Kris Battleson
HSE Manager, Richmond Refinery

April 28, 2025

Via E-mail

Bay Area Air Quality Management District
Attn: Compliance and Enforcement Division
375 Beale Street, Suite 600
San Francisco, CA 94105

Chevron Richmond Refinery
February 2025 Flaring Causal Analysis Report

To Whom It May Concern:

Attached is the flaring causal analysis report for February 2025 for Chevron's Richmond Refinery. This report is submitted pursuant to Regulation 12, Rule 12, Section 12-12-406. The report is due within 60 days of the end of February 2025 for any reportable flaring events that occurred during the month of February 2025.

There were six (6) reportable flaring events that occurred in February 2025.

If you have any questions, please contact Duy Nguyen at 510-242-3132 or duy.nguyen@chevron.com

Sincerely,

for
Kris Battleson

Attachment

cc: Danny Fung, Bay Area Air Quality Management District (via e-mail, w/ attach)
Verntzoone R. Pharn, Bay Area Air Quality Management District (via e-mail, w/ attach)
Chris Coelho, Bay Area Air Quality Management District (via e-mail, w/ attach)
Haley Downing, Bay Area Air Quality Management District (via e-mail, w/ attach)

Richmond Refinery
Chevron Products Company
A Division of Chevron U.S.A. Inc.
841 Chevron Way, Richmond, CA 94801
Tel (510) 242-1400 Fax (510) 242-3762

Attachment I

Causal Analysis Report

Chevron Richmond Refinery
Reportable Flaring Events

February 1, 2025
Flaring Due to Mechanical Failure of a Control Valve Positioner

Refinery Flare Event – Cause Investigation Report

1. Date on which the report was drafted: April 17, 2025

2. The refinery name and site number:
Refinery: Chevron Richmond Refinery Refinery
Site Number: A0010

3. The assigned refinery contact name and phone number:
Contact Name: Duy Nguyen
Contact Phone Number: (510) 242-3132

Is this a rescission/modification of a previous report: No

Date of initial report: Not Applicable

Reason for rescission/modification: Not Applicable

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4. **Identification of flare(s) at which the reportable event occurred by reviewing water seal monitoring data to determine which seals were breached during the event**

Flare	**Reportable Event (SO2 or Vent Gas Volume)**
Alky (S-6019)	Vent Gas Volume, SO2
FCC (S-6016)	
SISO (S-6012)	SO2

5. **The flaring event duration for each affected flare**

Flare (Source Number)	**Event Date**	**Start Time**	**End Time**
Alky (S-6019)	1-Feb-25	2/1/2025 17:54	2/1/2025 21:10
FCC (S-6016)	1-Feb-25	2/1/2025 17:54	2/1/2025 18:44
SISO (S-6012)	1-Feb-25	2/1/2025 18:36	2/1/2025 20:17
RLOP (S-6039)*	1-Feb-25	2/1/2025 18:21	2/1/2025 20:47

6. A brief description of the flaring event:

On February 1, 2025, during a unit startup, the failure of a flow control valve positioner failed, which led to the valve opening more than it showed on the control board, causing a pressure increase within a process unit. The pressure relief valves on the impacted unit opened to relieve the pressure, thereby resulting in the flaring event.

7. A process flow diagram showing the equipment and process units that were the primary cause of the event.
See Attachment Ia.

8. The total volume of vent gas flared (MMSCF) and emissions throughout the event per calendar day:

Flare (Source Number)	Event Date	Volume (mmscf)	CH4 (lbs.)	NMHC (lbs.)	SO2 (lbs.)
Alky (S-6019)	1-Feb-25	0.87	19.9	482.5	265.2
FCC (S-6016)	1-Feb-25	0.21	16.6	346.3	334.8
SISO (S-6012)	1-Feb-25	0.06	11.3	77.5	630.6
RLOP (S-6039)*	1-Feb-25	0.04	7.1	55.6	79.4

**Reporting per recommendation from BAAD to include vent gas volume and emission from the other flares occurred during the same flaring event*

9. A statement as to whether or not the gas was scrubbed to eliminate or reduce any entrained compounds and a list of the compounds for which the scrubbing was performed.

The vent gas was not scrubbed to eliminate or reduce any entrained compounds.

10. The primary cause of the flaring event including a detailed description of the cause and all contributing factors. Also identify the upstream process units that contributed vent Gas flow to the flare header and provide other flow instrumentation data where available.

Primary causal factor: Mechanical failure of a control valve positioner

The primary contributor of the vent gas to the flare was multiple operating plants.

11. Describe all immediate corrective actions to stabilize the flaring event, and to reduce or eliminate emissions (flare gas recovered or stored to minimize flaring during the event). If a decision was made not to store or recover flare gas, explain why.

The control valve was placed on bypass control to facilitate the replacement of the control valve positioner. Following the completion of the replacement, the system resumed normal operations, resulting in the cessation of flaring.

12. Was the flaring the result of an emergency? If so, was the flaring necessary to prevent an accident, hazard or release to the atmosphere?

Flaring was an Emergency (defined in Regulation 12-12-201) as interpreted by the Bay Area Air District because it was caused by a sudden and infrequent equipment failure beyond the reasonable control of the Refinery. The failure of the flow control valve positioner led to an unexpected pressure increase within a process unit that necessitates immediate correction action to restore normal and safe operations.

13. If not the result of an emergency and necessary to prevent an accident, hazard or release to the atmosphere, was the flaring consistent with an approved FMP? If yes, provide a citation to the facility's FMP and any explanation necessary to understand the basis for this determination.

Flaring was consistent with Chevron's FMP Section 2.1 Table 2-2. Table 2-2 identifies sources that can be flared in non-emergency situations (e.g. start-up, shutdown).

14. If the flaring was due to a regulatory mandate to vent to flare, why couldn't the gas be recovered, treated, and used as fuel gas?

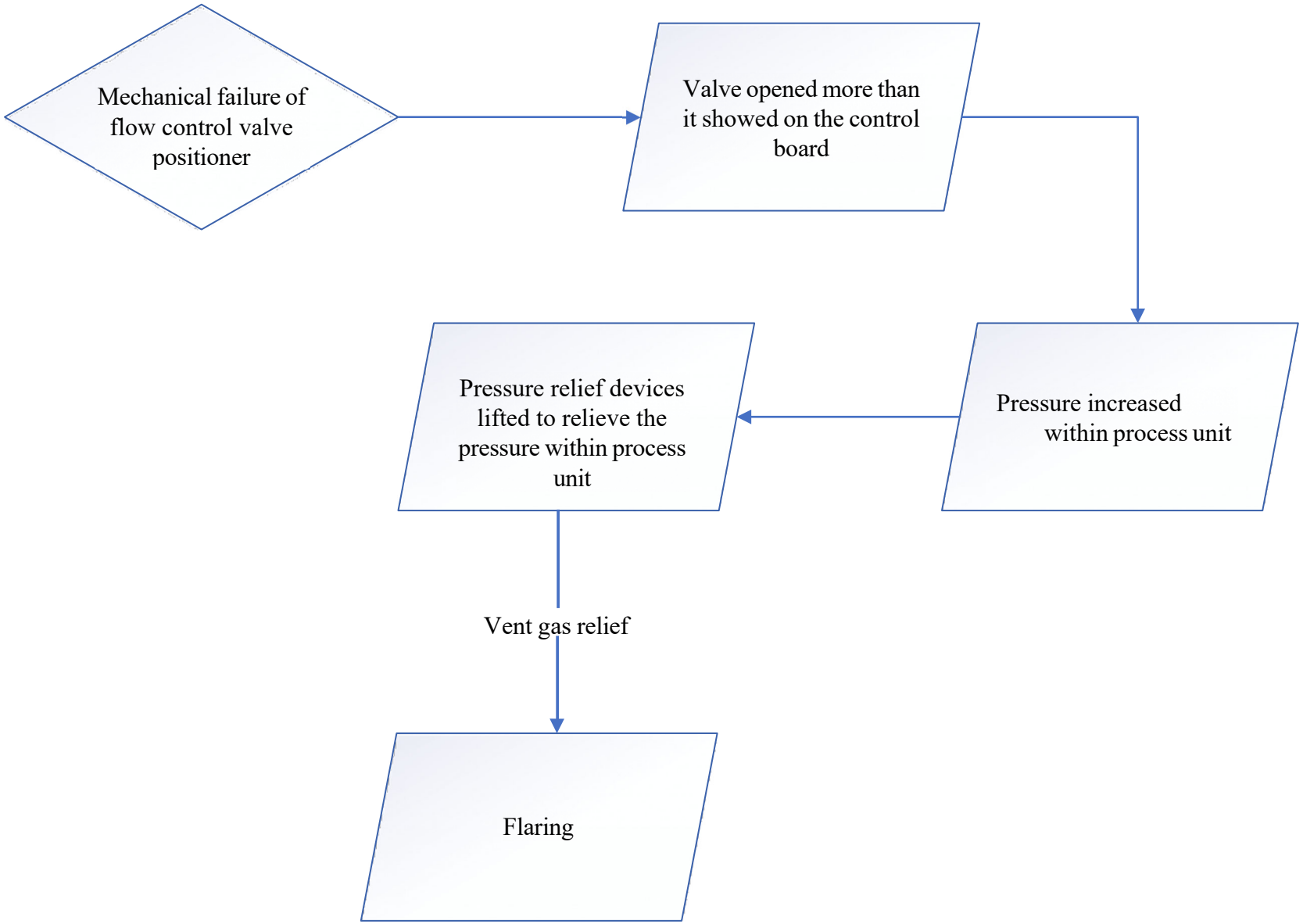
N/A. Flaring was not due to a regulatory mandate.

15. Identify and describe in detail each prevention measure (PM) considered to minimize flaring from the type of reportable flaring event that occurred.
a) State whether the PM is feasible (and will be implemented), or not feasible
b) Explain why the PM is not feasible, if applicable

The prevention measure listed below is feasible and will be considered:

1. Evaluate and consider installing valve diagnostic software that gives an early indication of positioner failure and position feedback on critical control valves within the impacted process unit. Estimated Completion Date: 12/01/2025

Attachment Ia: Flaring Due to Mechanical Failure of a Control Valve Positioner



Attachment II

Causal Analysis Report

Chevron Richmond Refinery
Reportable Flaring Events

February 2, 2025
Flaring Due to Failure of a Condensate Drum Level Indicator

Refinery Flare Event – Cause Investigation Report

1. Date on which the report was drafted: April 17, 2025

2. The refinery name and site number:
Refinery: Chevron Richmond Refinery Refinery
Site Number: A0010

3. The assigned refinery contact name and phone number:
Contact Name: Duy Nguyen
Contact Phone Number: (510) 242-3132

Is this a rescission/modification of a previous report: No

Date of initial report: Not Applicable

Reason for rescission/modification: Not Applicable

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4. **Identification of flare(s) at which the reportable event occurred by reviewing water seal monitoring data to determine which seals were breached during the event**

Flare	**Reportable Event (SO2 or Vent Gas Volume)**
Alky (S-6019) and FCC (S-6016)	Vent Gas Volume
SISO (S-6012)	SO2
NISO (S-6013)	Vent Gas Volume, SO2
H2 (S-6021)	Vent Gas Volume

5. **The flaring event duration for each affected flare**

Flare (Source Number)	**Event Date**	**Start Time**	**End Time**
Alky (S-6019) and FCC (S-6016)	2-Feb-25	2/2/2025 10:05	2/2/2025 17:39
SISO (S-6012)	2-Feb-25	2/2/2025 10:05	2/2/2025 17:39
NISO (S-6013)	2-Feb-25	2/2/2025 10:05	2/2/2025 12:27
RLOP (S-6039) *	2-Feb-25	2/2/2025 10:10	2/2/2025 12:28
H2 (S-6021)	2-Feb-25	2/2/2025 9:58	2/3/2025 11:48

6. A brief description of the flaring event:

On February 2, 2025, a Hydrogen train tripped offline due to a failed level indicator on a hot condensate drum, which resulted in a series of level excursions. This failure resulted in low levels in several critical drums, which caused instability at the hydrogen plant. Consequently, the remaining hydrogen train also tripped. The loss of both Hydrogen trains caused a significant reduction in steam load, leading to the shutdown of multiple units within the refinery and resulting in the flaring event.

7. A process flow the equipment and process units that were the primary cause of the event.
See Attachment IIa.

8. The total volume of vent gas flared (MMSCF) and emissions throughout the event per calendar day:

Flare (Source Number)	Event Date	Volume (mmscf)	CH4 (lbs.)	NMHC (lbs.)	SO2 (lbs.)
Alky (S-6019) and FCC (S-6016)	2-Feb-25	0.60	49.0	198.8	324.4
SISO (S-6012)	2-Feb-25	0.46	31.7	88.4	1015.2
NISO (S-6013)	2-Feb-25	0.63	55.9	262.3	4492.9
RLOP (S-6039) *	2-Feb-25	0.02	2.3	16.4	66.3
H2 (S-6021)	2-Feb-25	0.52	218.4	33.7	1.0
H2 (S-6021)	3-Feb-25	11.11	1950.3	48.3	23.5

**Reporting per recommendation from BAAD to include vent gas volume and emission from the other flares occurred during the same flaring event*

9. A statement as to whether or not the gas was scrubbed to eliminate or reduce any entrained compounds and a list of the compounds for which the scrubbing was performed.

The vent gas was not scrubbed to eliminate or reduce any entrained compounds.

10. The primary cause of the flaring event includes a detailed description of the cause and all contributing factors. Also identify the upstream process units that contributed vent Gas flow to the flare header and provide other flow instrumentation data where available.

Primary causal factor: Failure of a condensate drum level indicator

The primary contributor of the vent gas to the flare was multiple operating plants

11. Describe all immediate corrective actions to stabilize the flaring event, and to reduce or eliminate emissions (flare gas recovered or stored to minimize flaring during the event). If a decision was made not to store or recover flare gas, explain why.

The Refinery followed the operating procedures to ensure a safe shutdown while maintaining safety and minimizing environmental impact during the incident.

12. Was the flaring the result of an emergency? If so, was the flaring necessary to prevent an accident, hazard or release to the atmosphere?

Flaring was due to an Emergency (defined in Regulation 12-12-201) as interpreted by the Bay Area Air District because it was triggered by an unforeseen and infrequent equipment failure beyond the Refinery's reasonable control.

13. If not the result of an emergency and necessary to prevent an accident, hazard or release to the atmosphere, was the flaring consistent with an approved FMP? If yes, provide a citation to the facility's FMP and any explanation necessary to understand the basis for this determination.

Flaring was consistent with Chevron's FMP Section 2.1 Table 2-2 and Table 2-4. Table 2-2 and 2- 4 identify sources that can be flared in non-emergency situations (e.g. start-up, shutdown).

14. If the flaring was due to a regulatory mandate to vent to flare, why couldn't the gas be recovered, treated, and used as fuel gas?

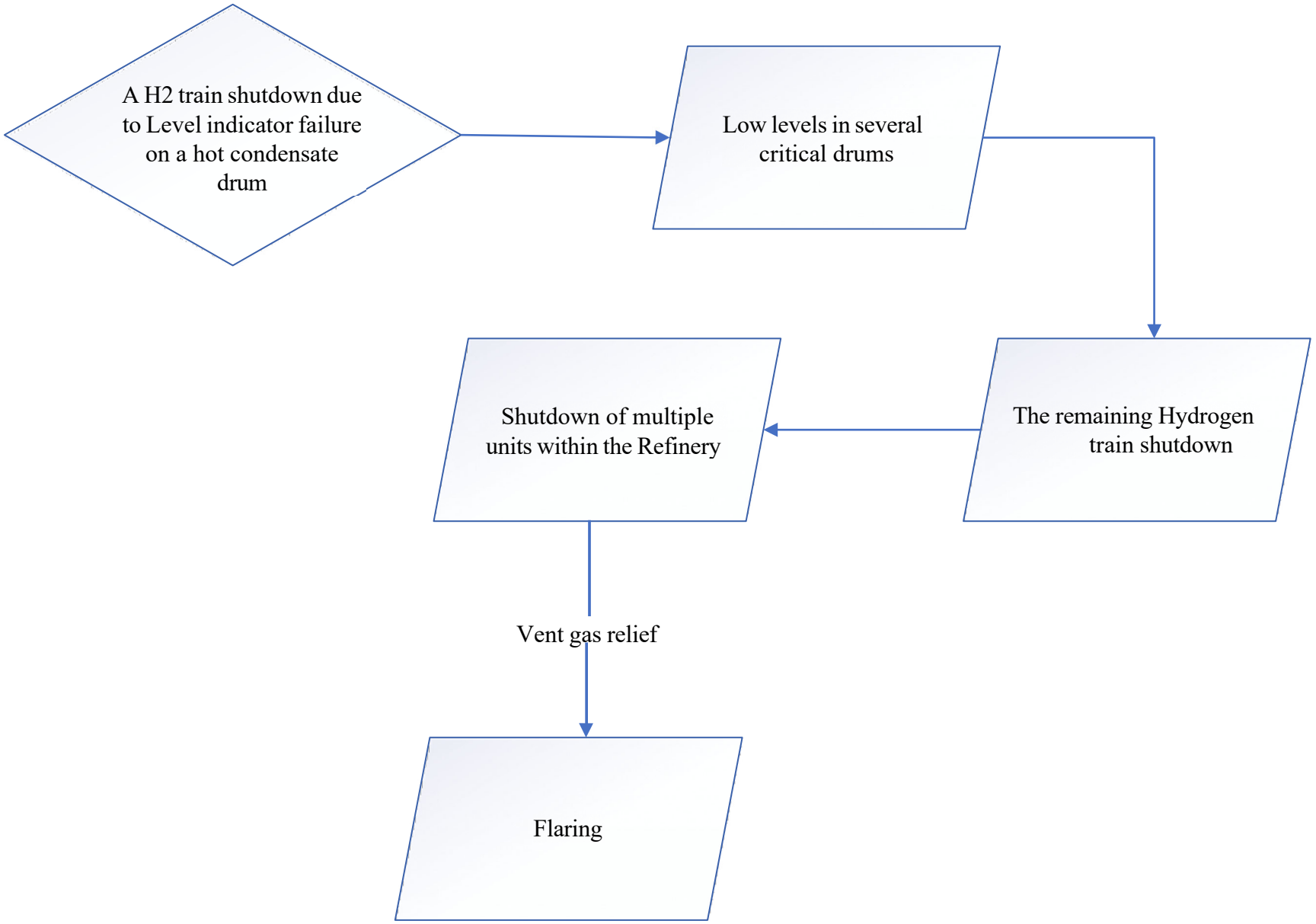
N/A. Flaring was not due to a regulatory mandate.

15. Identify and describe in detail each prevention measure (PM) considered to minimize flaring from the type of reportable flaring event that occurred.
a) State whether the PM is feasible (and will be implemented), or not feasible
b) Explain why the PM is not feasible, if applicable

The prevention measure listed below is feasible and will be considered:

1. Upgrade level instruments for the critical condensate drums at the Hydrogen plant.
   Estimated Completion Date: 08/31/2025

Attachment IIa: Flaring Due to Failure of a Condensate Drum Level Indicator



Attachment III

Causal Analysis Report

Chevron Richmond Refinery
Reportable Flaring Events

February 07, 2025
Flaring Due to Startup of Hydrogen Plant Trains

Refinery Flare Event – Cause Investigation Report

1. Date on which the report was drafted: April 17, 2025

2. The refinery name and site number:
Refinery: Chevron Richmond Refinery Refinery
Site Number: A0010

3. The assigned refinery contact name and phone number:
Contact Name: Duy Nguyen
Contact Phone Number: (510) 242-3132

Is this a rescission/modification of a previous report: No

Date of initial report: Not Applicable

Reason for rescission/modification: Not Applicable

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4. **Identification of flare(s) at which the reportable event occurred by reviewing water seal monitoring data to determine which seals were breached during the event**

Flare	Reportable Event (SO2 or Vent Gas Volume)
H2 (S-6021)	Vent Gas Volume

5. The flaring event duration for each affected flare

Flare (Source Number): H2 (S-6021)
The Date(s) of the event: February 7, 2025
The start time of the event: 02/7/2025 10:58 AM The
end time of the event: 02/7/2025 11:25 PM

6. A brief description of the flaring event:

On February 7, 2025, the Hydrogen Plant Train started up. Hydrogen Plant startup procedures include routing flows to relief and subsequent flaring. Operations proceeded with the startup activities in a timely manner per the procedure to reduce the emissions.

7. A process flow diagram showing the equipment and process units that were the primary cause of the event.

See Attachment IIIa.

8. The total volume of vent gas flared (MMSCF) throughout the event

Flare	Volume (MMSCF)
H2	26.3

9. The emissions associated with the flaring event per calendar day

Flare	Calendar Day	CH4 (lbs.)	NMHC (lbs.)	SO2 (lbs.)
H2	February 07, 2025	5,138	133	60.36

10. A statement as to whether or not the gas was scrubbed to eliminate or reduce any entrained compounds and a list of the compounds for which the scrubbing was performed.

The vent gas was not scrubbed to eliminate or reduce any entrained compounds.

11. The primary cause of the flaring event includes a detailed description of the cause and all contributing factors. Also identify the upstream process units that contributed vent Gas flow to the flare header and provide other flow instrumentation data where available.

Primary causal factor: Procedures are designed to adhere to unit and flare system design. The

primary contributor of the vent gas to the flare was the Hydrogen Plant Train.

12. Describe all immediate corrective actions to stabilize the flaring event, and to reduce or eliminate emissions (flare gas recovered or stored to minimize flaring during the event). If a decision was made not to store or recover flare gas, explain why.

Operations proceeded with the startup activities in a timely manner per the procedure to reduce any associated emissions. The Hydrogen Plant does not have flare gas recovery.

13. Was the flaring the result of an emergency? If so, was the flaring necessary to prevent an accident, hazard or release to the atmosphere?

Flaring was not due to an Emergency (defined in Regulation 12-12-201) as interpreted by the BAAD.

14. If not the result of an emergency and necessary to prevent an accident, hazard or release to the atmosphere, was the flaring consistent with an approved FMP? If yes, provide a citation to the facility's FMP and any explanation necessary to understand the basis for this determination.

Flaring was consistent with Chevron's FMP Section 2.1 Table 2-4. Table 2-4 identifies sources that can be flared in non-emergency situations (e.g. start-up, shutdown).

15. If the flaring was due to a regulatory mandate to vent to flare, why couldn't the gas be recovered, treated, and used as fuel gas?

N/A. Flaring was not due to a regulatory mandate.

16. Identify and describe in detail each prevention measure (PM) considered to minimize flaring from the type of reportable flaring event that occurred.
a) State whether the PM is feasible (and will be implemented), or not feasible
b) Explain why the PM is not feasible, if applicable

Flaring cannot be prevented during Hydrogen Plant startup due to facility and relief system design. Operational activities were consistent with shutdown procedures.

Attachment IIIa: Flaring Due to Startup of Hydrogen Plant Train

Attachment IV

Causal Analysis Report

Chevron Richmond Refinery
Reportable Flaring Events

February 8, 2025
Flaring Due to Mechanical Fatigue of an Actuator Linkage

Refinery Flare Event – Cause Investigation Report

1. **Date on which the report was drafted:** April 17, 2025

2. **The refinery name and site number:**
   Refinery: Chevron Richmond Refinery Refinery
   Site Number: A0010

3. **The assigned refinery contact name and phone number:**
   Contact Name: Duy Nguyen
   Contact Phone Number: (510) 242-3132

Is this a rescission/modification of a previous report: No

Date of initial report: Not Applicable

Reason for rescission/modification: Not Applicable

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4. **Identification of flare(s) at which the reportable event occurred by reviewing water seal monitoring data to determine which seals were breached during the event**

Flare	Reportable Event (SO2 or Vent Gas Volume)
Alky (S-6019) and FCC (S-6016)	Vent Gas Volume, SO2
SISO (S-6012)	Vent Gas Volume, SO2
NISO (S-6013)	Vent Gas Volume, SO2

5. **The flaring event duration for each affected flare**

Flare (Source Number)	Event Date	Start Time	End Time
Alky (S-6019) and FCC (S-6016)	8-Feb-25	2/8/2025 1:05	2/8/2025 5:21
SISO (S-6012)	8-Feb-25	2/8/2025 1:04	2/8/2025 3:48
NISO (S-6013)	8-Feb-25	2/8/2025 1:05	2/8/2025 5:57

6. **A brief description of the flaring event:**

On February 08, 2025, a malfunction occurred on a Hydrogen recycle compressor due to mechanical fatigue of the actuator linkages during startup activities in the process units. This failure necessitated pulling feed and subsequently shutting down the units. As a result, the reactors had to be depressurized, which exceeded the flare gas compressor capacity and led to the flaring event.

7. **A process flow the equipment and process units that were the primary cause of the event.**
   See Attachment IVa.

8. **The total volume of vent gas flared (MMSCF) and emissions throughout the event per calendar day:**

Flare (Source Number)	Event Date	Volume (mmscf)	CH4 (lbs.)	NMHC (lbs.)	SO2 (lbs.)
Alky (S-6019) and FCC (S-6016)	8-Feb-25	0.93	192.1	416.0	4438.8
SISO (S-6012)	8-Feb-25	2.20	90.2	326.7	14324.1
NISO (S-6013)	8-Feb-25	2.13	63.8	294.8	13571.8

9. A statement as to whether or not the gas was scrubbed to eliminate or reduce any entrained compounds and a list of the compounds for which the scrubbing was performed.

The vent gas was not scrubbed to eliminate or reduce any entrained compounds.

10. The primary cause of the flaring event includes a detailed description of the cause and all contributing factors. Also identify the upstream process units that contributed vent Gas flow to the flare header and provide other flow instrumentation data where available.

Primary causal factor: Hydrogen recycle compressors failed shut due to mechanical fatigue of the actuator linkage

The primary contributor of the vent gas to the flare was multiple operating units

11. Describe all immediate corrective actions to stabilize the flaring event, and to reduce or eliminate emissions (flare gas recovered or stored to minimize flaring during the event). If a decision was made not to store or recover flare gas, explain why.

The Refinery followed the operating procedures to ensure a safe shutdown while maintaining safety and minimizing environmental impact during the incident.

12. Was the flaring the result of an emergency? If so, was the flaring necessary to prevent an accident, hazard or release to the atmosphere?

Flaring was due to an Emergency (defined in Regulation 12-12-201) as interpreted by the BAAD because it was caused by an unexpected, infrequent, and not reasonably preventable failure requiring immediate corrective actions

13. If not the result of an emergency and necessary to prevent an accident, hazard or release to the atmosphere, was the flaring consistent with an approved FMP? If yes, provide a citation to the facility's FMP and any explanation necessary to understand the basis for this determination.

Flaring was consistent with Chevron's FMP Section 2.1 Table 2-2. Table 2-2 identifies sources that can be flared in non-emergency situations (e.g. start-up, shutdown).

14. If the flaring was due to a regulatory mandate to vent to flare, why couldn't the gas be recovered, treated, and used as fuel gas?

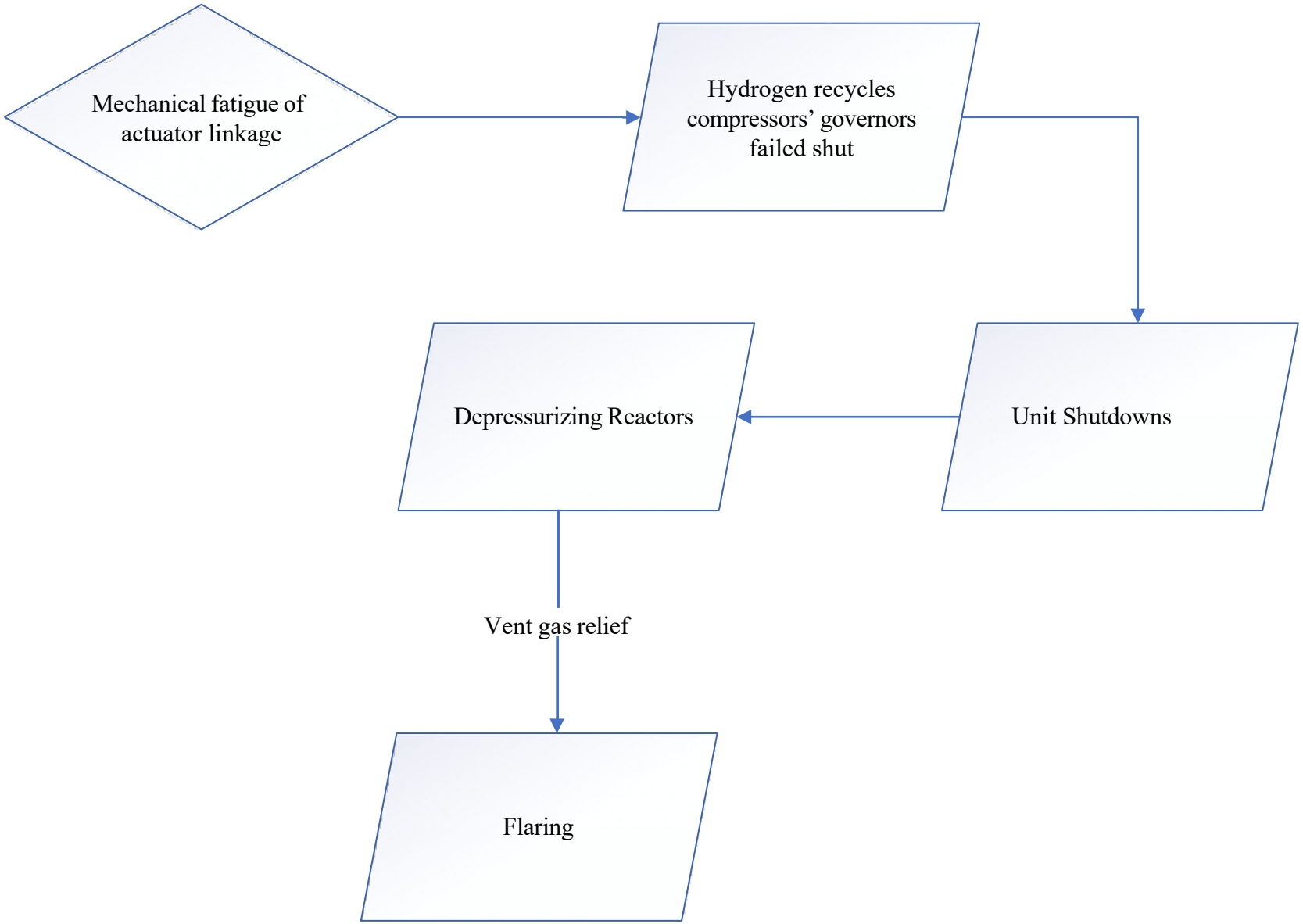
N/A. Flaring was not due to a regulatory mandate.

15. Identify and describe in detail each prevention measure (PM) considered to minimize flaring from the type of reportable flaring event that occurred.
a) State whether the PM is feasible (and will be implemented), or not feasible
b) Explain why the PM is not feasible, if applicable

The prevention measure listed below is feasible and will be considered:

1. Upgrade linkage components for the impacted hydrogen recycle compressor to a more robust design with more mechanical advantage.
   Estimated Completion Date: 11/30/2025
2. Evaluate to consider re-designing governor system for unit recycle compressors to improve speed control performance.
   Estimated Completion Date: 03/31/2026

Attachment IVa: Flaring due to mechanical fatigue of actuator linkage



Attachment V

Causal Analysis Report

Chevron Richmond Refinery
Reportable Flaring Events

February 14 - 15, 2025
Flaring Due to Startup of Hydrogen Plant Trains

Refinery Flare Event – Cause Investigation Report

1. Date on which the report was drafted: April 17, 2025

2. The refinery name and site number:
Refinery: Chevron Richmond Refinery Refinery
Site Number: A0010

3. The assigned refinery contact name and phone number:
Contact Name: Duy Nguyen
Contact Phone Number: (510) 242-3132

Is this a rescission/modification of a previous report: No

Date of initial report: Not Applicable

Reason for rescission/modification: Not Applicable

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4. **Identification of flare(s) at which the reportable event occurred by reviewing water seal monitoring data to determine which seals were breached during the event**

Flare	**Reportable Event (SO2 or Vent Gas Volume)**
H2 (S-6021)	Vent Gas Volume

5. The flaring event duration for each affected flare

Flare (Source Number): H2 (S-6021)
The Date(s) of the event: February 14 – 15, 2025
The start time of the event: 02/14/2025 8:36 AM
The end time of the event: 02/15/2025 07:09 AM

6. A brief description of the flaring event:

On February 14, 2025, the Hydrogen Plant Train started up. Hydrogen Plant startup procedures include routing flows to relief and subsequent flaring. Operations proceeded with the startup activities in a timely manner per the procedure to reduce the emissions.

7. A process flow diagram showing the equipment and process units that were the primary cause of the event.

See Attachment Va.

8. The total volume of vent gas flared (MMSCF) throughout the event

Flare	**Volume (MMSCF)**
H2	23.7

9. The emissions associated with the flaring event per calendar day

Flare	Calendar Day	CH4 (lbs.)	NMHC (lbs.)	SO2 (lbs.)
H2	February 14, 2025	3,695	75	45.5
H2	February 15, 2025	3,981	97	30.5

10. A statement as to whether or not the gas was scrubbed to eliminate or reduce any entrained compounds and a list of the compounds for which the scrubbing was performed.

The vent gas was not scrubbed to eliminate or reduce any entrained compounds.

11. The primary cause of the flaring event includes a detailed description of the cause and all contributing factors. Also identify the upstream process units that contributed vent Gas flow to the flare header and provide other flow instrumentation data where available.

Primary causal factor: Procedures are designed to adhere to unit and flare system design. The

primary contributor of the vent gas to the flare was the Hydrogen Plant Train.

12. Describe all immediate corrective actions to stabilize the flaring event, and to reduce or eliminate emissions (flare gas recovered or stored to minimize flaring during the event). If a decision was made not to store or recover flare gas, explain why.

Operations proceeded with the startup activities in a timely manner per the procedure to reduce any associated emissions. The Hydrogen Plant does not have flare gas recovery.

13. Was the flaring the result of an emergency? If so, was the flaring necessary to prevent an accident, hazard or release to the atmosphere?

Flaring was not due to an Emergency (defined in Regulation 12-12-201) as interpreted by the BAAD.

14. If not the result of an emergency and necessary to prevent an accident, hazard or release to the atmosphere, was the flaring consistent with an approved FMP? If yes, provide a citation to the facility's FMP and any explanation necessary to understand the basis for this determination.

Flaring was consistent with Chevron's FMP Section 2.1 Table 2-4. Table 2-4 identifies sources that can be flared in non-emergency situations (e.g. start-up, shutdown).

15. If the flaring was due to a regulatory mandate to vent to flare, why couldn't the gas be recovered, treated, and used as fuel gas?

N/A. Flaring was not due to a regulatory mandate.

16. Identify and describe in detail each prevention measure (PM) considered to minimize flaring from the type of reportable flaring event that occurred.
a) State whether the PM is feasible (and will be implemented), or not feasible
b) Explain why the PM is not feasible, if applicable

Flaring cannot be prevented during Hydrogen Plant startup due to facility and relief system design. Operational activities were consistent with startup procedures.

Attachment Va: Flaring Due to Startup of Hydrogen Plant Train

Attachment VI

Causal Analysis Report

Chevron Richmond Refinery
Reportable Flaring Events

February 21, 2025
Flaring Due to Shutdown of Hydrogen Plant Trains

Refinery Flare Event – Cause Investigation Report

1. Date on which the report was drafted: April 17, 2025

2. The refinery name and site number:
Refinery: Chevron Richmond Refinery Refinery
Site Number: A0010

3. The assigned refinery contact name and phone number:
Contact Name: Duy Nguyen
Contact Phone Number: (510) 242-3132

Is this a rescission/modification of a previous report: No

Date of initial report: Not Applicable

Reason for rescission/modification: Not Applicable

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4. **Identification of flare(s) at which the reportable event occurred by reviewing water seal monitoring data to determine which seals were breached during the event**

Flare	Reportable Event (SO2 or Vent Gas Volume)
H2 (S-6021)	Vent Gas Volume

5. The flaring event duration for each affected flare

Flare (Source Number): H2 (S-6021)
The Date(s) of the event: February 21, 2025
The start time of the event: 02/21/2025 05:29 PM
The end time of the event: 02/21/2025 08:10 PM

6. A brief description of the flaring event:

On February 21, 2025, the Hydrogen Plant Train shut down. Hydrogen Plant shutdown procedures include routing flows to relief and subsequent flaring. Operations proceeded with the shutdown activities in a timely manner per the procedure to reduce the emissions.

7. A process flow diagram showing the equipment and process units that were the primary cause of the event.

See Attachment VIa.

8. The total volume of vent gas flared (MMSCF) throughout the event

Flare	Volume (MMSCF)
H2	1.9

9. The emissions associated with the flaring event per calendar day

Flare	Calendar Day	CH4 (lbs.)	NMHC (lbs.)	SO2 (lbs.)
H2	February 21, 2025	368	40	3.64

10. A statement as to whether or not the gas was scrubbed to eliminate or reduce any entrained compounds and a list of the compounds for which the scrubbing was performed.

The vent gas was not scrubbed to eliminate or reduce any entrained compounds.

11. The primary cause of the flaring event includes a detailed description of the cause and all contributing factors. Also identify the upstream process units that contributed vent Gas flow to the flare header and provide other flow instrumentation data where available.

Primary causal factor: Procedures are designed to adhere to unit and flare system design. The

primary contributor of the vent gas to the flare was the Hydrogen Plant Train.

12. Describe all immediate corrective actions to stabilize the flaring event, and to reduce or eliminate emissions (flare gas recovered or stored to minimize flaring during the event). If a decision was made not to store or recover flare gas, explain why.

Operations proceeded with the shutdown activities in a timely manner per the procedure to reduce any associated emissions. The Hydrogen Plant does not have flare gas recovery.

13. Was the flaring the result of an emergency? If so, was the flaring necessary to prevent an accident, hazard or release to the atmosphere?

Flaring was not due to an Emergency (defined in Regulation 12-12-201) as interpreted by the BAAD.

14. If not the result of an emergency and necessary to prevent an accident, hazard or release to the atmosphere, was the flaring consistent with an approved FMP? If yes, provide a citation to the facility's FMP and any explanation necessary to understand the basis for this determination.

Flaring was consistent with Chevron's FMP Section 2.1 Table 2-4. Table 2-4 identifies sources that can be flared in non-emergency situations (e.g. start-up, shutdown).

15. If the flaring was due to a regulatory mandate to vent to flare, why couldn't the gas be recovered, treated, and used as fuel gas?

N/A. Flaring was not due to a regulatory mandate.

16. Identify and describe in detail each prevention measure (PM) considered to minimize flaring from the type of reportable flaring event that occurred.
a) State whether the PM is feasible (and will be implemented), or not feasible
b) Explain why the PM is not feasible, if applicable

Flaring cannot be prevented during Hydrogen Plant shutdown due to facility and relief system design. Operational activities were consistent with shutdown procedures.

Attachment VIa: Flaring Due to Shutdown of Hydrogen Plant Train