposes only. We are reporting this exceedance consistent with this permit condition.

Event Started: 3/31/2007 11:59 PM
Stopped: ☑ Ongoing Event
Discovered On: 4/2/2007

Source Number: S3071
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit: Title V Permit Table II.A.3
AQMD:
Other:

Event Description: The throughput limits for T3071 contained in Table II A 3 (Grandfathered Sources) of the refinery's Title V permit are new limits -- they did not exist before December 1, 2003 (the date the refinery's Title V permit was issued). To determine compliance with the annual throughput limits listed in Table II A 3, the District directed that Chevron sum the total throughput for each of the twelve months preceding the calculation date. Table II A 3 includes an annual throughput limit of 8,560,287 bbl. for S-3071. As of March 31, 2007 the actual throughput of S-3071 for the past 12 months was 8,776,309 bbl. Accordingly, based on data for the months April, 2006 through March 2007, on April 2, 2006, Chevron determined that S-3071 exceeded its annual throughput limit listed in Table II A 3 of the refinery's Title V permit.

Pursuant to Standard Condition I.J.2 of the refinery's Title V permit, Chevron is required to report to the District any exceedance of a limit in Table II A 3. Such notice is for reporting purposes only -- it is not an indication of non-compliance with the refinery's Title V permit.

Probable Cause: The grandfathered limit was established using the highest documented throughput for the tank which was not appropriate since design capacity would provide a higher throughput limit. This tank has not been part of any activity with NSR implications.

Corrective actions or preventative steps taken: According to Standard Condition J-2 of our Title V permit, this throughput limit is for reporting purposes only. We are reporting this exceedance consistent with this permit condition.

Event Started: 4/1/2008 12:00 AM
Stopped:
☑ Ongoing Event
Discovered On: 4/1/2008

Source Number: S3104
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit:
AQMD:
Other:

Event Description: The throughput limits for T3104 contained in Table II A 3 (Grandfathered Sources) of the refinery's Title V permit are new limits -- they did not exist before December 1, 2003 (the date the refinery's Title V permit was issued). To determine compliance with the annual throughput limits listed in Table II A 3, the District directed that Chevron sum the total throughput for each of the twelve months preceding the calculation date. Table II A 3 includes an annual throughput limit of 22,676,000 bbls. for S-3104. As of March 31, 2007, the actual throughput of S-3104 for the past 12 months was 22,752,328 bbls. Accordingly, based on data for the months of April 2007 through March 2008, on April 1, 2008, Chevron determined that S-3104 exceeded its annual throughput limit listed in Table II A 3 of the refinery's Title V permit.

Pursuant to Standard Condition J.2 of the refinery's Tile V permit, Chevron is required to report to the District any exceedance of a limit in Table II A 3. Such notice is for reporting purposes only -- it is not an indication of non-compliance with the refinery's Title V permit.

Probable Cause: The grandfathered limit was established using the highest documented throughput for the tank which was not appropriate since design capacity would provide a higher throughput limit. This tank has not been part of any activity with NSR implications.

Corrective actions or preventative steps taken: According to Standard Condition J-2 of our Title V permit, this throughput limit is for reporting purposes only. We are reporting this exceedance consistent with this permit condition.

Event Started: 4/30/2008 11:59 PM
Stopped:
☑ Ongoing Event
Discovered On: 5/1/2008

Source Number: S3072
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit: Title V Permit Table II.A.3
AQMD:
Other:

Event Description: The throughput limits for T3072 contained in Table II A 3 (Grandfathered Sources) of the refinery's Title V permit are new limits -- they did not exist before December 1, 2003 (the date the refinery's Title V permit was issued). To determine compliance with the annual throughput limits listed in Table II A 3, the District directed that Chevron sum the total throughput for each of the twelve months preceding the calculation date. Table II A 3 includes an annual throughput limit of 2,979,200 bbl. for S-3072. As of April 30, 2008 the actual throughput of S-3072 for the past 12 months was 2,987,253 bbl. Accordingly, based on data for the months May, 2007 through April 2008, on May 1, 2008, Chevron determined that S-3072 exceeded its annual throughput limit listed in Table II A 3 of the refinery's Title V permit.

Pursuant to Standard Condition I.J.2 of the refinery's Title V permit, Chevron is required to report to the District any exceedance of a limit in Table II A 3. Such notice is for reporting purposes only -- it is not an indication of non-compliance with the refinery's Title V permit.

Probable Cause: The grandfathered limit was established using the highest documented throughput for the tank which was not appropriate since design capacity would provide a higher throughput limit. This tank has not been part of any activity with NSR implications.

Corrective actions or preventative steps taken: According to Standard Condition J-2 of our Title V permit, this throughput limit is for reporting purposed only. We are reporting this exceedance consistent with this permit condition.

Event Started: 6/30/2008 11:59 PM Stopped: ☑ Ongoing Event Discovered On: 7/7/2008	Source Number: S1504 Abatement Device : Emission Point:	May have resulted in a violation of : Permit: AQMD: Other:

Event Description: The throughput limits for T1504 contained in Table II A 3 (Grandfathered Sources) of the refinery's Title V permit are new limits -- they did not exist before December 1, 2003 (the date the refinery's Title V permit was issued). To determine compliance with the annual throughput limits listed in Table II A 3, the District directed that Chevron sum the total throughput for each of the twelve months preceding the calculation date. Table II A 3 includes an annual throughput limit of 602,132 bbls. for S-1504. As of June 30, 2008, the actual annual throughput limit of S-1504 for the past twelve months was 609,294 bbls. Accordingly, based on data for the months of July 2007 through June 2008, on July 7, 2008, Chevron determined that S-1504 exceeded its annual throughput limit listed in Table II A 3 of the refinery's Title V permit.

Pursuant to Standard Condition J.2 of the refinery's Tile V permit, Chevron is required to report to the District any exceedance of a limit in Table II A 3. Such notice is for reporting purposes only -- it is not an indication of non-compliance with the refinery's Title V permit.

Probable Cause: The grandfathered limit was established using the highest documented throughput for the tank which was not appropriate since design capacity would provide a higher throughput limit. This tank has not been part of any activity with NSR implications.

Corrective actions or preventative steps taken: According to Standard Condition J-2 of our Title V permit, this throughput limit is for reporting purposes only. We are reporting this exceedance consistent with this permit condition.

Event Started: 5/20/2016 7:00 AM Stopped: ☑ Ongoing Event Discovered On: 5/23/2016	Source Number: S4285 Abatement Device : A0014 Emission Point:	May have resulted in a violation of : Permit: PC #11066 part 7A5 AQMD: Other:

Event Description: Beginning on May 20, 2016 the FCC electrostatic precipitator (ESP) has begun operating intermittently in a state of deviation with Title V permit condition 11066 part 7(A5) following the commencement of the Refinery's ammonia optimization and demonstration testing protocol per Regulation 6 Rule 5. Per the Air District's approval and direction given on April 12, 2016, the test protocol is conducted under the Air District's Trial Testing Policy and this report is being submitted to capture all potential deviations with the above mentioned permit condition as a result of implementing the testing protocol.

UPDATE:
On June 27, 2017, the BAAQMD agreed to allow the Chevron Richmond Refinery to continue trial testing under the Refinery's Ammonia Optimization and Demonstration Testing Protocol. Per the agreement, the BAAAQMD will extend enforcement relief and permit the Refinery to operate outside the requirements of the Title V Permit Condition 11066 #3A, 3B, 3C, 7A, and 7A5 (and potentially other parts of the permit condition) until issuance of the final ammonia emissions limit. The Refinery will continue to capture all potential deviations as a result of implementing the testing protocol.

Probable Cause: Due to the ongoing FCC stack ammonia optimization testing protocol, the Refinery deviated from BAAQMD permit condition #11066 part 7A5 on the following dates.

Corrective actions or preventative steps taken:

May:
- May 20, 2016 at 0700 hrs to May 21, 2016 at 0300 hrs
- May 21, 2016 at 0600 hrs to May 23, 2016 at 0700 hrs
- May 25, 2016 at 20:00 hrs to May 26, 2016 at 00:00 hrs
- May 26, 2016 at 18:00 hrs to May 27, 2016 at 00:00 hrs
- May 27, 2016 at 08:00 hrs to May 27, 2016 at 10:00 hrs
- May 28, 2016 at 09:00 hrs to May 28, 2016 at 11:00 hrs
- May 28, 2016 at 21:00 hrs to May 28, 2016 at 22:00 hrs
- May 31, 2016 at 21:00 hrs to May 31, 2016 at 22:00 hrs

June:
- June 6, 2016 at 10:00 hrs to June 6, 2016 at 14:00 hrs
- June 10, 2016 at 20:00 hrs to June 10, 2016 at 21:00 hrs
- June 14, 2016 at 22:00 hrs to June 15, 2016 at 01:00 hrs
- June 15, 2016 at 07:00 hrs to June 15, 2016 at 08:00 hrs
- June 15, 2016 at 12:00 hrs to June 15, 2016 at 19:00 hrs
- June 15, 2016 at 22:00 hrs to June 15, 2016 at 23:00 hrs
- June 16, 2016 at 09:00 hrs to June 17, 2016 at 08:00 hrs
- June 17, 2016 at 20:00 hrs to June 18, 2016 at 09:00 hrs
- June 18, 2016 at 22:00 hrs to June 19, 2016 at 01:00 hrs
- June 20, 2016 at 17:00 hrs to June 25, 2016 at 12:00 hrs
- June 25, 2016 at 20:00 hrs to June 26, 2016 at 11:00 hrs
- June 26, 2016 at 18:00 hrs to June 26, 2016 at 21:00 hrs
- June 27, 2016 at 03:00 hrs to June 27, 2016 at 04:00 hrs
- June 27, 2016 at 05:00 hrs to June 27, 2016 at 11:00 hrs
- June 28, 2016 at 05:00 hrs to June 28, 2016 at 08:00 hrs
- June 28, 2016 at 20:00 hrs to June 29, 2016 at 02:00 hrs
- June 29, 2016 at 19:00 hrs to June 30, 2016 at 12:00 hrs
- June 30, 2016 at 19:00 hrs to July 1, 2016 at 00:00 hrs

July:
•July 1, 2016 at 00:00 hrs to July 1, 2016 at 02:00 hrs
•July 2, 2016 at 09:00 hrs to July 2, 2016 at 10:00 hrs
•July 3, 2016 at 02:00 hrs to July 3, 2016 at 15:00 hrs
•July 4, 2016 at 08:00 hrs to July 4, 2016 at 16:00 hrs
•July 4, 2016 at 22:00 hrs to July 5, 2016 at 00:00 hrs
•July 5, 2016 at 00:00 hrs to July 5, 2016 at 09:00 hrs
•July 6, 2016 at 09:00 hrs to July 6, 2016 at 15:00 hrs
•July 6, 2016 at 18:00 hrs to July 7, 2016 at 00:00 hrs
•July 7, 2016 at 00:00 hrs to July 7, 2016 at 08:00 hrs
•July 7, 2016 at 10:00 hrs to July 7, 2016 at 13:00 hrs

August:
•August 5, 2016 at 06:00 hrs to August 5, 2016 at 07:00 hrs
•August 5, 2016 at 10:00 hrs to August 5, 2016 at 14:00 hrs
•August 8, 2016 at 12:00 hrs to August 8, 2016 at 16:00 hrs
•August 12, 2016 at 21:00 hrs to August 12,2016 at 22:00 hrs
•August 16, 2016 at 23:00 hrs to August 17, 2016 at 00:00 hrs
•August 17, 2016 at 22:00 hrs to August 18, 2016 at 00:00 hrs
•August 22, 2016 at 11:00 hrs to August 18, 2016 at 13:00 hrs
•August 23, 2016 at 20:00 hrs to August 23, 2016 at 21:00 hrs
•August 26, 2016 at 12:00 hrs to August 26, 2016 at 13:00 hrs
•August 26, 2016 at 20:00 hrs to August 26, 2016 at 21:00 hrs
•August 29, 2016 at 09:00 hrs to August 29, 2016 at 12:00 hrs
•August 29, 2016 at 13:00 hrs to August 29, 2016 at 15:00 hrs
•August 30, 2016 at 17:00 hrs to August 30, 2016 at 23:00 hrs
•August 31, 2016 at 07:00 hrs to Septembe 1, 2016 at 00:00 hrs

September:
•September 1, 2016 at 00:00 hrs to September 1, 2016 at 02:00 hrs
•September 1, 2016 at 03:00 hrs to September 1, 2016 at 07:00 hrs
•September 1, 2016 at 08:00 hrs to September 1, 2016 at 22:00 hrs
•September 3, 2016 at 17:00 hrs to September 5, 2016 at 21:00 hrs
•September 6, 2016 at 03:00 hrs to September 7, 2016 at 20:00 hrs
•September 8, 2016 at 06:00 hrs to September 8, 2016 at 21:00 hrs
•September 9, 2016 at 00:00 hrs to September 9, 2016 at 21:00 hrs
•September 10, 2016 at 00:00 hrs to September 10, 2016 at 17:00 hrs
•September 18, 2016 at 08:00 hrs to September 18, 2016 at 15:00 hrs
•September 20, 2016 at 02:00 hrs to September 20, 2016 at 14:00 hrs
•September 20, 2016 at 20:00 hrs to September 21, 2016 at 15:00 hrs
•September 21, 2016 at 21:00 hrs to September 24, 2016 at 00:00 hrs
•September 24, 2016 at 03:00 hrs to September 25, 2016 at 21:00 hrs
•September 26, 2016 at 02:00 hrs to September 27, 2016 at 16:00 hrs
•September 27, 2016 at 19:00 hrs to September 30, 2016 at 04:00 hrs
•September 30, 2016 at 05:00 hrs to September 30, 2016 at 10:00 hrs
•September 30, 2016 at 16:00 hrs to October 1, 2016 at 00:00 hrs

October:
•October 1, 2016 at 00:00 hrs to October 4, 2016 at 22:00 hrs
•October 4, 2016 at 23:00 hrs to October 7, 2016 at 21:00 hrs
•October 8, 2016 at 05:00 hrs to October 13, 2016 at 19:00 hrs
•October 13, 2016 at 23:00 hrs to October 15, 2016 at 07:00 hrs
•October 15, 2016 at 09:00 hrs to October 17, 2016 at 01:00 hrs
•October 17, 2016 at 09:00 hrs to October 21, 2016 at 18:00 hrs

•April 6, 2017 at 19:00 hours to April 9, 2017 at 22:00
•April 10, 2017 at 01:00 hours to April 10, 2017 at 18:00
•April 10, 2017 at 22:00 hours to April 13, 2017 at 22:00
•April 14, 2017 at 04:00 hours to April 14, 2017 at 20:00
•April 15, 2017 at 00:00 hours to April 16, 2017 at 11:00
•April 16, 2017 at 14:00 hours to April 19, 2017 at 16:00
•April 19, 2017 at 20:00 hours to April 20, 2017 at 09:00
•April 20, 2017 at 10:00 hours to April 24, 2017 at 06:00
•April 24, 2017 at 08:00 hours to April 26, 2017 at 18:00
•April 26, 2017 at 20:00 hours to April 27, 2017 at 17:00
•April 27, 2017 at 21:00 hours to April 29, 2017 at 21:00
•April 29, 2017 at 23:00 hours to May 1, 2017 at 00:00

May 2017
•May 1, 2017 at 00:00 hours to May 7, 2017 at 19:00
•May 7, 2017 at 23:00 hours to May 9, 2017 at 19:00
•May 9, 2017 at 22:00 hours to May 10, 2017 at 13:00
•May 10, 2017 at 14:00 hours to May 10, 2017 at 21:00
•May 12, 2017 at 10:00 hours to May 13, 2017 at 18:00
•May 13, 2017 at 21:00 hours to May 16, 2017 at 00:00
•May 16, 2017 at 10:00 hours to May 16, 2017 at 14:00
•May 16, 2017 at 18:00 hours to May 17, 2017 at 06:00
•May 17, 2017 at 08:00 hours to May 17, 2017 at 11:00
•May 17, 2017 at 22:00 hours to May 19, 2017 at 04:00
•May 19, 2017 at 07:00 hours to May 19, 2017 at 20:00
•May 19, 2017 at 21:00 hours to May 21, 2017 at 18:00
•May 21, 2017 at 21:00 hours to May 23, 2017 at 16:00
•May 23, 2017 at 22:00 hours to May 27, 2017 at 05:00
•May 27, 2017 at 13:00 hours to May 29, 2017 at 01:00
•May 29, 2017 at 13:00 hours to May 29, 2017 at 18:00
•May 29, 2017 at 19:00 hours to May 30, 2017 at 02:00
•May 30, 2017 at 10:00 hours to June 1, 2017 at 00:00

June 2017
•June 1, 2017 at 00:00 hours to June 2, 2017 at 20:00
•June 3, 2017 at 00:00 hours to June 12, 2017 at 11:00
•June 12, 2017 at 13:00 hours to June 13, 2017 at 07:00
•June 13, 2017 at 16:00 hours to June 17, 2017 at 01:00
•June 17, 2017 at 12:00 hours to June 18, 2017 at 06:00
•June 18, 2017 at 13:00 hours to June 19, 2017 at 12:00
•June 19, 2017 at 13:00 hours to June 23, 2017 at 15:00
•June 23, 2017 at 22:00 hours to June 24, 2017 at 18:00
•June 24, 2017 at 20:00 hours to June 26, 2017 at 02:00
TR sets were shutdown from June 24, 2017 2015 hours to June 25, 2017 2050 hours; RCA # 07D72
•June 26, 2017 at 16:00 hours to June 26, 2017 at 22:00
•June 27, 2017 at 03:00 hours to June 27, 2017 at 13:00
•June 28, 2017 at 01:00 hours to July 1, 2017 at 00:00

July 2017
•July 1, 2017 at 00:00 hours to July 7, 2017 at 22:00 hours
•July 8, 2017 at 07:00 hours to July 8, 2017 at 09:00 hours
•July 8, 2017 at 21:00 hours to July 9, 2017 at 23:00 hours
•July 10, 2017 at 00:00 hours to July 10, 2017 at 15:00 hours
•July 10, 2017 at 18:00 hours to July 12, 2017 at 12:00 hours

•July 12, 2017 at 14:00 hours to July 12, 2017 at 22:00 hours
•July 13, 2017 at 03:00 hours to July 14, 2017 at 00:00 hours
•July 14, 2017 at 10:00 hours to July 15, 2017 at 00:00 hours
•July 15, 2017 at 12:00 hours to July 15, 2017 at 20:00 hours
•July 16, 2017 at 00:00 hours to July 16, 2017 at 2:00 hours
•July 16, 2017 at 0800 hours to July 16, 2017 at 11:00 hours
•July 16, 2017 at 14:00 hours to July 16, 2017 at 23:00 hours
•July 17, 2017 at 04:00 hours to July 17, 2017 at 11:00 hours
•July 18, 2017 at 01:00 hours to July 19, 2017 at 23:00 hours
•July 20, 2017 at 13:00 hours to July 21, 2017 at 02:00 hours
•July 21, 2017 at 12:00 hours to July 22, 2017 at 23:00 hours
•July 23, 2017 at 14:00 hours to July 23, 2017 at 17:00 hours
•July 24, 2017 at 02:00 hours to July 24, 2017 at 07:00 hours
•July 24, 2017 at 11:00 hours to July 24, 2017 at 13:00 hours
•July 24, 2017 at 16:00 hours to July 24, 2017 at 20:00 hours
•July 25, 2017 at 07:00 hours to July 25, 2017 at 08:00 hours
•July 25, 2017 at 12:00 hours to July 25, 2017 at 23:00 hours
•July 26, 2017 at 15:00 hours to July 29, 2017 at 10:00 hours
•July 29, 2017 at 15:00 hours to August 1, 2017 at 00:00 hours

August 2017
•August 1, 2017 at 00:00 hours to August 1, 2017 at 17:00
•August 1, 2017 at 22:00 hours to August 2, 2017 at 15:00
•August 2, 2017 at 18:00 hours to August 3, 2017 at 13:00
•August 3, 2017 at 15:00 hours to August 4, 2017 at 02:00
•August 4, 2017 at 07:00 hours to August 6, 2017 at 07:00
•August 6, 2017 at 14:00 hours to August 13, 2017 at 18:00
•August 13, 2017 at 23:00 hours to August 14, 2017 at 21:00
•August 15, 2017 at 07:00 hours to August 15, 2017 at 10:00
•August 15, 2017 at 14:00 hours to August 15, 2017 at 19:00
•August 15, 2017 at 23:00 hours to August 17, 2017 at 21:00
•August 18, 2017 at 01:00 hours to August 20, 2017 at 16:00
•August 20, 2017 at 19:00 hours to August 20, 2017 at 21:00
•August 21, 2017 at 00:00 hours to August 21, 2017 at 22:00
•August 22, 2017 at 01:00 hours to August 22, 2017 at 12:00
•August 22, 2017 at 14:00 hours to August 22, 2017 at 19:00
•August 23, 2017 at 02:00 hours to August 24, 2017 at 16:00
•August 24, 2017 at 20:00 hours to August 24, 2017 at 21:00
•August 26, 2017 at 07:00 hours to August 27, 2017 at 05:00

September2017
•September 14, 2017 at 07:00 hours to September 14, 2017 at 10:00 hours
•September 14, 2017 at 12:00 hours to September 14, 2017 at 14:00 hours
•September 16, 2017 at 22:00 hours to September 17, 2017 at 01:00 hours
•September 17, 2017 at 19:00 hours to September 17, 2017 at 22:00 hours
•September 18, 2017 at 08:00 hours to September 18, 2017 at 10:00 hours
•September 18, 2017 at 20:00 hours to September 19, 2017 at 05:00 hours
•September 19, 2017 at 07:00 hours to September 19, 2017 at 14:00 hours
•September 19, 2017 at 19:00 hours to September 19, 2017 at 22:00 hours
•September 22, 2017 at 14:00 hours to September 22, 2017 at 16:00 hours
•September 26, 2017 at 13:00 hours to September 26, 2017 at 18:00 hours
•September 27, 2017 at 08:00 hours to September 27, 2017 at 10:00 hours
•September 27, 2017 at 21:00 hours to September 27, 2017 at 22:00 hours
•September 28, 2017 at 09:00 hours to September 28, 2017 at 10:00 hours

•September 30, 2017 at 09:00 hours to September 30, 2017 at 11:00 hours
•September 30, 2017 at 21:00 hours to September 30, 2017 at 23:00 hours

October 2017
•October 2, 2017 at 11:00 hours to October 2, 2017 at 12:00 hours
•October 2, 2017 at 20:00 hours to October 3, 2017 at 02:00 hours
•October 6, 2017 at 10:00 hours to October 6, 2017 at 11:00 hours
•October 6, 2017 at 21:00 hours to October 6, 2017 at 23:00 hours
•October 7, 2017 at 03:00 hours to October 7, 2017 at 16:00 hours
•October 7, 2017 at 17:00 hours to October 7, 2017 at 22:00 hours
•October 9, 2017 at 00:00 hours to October 9, 2017 at 02:00 hours
•October 9, 2017 at 06:00 hours to October 9, 2017 at 08:00 hours
•October 10, 2017 at 09:00 hours to October 10, 2017 at 10:00 hours
•October 10, 2017 at 20:00 hours to October 10, 2017 at 23:00 hours
•October 11, 2017 at 07:00 hours to October 11, 2017 at 11:00 hours
•October 11, 2017 at 20:00 hours to October 12, 2017 at 11:00 hours
•October 12, 2017 at 14:00 hours to October 13, 2017 at 05:00 hours
•October 14, 2017 at 11:00 hours to October 14, 2017 at 12:00 hours
•October 14, 2017 at 22:00 hours to October 16, 2017 at 23:00 hours (See RCA# 07E90 for excursion notification)
•October 30, 2017 at 15:00 hours to October 30, 2017 at 17:00 hours (See RCA# 07F20 for excursion notification)

November 2017
•None

December 2017
•None

January 2018
•January 15, 2018 at 08:00 hours to January 15, 2018 at 18:00 hours
•January 15, 2018 at 19:00 hours to January 15, 2018 at 22:00 hours
•January 22, 2018 at 13:00 hours to January 22, 2018 at 14:00 hours

February 2018
•February 8, 2018 at 09:00 hours to February 8, 2018 at 12:00 hours
•February 8, 2018 at 14:00 hours to February 10, 2018 at 16:00 hours
•February 16, 2018 at 21:00 hours to February 17, 2018 at 02:00 hours
•February 19, 2018 at 22:00 hours to February 19, 2018 at 23:00 hours
•February 20, 2018 at 19:00 hours to February 20, 2018 at 21:00 hours
•February 21, 2018 at 12:00 hours to February 24, 2018 at 02:00 hours
•February 24, 2018 at 06:00 hours to February 24, 2018 at 12:00 hours
•February 24, 2018 at 19:00 hours to February 25, 2018 at 23:00 hours
•February 26, 2018 at 06:00 hours to March 1, 2018 at 00:00 hours

March 2018
•March 1, 2018 at 00:00 hours to March 3, 2018 at 18:00 hours
•March 3, 2018 at 20:00 hours to March 3, 2018 at 22:00 hours
•March 5, 2018 at 16:00 hours to March 5, 2018 at 21:00 hours
•March 5, 2018 at 22:00 hours to March 5, 2018 at 23:00 hours
•March 6, 2018 at 07:00 hours to March 7, 2018 at 10:00 hours
•March 7, 2018 at 11:00 hours to March 8, 2018 at 02:00 hours
•March 8, 2018 at 19:00 hours to March 9, 2018 at 06:00 hours
•March 9, 2018 at 12:00 hours to March 9, 2018 at 15:00 hours
•March 9, 2018 at 18:00 hours to March 10, 2018 at 02:00 hours
•March 10, 2018 at 06:00 hours to March 10, 2018 at 08:00 hours

•March 10, 2018 at 09:00 hours to March 10, 2018 at 13:00 hours
•March 10, 2018 at 21:00 hours to March 11, 2018 at 00:00 hours
•March 12, 2018 at 07:00 hours to March 12, 2018 at 13:00 hours
•March 12, 2018 at 21:00 hours to March 12, 2018 at 22:00 hours
•March 13, 2018 at 07:00 hours to March 13, 2018 at 11:00 hours
•March 13, 2018 at 18:00 hours to March 14, 2018 at 01:00 hours
•March 14, 2018 at 04:00 hours to March 14, 2018 at 05:00 hours
•March 14, 2018 at 06:00 hours to March 14, 2018 at 15:00 hours
•March 14, 2018 at 18:00 hours to March 15, 2018 at 15:00 hours
•March 16, 2018 at 06:00 hours to March 18, 2018 at 23:00 hours
•March 19, 2018 at 01:00 hours to March 19, 2018 at 04:00 hours
•March 19, 2018 at 05:00 hours to March 19, 2018 at 08:00 hours
•March 19, 2018 at 11:00 hours to March 20, 2018 at 07:00 hours
•March 20, 2018 at 09:00 hours to March 20, 2018 at 13:00 hours
•March 20, 2018 at 20:00 hours to April 1, 2018 at 00:00 hours

April 2018
•April 1, 2018 at 00:00 hours to April 2, 2018 at 04:00 hours
•April 2, 2018 at 14:00 hours to April 3, 2018 at 07:00 hours
•April 3, 2018 at 09:00 hours to April 3, 2018 at 11:00 hours
•April 3, 2018 at 13:00 hours to April 3, 2018 at 15:00 hours
•April 3, 2018 at 18:00 hours to April 11, 2018 at 14:00 hours
•April 11, 2018 at 14:00 hours to April 12, 2018 at 04:00 hours – ESP S/D due to unplanned FCC S/D; Reference RCA # 07G74
•April 12, 2018 at 04:00 hours to April 12, 2018 at 12:00 hours
•April 14, 2018 at 23:00 hours to April 17, 2018 at 17:00 hours – ESP S/D due to unplanned FCC S/D; Reference RCA # 07G76
•April 17, 2018 at 17:00 hours to April 18, 2018 at 06:00 hours
•April 20, 2018 at 20:00 hours to April 20, 2018 at 22:00 hours
•April 21, 2018 at 07:00 hours to April 21, 2018 at 13:00 hours
•April 22, 2018 at 09:00 hours to April 22, 2018 at 10:00 hours
•April 23, 2018 at 21:00 hours to April 24, 2018 at 00:00 hours
•April 25, 2018 at 14:00 hours to April 26, 2018 at 08:00 hours
•April 26, 2018 at 12:00 hours to April 27, 2018 at 10:00 hours

May 2018
•May 9, 2018 at 08:00 hours to May 9, 2018 at 18:00 hours
•May 10, 2018 at 07:00 hours to May 10, 2018 at 16:00 hours
•May 11, 2018 at 09:00 hours to May 11, 2018 at 14:00 hours
•May 11, 2018 at 19:00 hours to May 12, 2018 at 10:00 hours
•May 15, 2018 at 08:00 hours to May 15, 2018 at 10:00 hours
•May 15, 2018 at 14:00 hours to May 16, 2018 at 10:00 hours
•May 16, 2018 at 20:00 hours to May 17, 2018 at 10:00 hours
•May 17, 2018 at 11:00 hours to May 17, 2018 at 13:00 hours
•May 17, 2018 at 21:00 hours to May 18, 2018 at 00:00 hours
•May 18, 2018 at 04:00 hours to May 18, 2018 at 11:00 hours
•May 18, 2018 at 20:00 hours to May 18, 2018 at 08:00 hours
•May 19, 2018 at 09:00 hours to May 25, 2018 at 17:00 hours
•May 26, 2018 at 06:00 hours to May 27, 2018 at 21:00 hours
•May 28, 2018 at 00:00 hours to May 28, 2018 at 10:00 hours
•May 28, 2018 at 11:00 hours to May 28, 2018 at 13:00 hours
•May 28, 2018 at 19:00 hours to May 29, 2018 at 00:00 hours
•May 29, 2018 at 10:00 hours to May 30, 2018 at 21:00 hours
•May 31, 2018 at 00:00 hours to June 1, 2018 at 00:00 hours

June 2018
•June 1, 2018 at 00:00 hours to June 1, 2018 at 14:00 hours
•June 1, 2018 at 20:00 hours to June 2, 2018 at 00:00 hours
•June 2, 2018 at 07:00 hours to June 2, 2018 at 12:00 hours
•June 2, 2018 at 13:00 hours to June 3, 2018 at 10:00 hours
•June 3, 2018 at 13:00 hours to June 5, 2018 at 10:00 hours
•June 5, 2018 at 21:00 hours to June 7, 2018 at 04:00 hours
•June 7, 2018 at 07:00 hours to June 7, 2018 at 22:00 hours
•June 8, 2018 at 06:00 hours to June 8, 2018 at 08:00 hours
•June 8, 2018 at 11:00 hours to June 8, 2018 at 12:00 hours
•June 8, 2018 at 15:00 hours to June 9, 2018 at 09:00 hours
•June 10, 2018 at 02:00 hours to June 11, 2018 at 06:00 hours
•June 11, 2018 at 18:00 hours to June 12, 2018 at 06:00 hours
•June 12, 2018 at 10:00 hours to June 13, 2018 at 00:00 hours
•June 13, 2018 at 15:00 hours to June 13, 2018 at 18:00 hours
•June 13, 2018 at 20:00 hours to June 14, 2018 at 17:00 hours
•June 14, 2018 at 23:00 hours to June 15, 2018 at 02:00 hours
•June 15, 2018 at 04:00 hours to June 18, 2018 at 05:00 hours
•June 18, 2018 at 15:00 hours to June 20, 2018 at 03:00 hours
•June 20, 2018 at 08:00 hours to June 20, 2018 at 09:00 hours
•June 20, 2018 at 12:00 hours to June 20, 2018 at 13:00 hours
•June 20, 2018 at 16:00 hours to June 20, 2018 at 21:00 hours
•June 21, 2018 at 18:00 hours to June 22, 2018 at 20:00 hours
•June 22, 2018 at 23:00 hours to June 30, 2018 at 00:00 hours
July 2018
•July 1, 2018 at 01:00 hours to July 1, 2018 at 17:00 hours
•July 2, 2018 at 07:00 hours to July 3, 2018 at 19:00 hours
•July 3, 2018 at 23:00 hours to July 5, 2018 at 22:00 hours
•July 5, 2018 at 23:00 hours to July 6, 2018 at 05:00 hours
•July 6, 2018 at 20:00 hours to July 7, 2018 at 16:00 hours
•July 7, 2018 at 18:00 hours to July 8, 2018 at 12:00 hours
•July 8, 2018 at 21:00 hours to July 9, 2018 at 10:00 hours
•July 9, 2018 at 14:00 hours to July 9, 2018 at 16:00 hours
•July 9, 2018 at 19:00 hours to July 10, 2018 at 14:00 hours
•July 10, 2018 at 15:00 hours to July 12, 2018 at 01:00 hours
•July 12, 2018 at 06:00 hours to July 12, 2018 at 20:00 hours
•July 21, 2018 at 19:00 hours to July 21, 2018 at 23:00 hours
•July 22, 2018 at 23:00 hours to July 23, 2018 at 03:00 hours
•July 26, 2018 at 21:00 hours to July 27, 2018 at 03:00 hours
•July 27, 2018 at 05:00 hours to July 27, 2018 at 08:00 hours
•July 27, 2018 at 20:00 hours to July 28, 2018 at 01:00 hours
•July 28, 2018 at 04:00 hours to July 28, 2018 at 09:00 hours
•July 28, 2018 at 15:00 hours to July 28, 2018 at 16:00 hours
•July 28, 2018 at 19:00 hours to August 1, 2018 at 00:00 hours

August 2018
•August 1, 2018 at 00:00 hours to August 3, 2018 at 17:00 hours
•August 4, 2018 at 09:00 hours to August 4, 2018 at 15:00 hours
•August 4, 2018 at 19:00 hours to August 4, 2018 at 23:00 hours
•August 5, 2018 at 03:00 hours to August 5, 2018 at 19:00 hours
•August 6, 2018 at 00:00 hours to August 6, 2018 at 16:00 hours
•August 7, 2018 at 01:00 hours to August 8, 2018 at 14:00 hours
•August 9, 2018 at 00:00 hours to August 9, 2018 at 12:00 hours

•August 9, 2018 at 15:00 hours to August 9, 2018 at 19:00 hours
•August 10, 2018 at 03:00 hours to August 11, 2018 at 12:00 hours
•August 13, 2018 at 01:00 hours to August 13, 2018 at 06:00 hours
•August 14, 2018 at 01:00 hours to August 18, 2018 at 13:00 hours
•August 19, 2018 at 00:00 hours to August 22, 2018 at 19:00 hours
•August 23, 2018 at 15:00 hours to August 26, 2018 at 21:00 hours
•August 27, 2018 at 02:00 hours to August 28, 2018 at 15:00 hours
•August 28, 2018 at 18:00 hours to August 29, 2018 at 18:00 hours
•August 30, 2018 at 07:00 hours to August 30, 2018 at 21:00 hours
•August 31, 2018 at 10:00 hours to August 31, 2018 at 12:00 hours
•August 31, 2018 at 19:00 hours to August 31, 2018 at 22:00 hours

September 2018
•September 1, 2018 at 04:00 hours to September 1, 2018 at 16:00 hours
•September 2, 2018 at 02:00 hours to September 15, 2018 at 01:00 hours
•September 15, 2018 at 17:00 hours to September 21, 2018 at 12:00 hours
•September 21, 2018 at 21:00 hours to September 22, 2018 at 13:00 hours
•September 22, 2018 at 22:00 hours to September 23, 2018 at 14:00 hours
•September 23, 2018 at 21:00 hours to September 25, 2018 at 18:00 hours
•September 26, 2018 at 01:00 hours to September 29, 2018 at 14:00 hours
•September 30, 2018 at 13:00 hours to October 1, 2018 at 00:00 hours

October 2018
•October 1, 2018 at 00:00 hours to October 3, 2018 at 06:00 hours
•October 3, 2018 at 10:00 hours to October 3, 2018 at 17:00 hours
•October 3, 2018 at 21:00 hours to October 4, 2018 at 06:00 hours
•October 4, 2018 at 19:00 hours to October 14, 2018 at 13:00 hours
•October 14, 2018 at 16:00 hours to October 14, 2018 at 17:00 hours
•October 14, 2018 at 22:00 hours to October 15, 2018 at 20:00 hours
•October 16, 2018 at 06:00 hours to November 1, 2018 at 00:00 hours

November 2018
•November 1, 2018 at 00:00 to December 1, 2018 at 00:00

December 2018
•December 1, 2018 at 00:00 to January 1, 2019 at 00:00

FCC NH3 Optimization, Reg 6-5, trial testing is being conducted and still ongoing.

Event Started: 1/17/2017 9:07 AM Stopped: ☑ Ongoing Event Discovered On: 1/17/2017	Source Number: S4285 Abatement Device : Emission Point:	May have resulted in a violation of : Permit: AQMD: Other: 40 CFR 63.1564

Event Description: On January 17, 2017 from 0907 hours to 1421 hours, the FCC (S-4285) operated above its limit of 20% opacity for a consecutive 3-hour period. This indicated excess occurred during the Refinery's (BAAQMD 6-5) Ammonia Optimization and Demonstration Testing Protocol. Per the agreement made on April 12, 2016 between the Refinery and the BAAQMD, the test protocol is conducted under the Air District's Trial Testing Policy and this notification is being submitted to capture all potential deviations as a result of implementing the testing protocol. UPDATE: On June 27, 2017, the BAAQMD agreed to allow the Chevron Richmond Refinery to continue trial testing under the Refinery's Ammonia Optimization and Demonstration Testing Protocol. Per the agreement, the BAAAQMD will extend enforcement relief and permit the Refinery to operate outside the requirements of the Title V Permit Condition 11066 #3A, 3B, 3C, 7A, and 7A5 (and potentially other parts of the permit condition) until issuance of the final ammonia emissions limit. The Refinery will continue to capture all potential deviations as a result of implementing the testing protocol.

Probable Cause: Due to the ongoing FCC stack ammonia optimization testing protocol, the Refinery deviated from 40 CFR 63.1564 on the following dates.

Corrective actions or preventative steps taken:

January 2017
•January 17, 2017 from 0907 hours to 1421 hours

February 2017
•None

March 2017
•None

April 2017
•None

May 2017
•None

June 2017
•None

July 2017
•None

August 2017
•None

September 2017
•None

October 2017
•None

November 2017
•None

December 2017
•None

January 2018
•None

February 2018
•None

March 2018
•None

April 2018
•None

May 2018
•None

June 2018
•None

July 2018
•None

August 2018
•None

September 2018
•None

October 2018
•None

November 2018
•None

December 2018
•None

FCC NH3 Optimization, Regulation 6-5, trial testing is being conducted and still ongoing.

Event Started: 3/21/2017 Stopped: ☑ Ongoing Event Discovered On: 2/5/2018	Source Number: S-4401 Abatement Device : Emission Point:	May have resulted in a violation of : Permit: 26127 AQMD: Other:

Event Description: The Ranch Area Maintenance Prime Diesel Engine Generator (S-4401) provides electrical power to the Refinery's Ranch Area Maintenance Yard and is driven by a CARB emissions compliance Cummins Tier 4i diesel engine. On February 5, 2018 it was discovered that S-4401 was exchanged with another unit by the Refinery's on-site equipment rental company.

Probable Cause: The Ranch Maintenance Generator (S-4401) is a 180 kVa generator that provided electrical power to the double and triple wide trailers and to several mobile miniature trailers located at the Refinery's Ranch Area Maintenance Yard. In the first quarter of 2017, the mobile miniature trailers were removed, once the 4th Quarter 2016 Maintenance Shutdown was over, and the 180 kVa unit was no longer the appropriate sized generator for the electrical load. The generator began to have reliability issues and continuously shut down. On March 21, 2017, S-4401 was exchanged for a more suitable sized generator. Chevron maintenance personnel and the Refinery's on-site equipment rental company were not aware that S-4401 was a permitted source under the BAAQMD and could not be exchanged for another unit.

Corrective actions or preventative steps taken:

S-4401 is currently on rent with another facility and the Refinery is working with the equipment rental company to have the generator transported back to the Refinery. Temporarily, a Tier 4 compatible generator, with the same emissions specifications is operating in its place.

UPDATE:

March 2018

The Refinery is currently working with the equipment rental company to have the generator transported back to the Refinery as it has been rented out to another facility. A simulated load will be placed on the generator. Long term corrective actions have been assigned to develop a sustainable process to communicate and reinforce engine permit requirements to Refinery stakeholders (e.g. maintenance personnel, on-site equipment rental company). This includes but not limited to signage placed on permitted rentals, and a process for the rental company to flag units in their database that have superseding permit requirements with the BAAQMD.

April 2018
On April 12, 2018 a comparable unit (Tier 4, Cummins 180kVA unit) was temporarily placed in service until S-4401 could be returned to the Refinery. This temporary generator was configured with an assimilated load to help prevent similar operability issues that had occurred with S-4401. Regardless, of the assimilated load, the temporary generator was still not operating with enough load to run reliably causing it to continuously shutdown. It has been determined that the permitted engine S-4401 or a comparable unit is not suitable in this application and can't be returned to service. On May 8, 2018 the temporary generator was replaced with a more appropriately sized generator, a Tier 4F, Cummins 125kVA unit. The Refinery has engaged the District to discuss a path forward.

May 2018
On June 20, 2018 the Refinery and BAAQMD permitting engineer discussed a path forward for the Ranch Area Maintenance Yard Prime Diesel Engine Generator S-4401. As a result of the discussion, it was agreed that if the current generator in use, (Tier4 125 kVa), does not exceed a diesel exhaust particulate matter (DEPM) emission rate of 0.01 g/kW-hour or a mass rate emission of no greater than 0.00458 pounds per hour, it can operate as S-4401 under Title V Permit Condition # 26684. This will be confirmed by the BAAQMD permitting engineer upon receipt of a Health Risk Screening Analysis (HRSA) form and specification sheet provided by the Refinery for the current generator. In the event there is a need to replace the current generator, the the Refinery will submit a permit application for a new source.

June 2018
On June 28, 2018 the Refinery submitted to the BAAQMD the Health Risk Screening Analysis (HRSA) form, the manufacturer specification sheet and the CARB certification for the current generator in use. The Refinery engaged the BAAQMD's permitting engineer on July 20, 2018 and continues to work towards continues to work towards resolving this matter.

July 2018
The Refinery has a meeting scheduled with the BAAQMD permitting engineer on August 21, 2018 to discuss the matter further. Additionally, signage and hitch locks have been placed on all permitted rental diesel engine equipment to prevent them from being exchanged with another unit.

August 2018
The meeting scheduled with the BAAQMD on August 21, 2018 was cancelled due to availably of BAAQMD permitting engineers. The BAAQMD has agreed to reschedule the meeting for early October.

September 2018
On October 18, 2018 the Refinery and the BAAQMD held a meeting to discuss the status of S-4401. The Refinery has identified some discrepancies in the specification sheets submitted during the permit application process. The errors in the CARB certification sheet used to determine the DEPM permit limit may have resulted in a lower permit limit to be issued under Title V Permit Condition No. 26127. These discrepancies were communicated to the BAAQMD's permitting engineers during the October 18th discussion. In turn, the BAAQMD has requested the Refinery to submit a summary and all corresponding documentation of the Refinery's position and has agreed to review the submittal and to determine if the current generator (Tier 4F, Cummins 125kVA unit), can operate as S-4401 under Permit Condition 26127.

October 2018
On October 30, 2018 the Refinery submitted all documentation requested by the BAAQMD. To date the Refinery has not received a decision from the BAAQMD whether the current generator can operate as S-4401 under Permit Condition 26127.

November 2018
On October 30, 2018 the Refinery submitted all documentation requested by the BAAQMD. To date the Refinery has not received a decision from the BAAQMD whether the current generator can operate as S-4401 under Permit Condition 26127.

December 2018
On October 30, 2018 the Refinery submitted all documentation requested by the BAAQMD. To date the Refinery has not received a decision from the BAAQMD whether the current generator can operate as S-4401 under Permit Condition 26127. The Refinery has followed up with the Permitting Department and is awaiting a response.

Event Started: 7/5/2018 10:30 AM	Source Number: S4285	May have resulted in a violation of :
Stopped: 7/5/2018 10:36 AM ☐ Ongoing Event	Abatement Device :	Permit: 11066 3c
Discovered On: 7/5/2018	Emission Point:	AQMD:
		Other: 40 CFR §60.102(a)(2) & §63.1

Event Description: On July 5, 2018 at 1025 hours, 11 TR sets were inadvertently de-energized while performing routine maintenance on the FCC's Electrostatic Precipitator (ESP). As a result, the FCC exceeded its opacity limit of 30% for more than one 6-minute average for the 1000 clock hour. The TR sets were re-energized on July 5, 2018 at 1036 hours.

Probable Cause: The internal investigation identified that contact with an emergency shutdown relay during a voltage check was the most likely cause for the TR sets to de-energize. The emergency shutdown relay shares a terminal with multiple lugs and fork style connections, these combined, potentially make the relay susceptible to coming loose and breaking contact. It is likely that the physical contact required as part of the voltage check was enough to momentarily interrupt contact, resulting in a trip of the TR sets. Additionally, there is no labeling in the field identifying this relay as an emergency shutdown relay.

Corrective actions or preventative steps taken: The TR sets were energized with 11 minutes and opacity readings immediately returned to normal. The investigation findings will be shared with the Cracking maintenance team. Additionally, tags will be placed in the field identifying the relay as a remote shutdown relay, and warning personnel to not interrupt the connections while the FCC is in operation. Furthermore, a worklist item has been generated to replace the shutdown relay during the next FCC turnaround.

Event Started: 7/13/2018 2:00 PM
Stopped: 7/13/2018 4:00 PM ☐ Ongoing Event
Discovered On: 7/13/2018

Source Number: S4285
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit: 11066 7 (A5)
AQMD:
Other:

Event Description: On July 13, 2018, the ESP was shut down from 1311 to 1328 hours. The ESP was shutdown to avoid any potential unsafe atmosphere in the ESP that could potentially be ignited by an electrical spark. As a result, the ESP operated with greater than 2 TR sets below 200 mA and the remaining TR sets were less than 296 mA averaged over a three hour period for the 1400 and 1500 clock hours.

Probable Cause: On July 13, 2018 the Refinery's Blending and Shipping (B&S) made a tank switch that transitioned the FCC unit (S-4285) to receive feed from an additional tank.

Corrective actions or preventative steps taken: In preparation for the transition, as per procedure, feed samples were pulled, feed rates were reduced, and the transfer line to the FCC feed manifold was drained of any free water. During feed-in from the additional tank, FCC operators received a high CO alarm and a 0% O2 reading at the FCC's Regenerator. As a process safety best practice to mitigate any risk of ignition in the ESP (A-0014), the ESP was shut down. As a result, the ESP operated with greater than 2 TR sets below 200 mA and the remaining TR sets were less than 296 mA averaged over a three-hour period for the 1400 and 1500 clock hours. The ESP was placed back in service within 17 minutes.

The Refinery's internal investigation identified that a slug of heavy material in the FCC's feed composition consumed all the excess O2 in the FCC's Regenerator, resulting in incomplete combustion and high CO in the flue gas.

Learnings from this incident have been shared with all the B&S crews and with the FCC operators. Additionally, the Refinery is investigating how to potentially improve feed line flushing from both the FCC and B&S boundaries for future transfers.

Event Started: 7/13/2018 1:00 PM
Stopped: 7/13/2018 2:00 PM ☐ Ongoing Event
Discovered On: 7/13/2018

Source Number: S4285
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit: 11066 3c
AQMD:
Other: 40 CFR §60.102(a)(2) & §63.1

Event Description: On July 13, 2018, the ESP was shut down from 1311 to 1328 hours. The ESP was shutdown to avoid any potential unsafe atmosphere in the ESP that could potentially be ignited by an electrical spark. As a result, the FCC (S-4285) exceeded its 30% second 6-minute average opacity limit for the 1300 clock hour.

Probable Cause: On July 13, 2018 the Refinery's Blending and Shipping (B&S) made a tank switch that transitioned the FCC unit (S-4285) to receive feed from an additional tank.

Corrective actions or preventative steps taken: In preparation for the transition, as per procedure, feed samples were pulled, feed rates were reduced, and the transfer line to the FCC feed manifold was drained of any free water. During feed-in from the additional tank, FCC operators received a high CO alarm and a 0% O2 reading at the FCC's Regenerator. As a process safety best practice to mitigate any risk of ignition in the ESP (A-0014), the ESP was shut down. As a result, the FCC (S-4285) exceeded its 30% second 6-minute average opacity limit for the 1300 clock hour. The ESP was placed back in service within 17 minutes.

The Refinery's internal investigation identified that a slug of heavy material in the FCC's feed composition consumed all the excess O2 in the FCC's Regenerator, resulting in incomplete combustion and high CO in the flue gas.

Learnings from this incident have been shared with all the B&S crews and with the FCC operators. Additionally, the Refinery is investigating how to potentially improve feed line flushing from both the FCC and B&S boundaries for future transfers.

Event Started: 9/16/2016
Stopped: 7/16/2018 ☐ Ongoing Event
Discovered On: 7/16/2018

Source Number: S32102
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit: Reg. 2-6-307
AQMD:
Other:

Event Description: On July 16, 2018 NOV A58135 was filed for not minimizing a VOC leak within 24 hours of its discovery. This incident occurred on 9/16/16. This deviation is being submitted at the request of the Air District Inspector for failing to submit a Title V deviation for this incident within the 10-day time limit required by Reg. 2-6-307.

Probable Cause: The alleged violation for the missed minimization period was submitted to the Air District on September 19, 2016. The discovery date for the incident was on September 19, 2016. The Title V deviation was submitted within the 10-day requirement. This deviation was submitted at the request of the Air District Inspector once the Refinery was cited Notice of Violation No. A58135.

Corrective actions or preventative steps taken: The Refinery is not in deviation of the following 10-day time limit required by Reg. 2-6-307 and requests a no further action for this deviation.

Event Started: 7/17/2018
Stopped: 7/18/2018 ☐ Ongoing Event
Discovered On: 7/18/2018

Source Number:
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit: Title V Standard Conditions J P
AQMD:
Other:

Event Description: On July 18, 2018, the Refinery failed to submit notification at least three calendar days prior to the July 20, 2018 planned LNC unit (S-4340) shutdown. Regardless, a shutdown notification was sent to the District on July 17, 2018.

Probable Cause: On July 17, 2018 the Refinery made notification of an LNC Plant shutdown that was planned to occur on July 20, 2018. The Plant was shutdown earlier than originally planned on July 18, 2018. The investigation indicated that the current scheduled communications for plant startup/shutdowns needed to be revisited to ensure reporting as required. There was not timely communication between the Oils Planning Team and the Environmental Field Coordinators (EFC). Also, EFC's are not included in IMPACT and ASSET team email updates which include last minute updates to the operating plan. This gap in communication resulted in the inadvertent late reporting of the LNC shutdown.

Corrective actions or preventative steps taken: As a result of the investigation findings, EFC's will now be included in "draft" 4-11 day advance schedule distributions, and an EFC representative will attend the Monday Oils Planning Team update meetings. An EFC email distribution list has also been developed to ensure all EFC's are included in updates.

Event Started: 7/26/2018
Stopped: 7/26/2018 ☐ Ongoing Event
Discovered On: 7/26/2018

Source Number: S6010
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit:
AQMD:
Other: 40 CFR 60 Subpart J (60.104(a

Event Description: On July 26th, 2018 flaring occurred at the LSFO Flare (S-6010) due to the unexpected loss of the 4Rheniformer plant. The flaring deviated from 40 CFR 60 Subpart J (60.104(a)(1)) because it was not due to a startup, shutdown, or malfunction, and the vent gas did not have a hydrogen sulfide concentration below 230 mg/dscm (0.10gr/dscf).

Probable Cause: During the morning of July 26, 2018, the Distillation and Reforming (D&R) Control Board Operator (CBO) received a Universal Control Network (UCN) cable alarm, which indicated that a network control card in the Remote Instrument Enclosure (RIE) had failed. A recommendation was made by maintenance to replace the failed card that morning. At approximately 8:15 AM, while changing out the bad network control card, the maintenance technicians inadvertently de-energized the network card in-service rather than the failed network card. This resulted in a furnace trip and shutdown of the #4Rheniformer. The loss of #4Rheniformer severely reduced hydrogen production and caused interdependent units to shut down, overwhelming the relief system and resulting in flaring at the LSFO Flare.

Corrective actions or preventative steps taken: Once the #4Rhenifomer shutdown was understood by maintenance and operations, the maintenance technicians were able to replace both network control cards and return the #4Rheniformer control system back to normal to begin startup protocols.
An investigation Identified several solutions to aid in the prevention of a reoccurrence. A procedure will be developed that instructs trained personnel on how to bypass and startup critical control systems. The Refinery will improve labeling inside the RIE's and server rooms on critical control systems. This incident will be documented an incident bulletin and shared Refinery-Wide

Event Started: 7/26/2018
Stopped: 7/26/2018 ☐ Ongoing Event
Discovered On: 7/26/2018

Source Number: S6010
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit:
AQMD:
Other: 40 CFR 60 Subpart J (60.104(a

Event Description: On July 26th, 2018 flaring occurred at the LSFO Flare (S-6010) due to the startup of the #4Rheniformer and the associated hydrogen treating plants. The flaring deviated from 40 CFR 60 Subpart J (60.104(a)(1)) because it was not due to a startup, shutdown, or malfunction, and the vent gas did not have a hydrogen sulfide concentration below 230 mg/dscm (0.10gr/dscf).

Probable Cause: During the morning of July 26, 2018, the Distillation and Reforming (D&R) complex experienced an upset when the #4 Rheniformer underwent an emergency shutdown. The shutdown of #4 Rheniformer resulted in the loss of hydrogen throughout the complex, causing subsequent interdependent units to shutdown. Operations attempted to minimize the impact to downstream units by quickly placing the hydrogen booster control valve (37FC011) to manual and opening the valve to 100%. Later that evening, during the recovery and start-up of #4 Rheniformer, hydrogen production was reestablished and flow control valve (37FC011) was inadvertently left in manual. This resulted in elevated pressure at the K-900 hydrogen booster and consequently overwhelmed the relief gas system, initiating minimal flaring.

Corrective actions or preventative steps taken: The flaring was 7 minutes in duration with minimal emissions at 0 lbs of SO2, 4.6 lbs. of Methane, and 2.3 lbs of NMHC.

Upon detection of the open valve operations immediately reduced the valve set point and placed the controller back in auto. The Refinery will review and modify this procedure as necessary to include clear instruction to verify value position before continuing with compressor start up. This incident will also be documented as lessons learned and shared with D&R personnel.

Event Started: 8/6/2018 12:09 PM Stopped: 8/6/2018 12:17 PM ☐ Ongoing Event Discovered On: 8/6/2018	Source Number: S6016 Abatement Device : Emission Point:	May have resulted in a violation of : Permit: AQMD: Other: 40 CFR Subpart J (60.104(a)(1

Event Description: On August 6, 2018 flaring occurred at the FCC flare (S-6016), SISO flare (S-6012), NISO flare (S-6013) and RLOP flare (S-6039) due to an emergency valve opening to relief resulting in visible flaring. The flaring deviated from 40 CFR 60 Subpart J (60.104(a)(1)) because it was not due to a startup, shutdown, or malfunction, and the vent gas did not have a hydrogen sulfide concentration below 230 mg/dscm (0.10 gr/dscf).

Probable Cause: On August 6th, 2018, the Richmond Refinery FCC flare (S-6016), SISO flare (S-6012), NISO flare (S-6013) and RLOP flare (S-6039) experienced visible flaring. North Isomax operators received a pressure deviation alarm in the TKC reactor system. Upon investigation the TKC reactor dump valve 72HV494 was found to be open. Within 10 minutes, North Isomax operators responded to the valve and shut the upstream block valve stopping flow to the relief system and the flaring ceased.

Corrective actions or preventative steps taken: The TKC reactor system has a pressure control safety system in place that in the event pressure is too high the system will activate the emergency dump valves (EDVs) to reduce pressure by rapid, controlled venting to relief. The EDV's (72HV490, 72HV492, 72HV494) are designed to open sequentially: the last two only open in sequence when pressure has been reduced sufficiently to protect the upstream and downstream systems. The EDV's have a dedicated N2 supply system header and individual volume tanks that maintain the pressure of each actuator to keep each dump valve shut.
The investigation did not definitively identify the cause of EDV 72HV494 opening. A potential explanation identified was the inadvertent opening of a manual bleeder valve on the nitrogen volume tank for 72HV494. This manual valve is near a walkway and could potentially be bumped opened. A thorough investigation has been conducted, it was verified by the manufacturer that the control logic is not in place for 72HV494 to open on its own without 72HV490 & 72HV492 opening first, connections inside the junction box have been inspected, checked all signal wires, tubing connections, and solenoid/ air valves with no issues identified.

Immediately following the incident instrument and electrical technicians (I&E), analysts, and engineers began to troubleshoot why the valve opened. Verified with manufacture that logic is not in place for this valve to open out of sequence. I&E inspected connections inside the junction box, checked all signal wires, tubing connections, and solenoid/ air valve and no issues were identified. Going forward safeguards will be put in place to prevent inadvertent opening of the manual valve on the PSV for the nitrogen volume tank on 72HV494.

Event Started: 8/7/2018 10:31 AM
Stopped: 8/7/2018 10:31 AM ☐ Ongoing Event
Discovered On: 8/7/2018

Source Number: S6016
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit:
AQMD:
Other:

Event Description: The following deviation is being submitted in an abundance of caution to meet reporting requirements for flaring on August 7th, 2018. Chevron believes this incident is excluded under Regulation 1 Rule 110.8. Flaring occurred at the FCC flare (S-6016). Flaring deviated from 40CFR 60 Subpart J(60.104(a)(1)) because it was not due to a startup, shutdown, or malfunction, and the vent gas did not have a hydrogen sulfide concentration below 230 mg/dscm (0.10 gr/dscf).

Probable Cause: Following the flaring incident on August 6th, 2018 operations was troubleshooting the unexplained opening of TKN Emergency Dump Valve (EBV) 72HV494. Operations and Maintenance met to discuss a path forward to safely simulate the conditions from the previous day's incident. The valve lineup was mimicked to simulate pressure on the line with a loss of the N2 suppled to the valve. During the test Operations isolated one of the block valves to the EBV to prevent flaring. While testing the dump valve 72HV494 leak by from the isolation block valve sent enough flow to relief to breach the FCC (S-6016) water seal and result in visible flaring.

Corrective actions or preventative steps taken: The following deviation was submitted in an abundance of caution to meet reporting requirements for flaring on August 7th, 2018. Chevron believes this incident is excluded under Regulation 1 Rule 110.8. The isolation valves for the TKC have been entered into the maintenance tracking system to be repaired during the TKC major shutdown.

Event Started: 9/4/2018
Stopped: 9/5/2018 ☐ Ongoing Event
Discovered On: 9/4/2018

Source Number: V-475
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit: 8773 part 5
AQMD:
Other: 40 CFR 60.105(a)(4)

Event Description: On September 4, 2018, V-475 exceeded its 160ppm H2S 3-hour average from 1000 to 1800 hours. V-475 also exceeded its 50ppm H2S 24-hour average from September 4, 2018 at 1000 hours to September 5, 2018 at 1500 hours. H2S concentration estimates are still being developed and the times of excess are being reported conservatively. Breakdown request (RCA #07J10) was submitted on September 4, 2018 due to flow 65FI1027 failure causing a 4 H2S plant upset.

Probable Cause: At approximately 10:14 AM on September 4, 2018, C-1020 in No. 4 H2S plant temporarily lost the ability to remove H2S from the amine solution, which was confirmed by the drop-in acid gas flowrate to the SRU by nearly 4 MMSCFD. Feedback from the instrumentation group, after the incident, indicated that process tubing for flowmeter, 65FI1027, had plugged, causing a false low flow reading. As a result of the lower flow indication reading, the 45# steam flow control valve, 65FC1027 responded by opening and increasing flow to maintain the steam flow set point. The sudden increase in steam flow displaced the level in condensate pot V-1027A causing the condensate pot level control valve, 65LC1027 to close stopping all flow through the reboiler and into the condensate pot.
With the loss in steam flow, the H2S in C-1020 could not be stripped and remained absorbed in the DEA The DEA from C-1020 is normally returned to C-1010 (H2S Absorber) after H2S is stripped. Since the DEA was already enriched with H2S in this case, the DEA could not remove any additional H2S that was in the sour process gas feed to C-1010. The H2S instead went to the overhead of C-1010 with the process gas, which is eventually routed to V-475. This resulted in the H2S being carried over to the fuel gas at V-475, and the Refinery exceeding its H2S Limits.

Corrective actions or preventative steps taken: *Operations was able to trouble shoot and manually re-store steam flow, and the condensate pot level returned to its original setpoint within a few hours,* returning the system back to its normal operation. Maintenance was called out to troubleshoot false low flow reading and discovered plugged level taps/leads and removed plugging. The Refinery instrumentation and electrical engineering group will complete an assessment of the instrumentation and logic control scheme to make any upgrades and or changes to aid in the prevention of future occurrences. A preventative maintenance plan will be implemented to clean out taps/leads every 6 months.

Event Started: 8/29/2018
Stopped: 9/4/2018 ☐ Ongoing Event
Discovered On: 9/4/2018

Source Number:
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit:
AQMD: Reg. 12-12
Other:

Event Description: The Refinery submitted a late causal analysis report for the June 20th, 2018 flaring incident that was required under BAAQMD Regulation 12 rule 12. The report was due on August 29th, 2018 and officially submitted on September 4, 2018 once it was discovered.

Probable Cause: The regulation 12 rule 12 root cause analysis report for the June 20th, 2018 flaring incident was not submitted to the BAAQMD on-time by the August 29th, 2018 deadline. The investigation identified that the current process has a single safeguard layer dependent on one person to track and ensure the report is submitted on time. This is an infrequently required report and in this instance the submittal was inadvertently overlooked.

Corrective actions or preventative steps taken: Upon discovery of the missed deadline the report was submitted immediately. The Refinery is completing a process review and developing additional safeguards to be put in place for completing and submitting episodic reports on time.

Event Started: 7/1/2016
Stopped: 9/10/2018 ☐ Ongoing Event
Discovered On: 9/10/2018

Source Number:
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit:
AQMD: Regulation 11-10 304.1
Other:

Event Description: On September 10, 2018 and September 11, 2018 the refinery conducted an audit of the monitoring practices of all cooling tower return lines under BAAQMD Regulation 11-10. It was discovered that the cooling water return sampling locations at SRU (S-4191), FCC (S-4187), and LSFO (S-4073) were misidentified or not representative of the entire cooling water return header.

Probable Cause: From July 1, 2016 through September 10, 2018 the SRU cooling water tower return sampling location was determined to not be representative of the cooling water return header because there are two cooling water return tie-ins downstream of the sample location.

Corrective actions or preventative steps taken:

From approximately March 1, 2018 through August 6, 2018 the FCC cooling water tower (S-4187) sample was inadvertently being collected from the cooling water supply line rather than the return line. It was discovered that the cooling water return line sample station was not operative and the contractor pulling the sample was shown an alternate location to collect a cooling water sample. However, the alternate sample location was monitoring the cooling water supply line and therefore did not comply with the requirements in BAAQMD 11-10.

From July 1, 2016 through August 13, 2018 the cooling water tower return line from E-1160A/B, E-1161, and E-1162 was inadvertently not sampled. Drawings initially suggested that the return line was being monitored by an alternate sample station at the LSFO Cooling Tower. However, upon further review, it was discovered that the cooling water flow was blocked in and diverted to a return line that was not being monitored. Therefore, the cooling water return line was not being monitored as required by Regulation 11-10-304.1

All discrepancies with the cooling water tower sample locations have been corrected. The SRU cooling water tower return sample location was moved to a downstream location which is representative of the cooling water return header. The cooling water return line at the FCC cooling water tower is correctly being monitored and the sampler has been instructed to only use the compliance sample location marked as the cooling water tower return line. The missed sample location at the LSFO cooling water tower has been added to the weekly sample schedule. All cooling towers subject to BAAQMD Reg 11-10 have had their sample stations verified as complying with the monitoring requirements in 11-10-304.1. All sample stations have been verified to be operational; field placards will be made to clearly identify all sample stations used for compliance with Reg 11-10. Cooling Water Tower Environmental Specialist is developing training guidance for personnel responsible for CWT sampling.

Event Started: 4/22/2014
Stopped: 6/21/2017 ☐ Ongoing Event
Discovered On: 9/24/2018

Source Number: S4291
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit:
AQMD: BAAQMD 8-10-501
Other:

Event Description: On September 24, 2018, it was discovered that contactor (R-1410L) in the Alkylation unit (S-4291) was opened to the atmosphere on (4) separate occasions without conducting Process Vessel Depressurization (PVD) monitoring, as required per BAAQMD 8-10-501. The Vessel had inadvertently not been added to the PVD database.

Probable Cause: The Refinery conducted an extensive review of all process vessels subject to Regulation 8, Rule 10 requirements and compared those vessels against the internal PVD tracking database. Of the 500 vessels that were reviewed, 1 vessel was identified that did not meet the 8 – 10 requirements. PVD inspections are generated through the PVD tracking database which unknowingly did not include R1410L. A review of R-1410L maintenance history showed that the vessel was opened in April 2014, April 2015, August 2016, and February 2017.

Corrective actions or preventative steps taken: This was a proactive database review of all Refinery process vessels. Discrepancies with the PVD database have been corrected. All process vessels subject to BAAQMD Reg 8-10 have been verified in the database and operations will be provided with a master list of all vessel subject to the PVD requirements.

Event Started: 10/1/2018 12:08 PM
Stopped: 10/5/2018 2:55 PM ☐ Ongoing Event
Discovered On: 10/2/2018

Source Number: S6012
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit:
AQMD: Reg. 12-11-504
Other:

Event Description: On October 2, 2018, it was discovered that there was a deviation of pilot and purge gas monitoring as required per Reg. 12-11 part 504 on the SISO flare (S-6012).

Probable Cause: The North Isomax (NISO) Flare (S-6013) was being taken out of service for routine preventative maintenance. 69FI289, the natural gas flow meter to the pilot and purge for the NISO flare was scheduled for preventative maintenance while the flare was out of service. Operations installed a temporary bypass on the natural gas supply piping to sustain gas flow to South Isomax (SISO) flare, S-6012, which remained in service. Due to the configuration of the temporary bypass piping, the SISO flare natural gas flow meter (69FI285) was also inadvertently bypassed and was no longer monitoring pilot and purge gas flow to the SISO flare as required.

Corrective actions or preventative steps taken: Once the issue was identified operations immediately began to monitor and document pilot and purge gas data by use of field instrumentation. An isolation valve has since been added, to give operations the ability, to isolate one flare at a time and not lose monitoring via 69FI285 meter.

Event Started: 10/8/2018 3:50 PM

Stopped: 10/8/2018 3:56 PM ☐ Ongoing Event

Discovered On: 10/8/2018

Source Number: S6016

Abatement Device :

Emission Point:

May have resulted in a violation of :

Permit:

AQMD:

Other: 40 CFR Subpart J (60.104(a)(1

Event Description: On October 8th, 2018 flaring occurred at the FCC flare (S-6016). Flaring deviated from 40CFR 60 Subpart J(60.104(a)(1)) because it was not due to a startup, shutdown, or malfunction, and the vent gas did not have a hydrogen sulfide concentration below 230 mg/dscm (0.10 gr/dscf).

Probable Cause: During isolation of 10 plant located in the Hydroprocessing South Isomax area, a temporary bypass was inadvertently isolated which blocked relief gas from going to the 5H2S plant. 5H2S was still in service and this isolation resulted in flaring. The incorrect valve being isolated wasn't discovered until flaring occurred.

Corrective actions or preventative steps taken: The valve was immediately identified in the field and reopened which stopped the flaring and returned the flow from the 5H2S to normal. The valve was locked open and tagged properly to prevent a future reoccurrence. Operations discussed the incident and went over the importance to better instruct outside operations to be aware of unusual valve lineups and proper valve tagging required during major turnarounds.

Event Started: 11/3/2013 Stopped: ☐ Ongoing Event Discovered On: 10/10/2018	Source Number: S1292 Abatement Device : Emission Point:	May have resulted in a violation of : Permit: 25144 Part 3 & 4 AQMD: Other:

Event Description: On October 10, 2018 it was discovered that the consecutive 12-month IBP average was below 302F for TK-1292 in September. Following the discovery, the Refinery conducted an extensive compliance review of TK-1292. It was determined that on multiple occasions TK-1292 did not meet the requirements in permit condition 25144 parts 3 & 4.

Probable Cause: The Refinery tank compliance assurance program is managed by plant engineering (PED) using monthly and daily tank compliance workbooks (Excel Spreadsheets). This incident was discovered as PED was proactively reviewing the workbooks for potential updates.

Corrective actions or preventative steps taken: Following the discovery, it was determined that the excursions from permit condition 25144 parts 3 and 4 were caused by breakdowns during personnel turnover, inaccuracies within the tank compliance review workbook, and tank sampling schedule. Records found that during the development of permit condition 25144 compliance plan, stakeholders were tasked with implementing the permit requirements into the engineering workbooks and T-1292 sampling schedule. However, the workbooks are updated yearly, and the permit condition requirements for Initial Boiling Point (IBP), True Vapor Pressure (TVP), and sampling requirements were inadvertently not migrated over from the initial workbook entries in 2013.

Consequently, looking back 5 years, T-1292 deviated from the following requirements listed in parts 3 & 4 of permit conditions 25144:

•Monthly TVP samples were missed for a total of 6 occurrences.
•Weekly IBP samples were missed for a total of 24 occurrences.
•The IBP fell below the minimum requirement of 275F from October 4, 2013 to October 11, 2013, March 31, 2014 to April 8, 2014, and September 10, 2018 to September 18, 2018 with IBP results of 267F, 254F, and 274F respectively
•The IBP fell below the monthly minimum requirement of 290F for the months of March 2014 (289F), September 2018 (287F), October 2018 (283F)
•The IBP fell below the 12-month minimum requirement of 302F for the months of November 2015 (300F), December 2015 (297F), January 2016 (298F), February 2016 (298F), March 2016 (299F), April 2016 (300F), May 2016 (299F), June 2016 (301F), July 2018 (301F), August 2018 (301F), September 2018 (299F), October 2018 (298F)
•The TVP went above 0.8psia from November 27, 2015 to December 4, 2015 with a result of 1.1 psia
•The TVP was above the monthly average limit of 0.5psia for the months of January 2015 (0.52 psia), March 2015 (0.54 psia), August 2015 (0.58 psia), September 2015 (0.69 psia), October 2015 (0.51 psia), November 2015 (0.61 psia), March 2017 (0.65 psia), April 2017 (0.60 psia), May 2017 (0.64 psia)
•Beginning on 8/11/2017, the vapor pressure analysis conducted by the Quality Control Division (QCD) used Method ASTM D5191 instead of Method 28, as contemplated by Condition 25144, Part 4. All results using D5191 with the CARB conversion equation to Reid Vapor Pressure were well below the 0.5 monthly average true vapor pressure limit. QCD has indicated that ASTM D5191 is the industry standard for vapor pressure analysis and would provide the least amount of variability, and that use of Method 28 at such low pressures is prone to inaccuracies and variability due to the manual nature of the test and imprecision of the pressure gauge.

The Refinery takes all deviations very seriously and in response to this discovery, the Refinery has updated current engineering workbooks and is conducting a comprehensive : of the current tank compliance tracking program. This review will ensure that all tank limits are understood and clearly communicated. The Refinery will develop additional critical environmental variable alerts to notify stakeholders of approaching limits and reduce the reliance on PED workbooks. The additional sample requirements will be added to the operator hand held tracking system for timely prompts on conducting sampling. Operations will also review the sample schedule to ensure the schedule includes permit condition sampling requirements.

Event Started: 10/11/2018
Stopped: 10/11/2018 ☐ Ongoing Event
Discovered On: 10/11/2018

Source Number:
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit:
AQMD: Reg. 9-10-301
Other:

Event Description: On October 11, 2018, the Refinery exceeded the Refinery wide Nox limit of 0.033 lbs nox/mmbtu. The Refinery wide emission rate was >0.033 lbsnox/mmbtu.

Probable Cause: The Refinery Wide NOx limit was exceeded due to a loss of NH3 injection at F-305. Following a monthly preventative maintenance check F-305's O2 analyzer began to read ambient, about 25% O2, this ultimately caused the corrected NOx to read -4 ppm. The low corrected NOx reading drove the NH3 controller closed. This caused the actual NOx reading to go high due to loss of NH3 to the SCR. When the analyzer group addressed the bad F-305 O2 reading, they found that tubing had come off the pressure sensor inside the analyzer. They secured the tubing back on the pressure sensor, calibrated the analyzer, and placed it back in service. The SCR on F-305 is a significant contributor to compliance with the refinery-wide daily NOx limit and even a few hours without the NH3 injection was enough to exceed the daily NOx limit.

Corrective actions or preventative steps taken: Immediately all furnaces that contribute to the Refinery Wide NOx were reviewed. The analyzer group for the Refinery addressed F-305's O2 false reading by re-connecting the tubing to the pressure sensor, calibrating and returning the analyzer to service. A XANs alert has been created for Operations to alarm for the loss of NH3 to the SCR. This incident will be reviewed with Analyzer Techs who perform PMs, reinforcing the need to perform checks of the analyzer following their work to ensure that instrumentation is fully functional.

Event Started: 10/14/2018
Stopped: 10/15/2018 ☐ Ongoing Event
Discovered On: 10/15/2018

Source Number: S4252
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit:
AQMD: Reg. 8-10-501
Other:

Event Description: On October 15, 2018 during a maintenance turnaround it was discovered that the Cold High Pressure separator V-550 in the Refinery TKN Plant, was opened without an intial Process Vessel Depressurization (PVD) inspection, as required per BAAQMD 8-10-501.

Probable Cause: On October 14th, 2018 night shift during the TKN plant Major turnaround, V-550 Cold High-Pressure Separator was opened before obtaining an initial PVD inspection. Following a review of vessels released to maintenance it was found that V-550 had been opened without an initial inspection. This error was immediately discovered by our Air Compliance Inspection Group (ACIG) and operations personnel.

Corrective actions or preventative steps taken: The ACIG Team was contacted immediately after discovery to have the vessel monitored. Monitoring began the following shift and all 3 following readings taken were below 100 ppm VOC. The investigation is ongoing to understand how the initial inspection was missed. There is an ongoing review of the Refinery's PVD process to identify further potential process improvements.

Event Started: 10/12/2018
Stopped: ☐ Ongoing Event
Discovered On: 10/22/2018

Source Number: S4429
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit:
AQMD: Reg. 8-10-300 Reg. 8-10-500
Other:

Event Description: On October 22, 2018 during a scheduled 4th Quarter maintenance turnaround it was discovered that SISO's #8 plant vessel V-800 had been removed with out process vessel depressurization monitoring per Reg. 8-10-300 & Reg. 8-10-500

Probable Cause: V-800 was removed and replaced with a new vessel during the turnaround. The Refinery Air Compliance Inspection Group supervisor was reviewing records and discovered that the old V-800 vessel had been opened and removed without completing the required PVD monitoring.

Corrective actions or preventative steps taken: The investigation for this vessel being removed without PVD monitoring is in progress. There is an ongoing review of the Refinery's PVD process to identify further potential process improvements.

Event Started: 10/22/2018 8:53 PM
Stopped: 10/22/2018 8:59 PM ☐ Ongoing Event
Discovered On: 10/23/2018

Source Number: S4285
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit: 11066 7(a5)
AQMD:
Other:

Event Description: On October 22, 2018, the TR sets for the ESP were de-energized from 20:53 hours to 20:59 hours. The shutdown of the TR sets is a Chevron process safety best practice to prevent any source of ignition in the ESP. The Refinery is currently operating under the Ammonia Optimization and Demonstration Testing Protocol and was operating with greater than two TR sets below 200mA with the remaining sets less then 296mA averaged over a 3-hour period, preceding the de-energization of the TR sets on October 22, 2018. No indicated emissions excesses occurred during this time.

Probable Cause: On October 22, 2018 at approximately 20:45 the FCC control board operator (CBO) received a high CO alarm on the outlet of the FCC Regenerator, V-70. Air was immediately increased to the system, but the CBO continued to receive a high alarm with a peak concentration greater than 4000 ppm CO. Per process safety best practice the ESP was immediately deenergized to avoid any safety hazards from potential hydrocarbon carryover into the ESP. The ESP was reenergized at 20:59. The internal investigation identified that the Reactor/Regenerator DMC (Dynamic Matrix Control) system was reducing air flow to V-70 to minimize excess O2 which was being measured by the V-65 O2 analyzer at the outlet of V-70. The investigation revealed that the V-65 O2 analyzer was drifting and measuring a false high value, causing the DMC system to lower air rates, leading to incomplete combustion and elevated CO.

Corrective actions or preventative steps taken: A corrective action is in place to update the DMC program logic to validate the accuracy of the V-65 O2 analyzer. If the V-65 O2 analyzer measures too close to the FCC stack O2 analyzer (as the stack O2 should always measure above the V-65 O2 reading), this DMC logic will be automatically shut off, so air rates are not controlled by a bad analyzer reading.

Event Started: 10/26/2018
Stopped: 10/27/2018 ☐ Ongoing Event
Discovered On: 10/30/2018

Source Number: S4465
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit: PC #24136 Part 21
AQMD:
Other:

Event Description: On Monday, October 29, 2018, it was discovered that the Hydrogen Plant Cooling Water Tower (S-4465) recirculation rate limit of 51,840,000 gallons per day was exceeded during commissioning activities in the new H2 Plant. Hydrocarbon feed had not been introduced to this new plant at the time of the excess, therefore there were no possible hydrocarbon emissions from the cooling water tower. Chevron is submitting this 10-day deviation notification in an abundance of caution

Probable Cause: On October 26, 2018, in advance of bringing hydrocarbon into the new Hydrogen Plant for furnace light off, Operators were troubleshooting the cooling water system for the plant. In the process, they exceeded both the instantaneous and totalizer alarms on the cooling water tower circulation system. Hydrocarbon feed had not been introduced to this new plant at the time of the excess, therefore there were no possible hydrocarbon emissions from the cooling water tower.

Corrective actions or preventative steps taken: Following discovery of the circulation rate exceedance, Modernization Project HES personnel reviewed the permit condition limits, DCS alarm limits and monitoring tools with the Hydrogen Plant Operators and First Line Managers. The guidance was subsequently shared with all stakeholders via email communication.

Event Started: 10/26/2018 12:00 PM
Stopped: 10/26/2018 1:00 PM ☐ Ongoing Event
Discovered On: 11/9/2018

Source Number: S6021
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit: PC 24136 section 121
AQMD:
Other:

Event Description: On October 26, 2018 the Hydrogen Plant Flare (S6021) exceeded the supplement gas limit of 6,600 scf/hr. for the 12:00 hour.

Probable Cause: Following the submission of the 96-hour supplemental gas excess, Chevron determined that the flow meter was improperly configured for the service it is in. As a result, the flow indication was reading erroneously high, indicating that the supplemental gas flow to the flare was in excess of the permit limit. After reconfiguring the flow meter and reviewing the data it was determined that a flow excess did not occur.

Corrective actions or preventative steps taken: The flow meter was immediately reconfigured to the manufacturer's operating specifications. The flow meter is now reading accurately and has been returned to service.

Event Started: 11/12/2018 2:00 AM
Stopped: 11/12/2018 3:00 AM ☐ Ongoing Event
Discovered On: 11/12/2018

Source Number: S6021
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit: 24136 Part 121
AQMD:
Other:

Event Description: On November 12, 2018 the Hydrogen Plant Flare (S-6021) exceeded the supplemental natural gas limit of 6,600 scf/hr. for the 2:00 hour.

Probable Cause: While starting up Train 1 at the new Hydrogen Plant, Operators responded to a low flare gas BTU alarm caused by nitrogen in the flare header by opening the supplemental natural gas valve to the flare header. Upon further investigation, it was discovered that during the permit compliance development and implementation procedure the supplemental gas flow limit had not been clearly communicated to the new Hydrogen Plant Operators. It was also discovered that the proposed supplemental gas flow limit in the permit application is insufficient for normal operating parameters and can be exceeded when opening supplemental natural gas to comply with the destruction efficiency requirements in 40 CFR 63.670 and the permit condition.

Corrective actions or preventative steps taken: The Chevron Richmond Refinery's Health, Environmental and Safety (HES) Air Compliance Team will update their procedures to ensure that the Team Lead and the Permit Specialist assign compliance plan development and implementation for new permits. Additionally, procedures will be updated to ensure that the relevant sections of draft permit applications, including potential compliance limits, are reviewed with permit customers and stakeholders. The supplemental gas flow limit in the permit is currently being reviewed with the BAAQMD to make the appropriate changes.

Event Started: 11/13/2018 9:26 PM
Stopped: 11/13/2018 10:04 PM ☐ Ongoing Event
Discovered On: 11/13/2018

Source Number: S6013
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit:
AQMD:
Other: 40 CFR Subpart J (60.104(a)(1

Event Description: On November 13th, 2018 flaring occurred at the NISO flare (S-6013). Flaring deviated from 40CFR 60 Subpart J (60.10a)(1)) because it was not due to a startup, shutdown, or malfunction, and the vent gas did not have a hydrogen sulfide concentration below 230 mg/dscm (0.10 gr/dscf).

Probable Cause: On November 13th, during commissioning activities of the NISO flare, Operations was adjusting the NISO relief check valve. The adjustment inadvertently released vent gas to the NISO flare header, resulting in flaring.

Corrective actions or preventative steps taken: The internal investigation identified that the relief check valve did not achieve the correct position. The North Isomax Flare Startup procedure includes a step for the Operator to unchain the relief check valve and allow it to close, however the check valve was not free moving, and did not close on its own. Additionally, it was identified that the check valve is labeled, "Open" and "Close", however, the arrows both indicate movement in the same direction. This makes it difficult for the Operators to know what position the check valve is in when adjusted.

The Richmond Refinery will lubricate the valve on the run in an effort to return full check valve functionality. Additionally, the Refinery will update the labels on the check valve for correct position indication and review replacement of the check valve at the next opportunity if necessary.

Event Started: 10/23/2018
Stopped: 11/15/2018 ☐ Ongoing Event
Discovered On: 11/14/2018

Source Number:
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit:
AQMD:
Other: 40 CFR 60 Subpart QQQ

Event Description: On October 23, 2018 the new Hydrogen Plant sewer was commissioned, thus subjecting the #2A Separator aggregate facility to the NSPS standards of 40 CFR 60 Subpart QQQ. It was discovered that 15 drain components of the Hydrogen Plant process sewer did not meet QQQ requirements. As of November 15, 2018 the refinery returned the Hydrogen Plant process sewer system to compliance by capping the 15 drains and removing them from service.

Probable Cause: During construction of the new hydrogen plant, the general contractor inserted wire debris baskets at 15 locations on foundation trench drains. This was done in deviation of design drawings which called for vapor tight water seals at these locations. During turnover of the process sewer system, the water level in the sewer drains made it appear that there were water seals in place instead of wire baskets. Not until after the process sewer system was commissioned was it evident that there were wire baskets instead of seals in the drains at these locations.

Corrective actions or preventative steps taken: Upon discovery, the Refinery sealed the 15 drains with plumber plugs within 24 hours to bring the process sewer system back into compliance with the standards of NSPS QQQ. The decision was made the same day to expedite the purchase and delivery of new drain seals to replace the wire baskets. Permanent vapor tight water seals were installed on November 26 in compliance with design drawings and code requirements

Event Started: 11/14/2018 12:02 PM
Stopped: 11/14/2018 5:51 PM ☐ Ongoing Event
Discovered On: 11/14/2018

Source Number: S6013
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit:
AQMD:
Other: 40 CFR Subpart J (60.104(a)(1

Event Description: On November 14th, 2018 flaring occurred at the NISO flare (S-6013). Flaring deviated from 40CFR 60 Subpart J (60.10a)(1)) because it was not due to a startup, shutdown, or malfunction, and the vent gas did not have a hydrogen sulfide concentration below 230 mg/dscm (0.10 gr/dscf).

Probable Cause: On November 14, 2018 at approximately 1200 hours, during commissioning of the NISO flare, Operations was trouble shooting check valve issues from the piror day and was continueing check valve adjustments to achieve proper system configuration. The adjustment inadvertently released vent gas to the NISO flare header, resulting in intermittent visible flaring to occur.

Corrective actions or preventative steps taken: The internal investigation identified that the relief check valve did not achieve the correct position. The North Isomax Flare Startup procedure documents for the Operator to unchain the relief check valve and allow for it to freely close, however the check valve was not free moving, and did not close on its own. Additionally, it was identified that the check valve is labeled, "Open" and "Close", however, the arrows both indicate movement in the same direction. This makes it difficult for the Operators to know what position the check valve is in when adjusted.

The Richmond Refinery will attempt to lubricate the valve on the run so that it has full check valve functionality. Additionally, the Refinery will update the labels on the check valve and/or replace the check valve at the next opportunity.

Event Started: 11/20/2013

Stopped: 6/2/2017 ☐ Ongoing Event

Discovered On: 11/20/2018

Source Number: S3185

Abatement Device :

Emission Point:

May have resulted in a violation of :

Permit:

AQMD: Permit Condition 110204

Other:

Event Description: Following a comprehensive tank review, it was discovered on November 20, 2018 that, at times over the past 5 years, True Vapor Pressure (TVP) for TK-3185 has been analyzed by Method 28, which analysis indicated exceedances of the TK-3185 TVP limit of 0.30 psia. At all times over the past 5 years, TK-3185 has stored only Jet A. Applying the true vapor pressures listed in AP-42, Chapter 7 for Jet A (kerosene Jet) (Table 7.1-2) at the highest recorded tank temperature of 100F, TK-3185 has never exceeded a TVP of .03 psi. It is Chevron's belief that use of Method 28 at such low pressures is prone to inaccuracies and variability due to the manual nature of the test and imprecision of the pressure gauge. Going forward, unless a stock change occurs, TVP for TK-3185 will be determined by use of AP-42 Table 7.1-2 and compared against the tank temperature, which is continuously monitored.

Probable Cause: This Incident was discovered by proactively reviewing compliance requirement for all tanks storing Jet stocks. It was found that vapor pressure analysis measured by Method 28 from 11/1/2013 to 6/9/2017 exhibited intermittent results above 0.30 psia. As stated above, it is Chevron's belief that use of Method 28 is prone to inaccuracies at low vapor pressures due to the manual nature of the test and imprecision of the pressure gauge. The method requires the use of a spring gauge, 0-5psi range, with 0.1 psi intermediate graduations. This means that gauge reading limitations can lead to inaccuracies between 0.025-0.05 psi (~5%). This combined with the Reproducibility of the method that has a range of 0.35 psi makes pressure results below .30 psi unreliable.

Corrective actions or preventative steps taken:

The Refinery tank compliance assurance program is managed by plant engineering (PED) using monthly and daily tank compliance workbooks (Excel Spreadsheets). Since vapor pressure for JET A is not a parameter commonly reviewed for product specification the lab results were not linked to the PED workbooks for oversight.

The Refinery takes all incidents very seriously and in response to this discovery, the Refinery has updated current engineering workbooks and is conducting a comprehensive review of the current tank compliance tracking program. The Refinery will develop additional critical environmental variable alerts to notify stakeholders of limits and reduce the reliance on PED workbooks.

Event Started: 12/21/2018 3:00 PM
Stopped: 12/21/2018 4:00 PM ☐ Ongoing Event
Discovered On: 12/23/2018

Source Number: S4350
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit:
AQMD: Regulation 9 Rule 9 Section 30
Other:

Event Description: On December 21, 2018, the Cogeneration 1000 train (S-4352 and S-4353) exceeded its 3-hr average NOx limit of 5 ppm corrected to 15% O2 (BAAQMD Regulation 9, Rule 9, 301.2).

Probable Cause: On December 21, 2018, at approximately 15:31hrs the Cogeneration Train 1000 experienced high NOx at the stack. The elevated NOx brought the 3-hour average to a high of 7.07 ppm. An investigation found that Pressure Transmitter, PT817, faulted and subsequently caused the steam control valve (FV820) to initiate a 'Ramp Down' sequence. As the steam control valve began to close, steam was steadily reduced to the combustor. The decreased steam flow to the combustor caused high flame temperature which directly led to high NOx at the stack.

Corrective actions or preventative steps taken:

The Refinery self-reported this as an exceedance, however a recent communication from a BAAQMD Air Quality Inspector confirmed a discussion regarding the interpretation of 9-9-301 that because the Heat Recovery Steam Generators (HRSG) are fired on Refinery fuel gas the applicable standard is 9 ppm. Accordingly, Chevron requests that the District issue a no further action or retract this deviation.

Upon discovery, the operator crew manual reset the steam controller to the correct the valve position. Steam was successfully restored to the combustor with 10 minutes of discovery. As a result of the incident the Refinery has replaced pressure transmitter, PT817 and is currently sourcing additional safeguards to assist with preventing this type of incident from re-occurring. All investigation findings from this incident will be documented and shared to confirm learnings are captured.

Event Started: 12/28/2018
Stopped: 12/29/2018 ☐ Ongoing Event
Discovered On: 12/28/2018

Source Number: S1493
Abatement Device :
Emission Point:

May have resulted in a violation of :
Permit:
AQMD: 2-1-103.3
Other:

Event Description: On December 28, 2018, the flash point of the material in T-1493 was found to be at 126 degrees Fahrenheit. Consequently, the tank did not meet the exemption from permitting in BAAQMD Regulation 2-1-123.3.

Probable Cause: On December 27, 2018 a tank transfer was initiated from the off-test diesel tank, T-1653, to the DHT cold feed tank, T-1493, for reprocessing. This transfer was initiated based on the most recent sample results from T-1653, indicating a boiling point above 302F. It was discovered, later that evening, that an additional sample from T-1653 was analyzed and delivered a flash point result less than 130F. Upon discovery, the transfer to T-1493 was immediately stopped and the material of T-1493 was analyzed to determine the flash point. On December 28, 2019, it was discovered that the flash point of T-1493 was 126F. This initiated a series of transfers and analyses to correct the flash point of T-1493 above 130F.
A review of the flash point analyses determined that T-1493 was below 130F intermittently between December 28, 2018 and January 5, 2019. However, a review of the actual tank emissions as determined by 2-1-103.3 from December 28, 2018 through January 5, 2019 indicated that the emissions from T-1493 were below 10 lbs/day for all days except December 28, 2018. The actual tank emission on December 28, 2018 were 13.1 lbs/day. Therefore, T-1493 was in deviation of Regulation 2, Rule 1 for December 28, 2018 only.

Corrective actions or preventative steps taken:

The tank transfer was initiated based on the latest sample results available. Upon discovery, operational moves were made to increase the flash point of T-1493. Oils planning is currently reviewing the incident to identify solution items that will aid in the prevention of this type of incident from reoccurring.

Certification Statement

I certify under penalty of law that based on the information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate, and complete.

x	***Kory Judd***	***General Manager Richmond Refinery***	23 Jan 2019
Signature of Responsible Official	Print Name	Title	Date

BAAQMD Title V Permit
6 Month Monitoring Report

From 7/1/2018 to 12/31/2018

A0010 Chevron Richmond Refinery

Facility Address:
841 Chevron Way
City: Richmond
State: CA
Zip Code: 94801-

Mailing Address
PO Box 1272
City: Richmond
State: CA
Zip Code: 94802-0272

Contact: Katie Gong Title: Compliance Technician Phone: (510) 242-1930

Inoperable monitors as defined by BAAQMD Regulations 1-522 and 1-523 for the reporting period are summarized below:

Started	Stopped		Source (S#)	Abatement Device (A#)	Emission Point (P#)	CEM	GLM	Fuel Gas	Parametric	NOx	SO2	CO	H2S	TRS	NH3	O2	CO2	H2O	Opacity/ LTA	Lead	Steam	Flow	Wind Dir.	Wind Speed	pH	Temp.	VOC.	Gauge Press.
7/6/2018 2:25 PM	7/20/2018 1:59 PM	☑	S4155			☑	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
7/26/2018 8:40 AM	7/30/2018 1:06 PM	☑	S6051			☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐
8/21/2018 5:01 AM	8/22/2018 10:10 AM	☑	S4038			☑	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
8/22/2018 5:26 AM	8/23/2018 3:09 PM	☑	S4350			☑	☐	☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
9/1/2018 9:32 AM	9/2/2018 11:15 AM	☑	S4168			☑	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
9/1/2018 8:49 PM	9/4/2018 9:33 AM	☑	S4132			☑	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

7/6/2018 2:25 PM – 7/20/2018 1:59 PM
Discovered On: 7/9/2018
Event Description: Update: The monitor was repaired and back in service on July 20, 2018 at 1359 hours.

F-135 NOx & O2 monitor became inoperative on July 6, 2018 at 1425 hours. Repairs ongoing.

7/26/2018 8:40 AM – 7/30/2018 1:06 PM
Discovered On: 7/27/2018
Event Description: UPDATE: Upon further evaluation by the refinery's internal instrument mechanics, it was determined that the analyzer was accurately measuring hydrocarbon concentration and therefore the inoperative monitor notification was submitted in error.

This inoperative monitor is being submitted in an abundance of caution to meet any reporting obligations as the investigation is ongoing. The Alky Cooling Water Tower hydrocarbon analyzer (12AI1400) potentially went inoperative on July 26, 2018 at 0840 hours.

8/21/2018 5:01 AM – 8/22/2018 10:10 AM
Discovered On: 8/22/2018
Event Description: 4 Rhen West (F-3550/60) NOx analyzer failed calibration on August 21, 2018 at 0501 hours. The analyzer was successfully repaired and calibrated on August 22, 2018 at 1010 hours.

8/22/2018 5:26 AM – 8/23/2018 3:09 PM
Discovered On: 8/24/2018
Event Description: Cogen 1000 NOx, O2, and CO analyzers became inoperative on August 22, 2018 at 0526 hours. The analyzers were successfully repaired and calibrated on August 23, 2018 at 1509 hours.

9/1/2018 9:32 AM – 9/2/2018 11:15 AM
Discovered On: 9/4/2018
Event Description: F-730 NOx analyzer became inoperative on September 1, 2018 at 0932 hours. The analyzer was successfully repaired and calibrated on September 2, 2018 at 1115 hours.

9/1/2018 8:49 PM – 9/4/2018 9:33 AM
Discovered On: 9/4/2018
Event Description: #4 Boiler NOx and O2 analyzers became inoperative on September 1, 2018 at 2049 hours. The analyzers were successfully repaired and calibrated on September 4, 2018 at 0933 Hours.

Started	Stopped		Source (S#)	Abatement Device (A#)	Emission Point (P#)	CEM	GLM	Fuel Gas	Parametric	NOx	SO2	CO	H2S	TRS	NH3	O2	CO2	H2O	Opacity/ LTA	Lead	Steam	Flow	Wind Dir.	Wind Speed	pH	Temp.	VOC.	Gauge Press.
9/14/2018 4:30 AM	9/17/2018 1:01 PM	☑	S6051			☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐

Discovered On: 9/17/2018

Event Description: The Alky Cooling Water Tower hydrocarbon analyzers (12AI1400 & 12AI1401) were intermittently inoperative from 9/14/2018 at 0430 hours to 9/17/2018 at 1301 hours.

9/15/2018 9:19 AM	9/17/2018 2:43 PM	☑	S4171			☑	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Discovered On: 9/17/2018

Event Description: Update for RCA# 07J30. The analyzer was successfully repaired and calibrated on 9/17/2018 at 1443 hours.

F-355 360 East NOx analyzer became inoperative on 9/15/2018 at 0919 hours. Repairs ongoing.

9/26/2018 5:00 AM	9/27/2018 4:15 PM	☑	S4285			☑	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Discovered On: 9/27/2018

Event Description: FCC (F-300) NOx analyzer became inoperative on September 26, 2018 at 0500 hours. The analyzer was successfully repaired and calibrated on September 27, 2018 at 1615 hours.

9/28/2018 9:07 PM	10/1/2018 1:21 PM	☑	S4068			☑	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Discovered On: 10/1/2018

Event Description: F-1610 NOx and O2 analyzers became inoperative on September 28, 2018 at 2107 hours. The analyzers were successfully repaired and calibrated on October 1, 2018 at 1321 hours.

10/1/2018 12:08 PM	10/5/2018 2:55 PM	☑	S6012			☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐

Discovered On: 10/2/2018

Event Description: UPDATE: Resumption of monitoring: The South Isomax Flare (S-6012) pilot and purge flow monitoring resumed operation on 10/5/2018 at 1455 hours.

10/5/2018 11:46 AM	10/10/2018 10:30 AM	☑	S6016			☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Discovered On: 10/8/2018

Event Description: RESUMPTION OF MONITORING:
The FCC Flare (S-6016) sample station was repaired on October10, 2018 at 10:30 am.

This inoperative monitor is being submitted in an abundance of caution to meet any reporting obligations as the investigation is ongoing. The FCC Flare sample station potentially went inoperative on October 5, 2018 at 1146 hours. The flare sample station is part of the Flare Monitoring System.

10/22/2018 6:30 PM	10/24/2018 9:31 AM	☑	S4285			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Discovered On: 10/23/2018

Event Description: V-65 O2 analyzer became inoperative on October 22, 2018 at 1830 hours. The analyzer was successfully repaired and calibrated on October 24, 2018 at 0931 hours.

10/25/2018 1:00 PM	11/7/2018 3:15 PM	☑	S6021			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Discovered On: 10/25/2018

Event Description: RESUMPTION OF MONITORING:
The Hydrogen Plant Flare (S-6021) mass spectrometer was repaired and back in service on November 7, 2018 at 1515 hours.

On October 25, 2018, the Hydrogen Plant Flare (S-6021) mass spectrometer became inoperative at 13:00 hours. Repairs ongoing.

10/28/2018 5:16 AM	10/29/2018 2:45 PM	☑	S4068			☑	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Discovered On: 10/29/2018

Event Description: F-1610 NOx analyzer became inoperative on October 28, 2018 at 0516 hours. The analyzer was successfully repaired and calibrated on October 29, 2018 at 1445 hours.

Started	Stopped		Source (S#)	Abatement Device (A#)	Emission Point (P#)	CEM	GLM	Fuel Gas	Parametric	NOx	SO2	CO	H2S	TRS	NH3	O2	CO2	H2O	Opacity/ LTA	Lead	Steam	Flow	Wind Dir.	Wind Speed	pH	Temp.	VOC.	Gauge Press.
10/30/2018 10:37 AM	11/5/2018 4:00 AM	☑	S4471			☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Discovered On: 10/31/2018																												
Event Description:	UPDATE: RCA notification has been updated to reflect the end period of downtime for the gas chromatograph monitoring Natural Gas at F-1100. The RCA was submitted on November 1, 2018. On October 30, 2018, the gas chromatograph for natural gas at F-1100 became inoperative at 1037 hours.																											
11/8/2018 5:04 AM	11/13/2018 9:20 AM	☑	S6021			☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Discovered On: 11/9/2018																												
Event Description:	RESUMPTION OF MONITORING: The H2 Flare mass spectrometer's methyl/ethyl mercaptan analyzer was repaired and back in service on November 13, 2018 at 0920 hours. On November 8, 2018 at 05:04 hours, the H2 Flare mass spectrometer's methyl/ethyl mercaptan analyzer became inoperative. Repairs ongoing.																											
11/21/2018 11:05 AM		☐	S4471			☑	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Discovered On: 11/23/2018																												
Event Description:	UPDATE: Upon further review, it is determined that the inoperative monitor notification for the F-1100 NH3 analyzer was submitted in error. The F-1100 NH3 analyzer is not a BAAQMD analyzer, and the refinery will comply with the applicable requirements by performing NH3 source testing. This RCA is being submitted in an abundance of caution to meet potential BAAQMD reporting requirements. The F-1100 NH3 analyzer potentially went inoperative on November 21, 2018 at 1105 hours.																											
11/26/2018 2:12 PM	11/27/2018 4:15 PM	☑	S4285			☑	☐	☐	☐	☑	☑	☑	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Discovered On: 11/27/2018																												
Event Description:	FCC F-300 O2, NOx, CO, and SOx analyzers became inoperative on November 26, 2018 at 1412 hours. The analyzers were successfully repaired and calibrated on November 27, 2018 at 1615 hours.																											
12/2/2018 4:48 PM	12/5/2018 11:26 AM	☑	S6051			☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐
Discovered On: 12/4/2018																												
Event Description:	RESUMPTION OF MONITORING: The Alky Cooling Water Tower hydrocarbon analyzer (12AI1401) resumed operation on December 5, 2018 at 11:26 hours. On December 2, 2018, the Alky Cooling Water Tower hydrocarbon analyzer (12AI1401) became intermittently inoperative at 16:48 hours. Repairs ongoing.																											
12/4/2018 3:01 PM	12/7/2018 4:31 PM	☑	S6021			☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐
Discovered On: 12/4/2018																												
Event Description:	RESUMPTION OF MONITORING: The Hydrogen Plant Train 1 vent gas flow meter (Tag #31FI34011) resumed operation on December 7, 2018 at 1631 hours. The Hydrogen Plant Train 1 vent gas flow meter (Tag #31FI34011) became inoperative on December 4, 2018 at 1501 hours.																											
12/21/2018 7:31 PM	12/24/2018 4:25 PM	☑	S6013			☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐
Discovered On: 12/22/2018																												
Event Description:	RESUMPTION OF MONITORING: The North Isomax Flare (S-6013) flowmeter (69FI287) resumed operation on December 24, 2018 at 4:25PM.																											

Started	Stopped		Source (S#)	Abatement Device (A#)	Emission Point (P#)	CEM	GLM	Fuel Gas	Parametric	NOx	SO2	CO	H2S	TRS	NH3	O2	CO2	H2O	Opacity/ LTA	Lead	Steam	Flow	Wind Dir.	Wind Speed	pH	Temp.	VOC.	Gauge Press.
12/22/2018 11:18 AM	12/25/2018 1:08 PM	☑	S4170			☑	[ ]	[ ]	[ ]	☑	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Discovered On: 12/23/2018

Event Description: RESUMPTION OF MONITORING:
F-305 NOx analyzer was successfully repaired and cailbrated on December 25, 2018 at 1308 hours.

F-305 NOx analyzer became inoperative on December 22, 2018 at 1118 hours. Repairs ongoing.

Certification Statement

I certify under penalty of law that based on the information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate, and complete.

x	*Kory Judd*	*General Manager Richmond Refinery*	23 Jan 2019
Signature of Responsible Official	Print Name	Title	Date