

May 3, 2024

Steven Arita
Chevron Products Company
A subsidiary of Chevron U.S.A., Inc.
P.O. Box 1272
Richmond, California 94802
stevenarita@chevron.com

Dear Steven Arita:

On December 1, 2021, Chevron Products Company (Chevron) submitted an Innovative Concept Application (Application) as a potential compliance pathway for meeting the requirements of the California Air Resources Board's (CARB) 2020 Control Measure for Ocean-Going Vessels At Berth (2020 At Berth Regulation) pursuant to California Code of Regulations, title 17, section 93130.17.

As requested by CARB in a letter dated July 14, 2022, Chevron revised its Application on August 19, 2022, to include minimum information required for Innovative Concept applications as described in section 93130.17(b)(1). As requested by CARB in a letter dated August 31, 2023, Chevron again revised its Application on September 28, 2023, to include additional information to demonstrate reductions beyond business-as-usual as provided in section 93130.17(a)(6), and additional information on reporting and recordkeeping as described in section 93130.17 (b)(1)(D) and (d)(2). CARB staff met with Chevron on at least six occasions to discuss the Application, including September 21, 2022, May 17, 2023, July 5, 2023, July 26, 2023, October 18, 2023, and December 14, 2023.

CARB staff have evaluated Chevron's locomotive Innovative Concept (IC-1) submitted as part of Chevron's Application, including emissions data and calculations provided by Chevron on December 20, 2023. IC-1 is the first of 14 sub-concepts included in Chevron's Application. As requested by Chevron via email on May 26, 2023, CARB prioritized the evaluation of IC-1 since it does not require California Environmental Quality Act (CEQA) review and has an earlier implementation date compared to other sub-concepts in Chevron's Application. The remaining sub-concepts in Chevron's Application will be evaluated separately, and CARB is continuing to prioritize evaluation of the sub-concepts that do not require CEQA review.

Chevron has been granted Executive Order G-23-295 under the 2020 At Berth Regulation, California Code of Regulations, title 17, section 93130.17(b)(4) which allows IC-1 to claim emissions reductions for the use of a tier 4 Lower Emissions and Fuel (LEAF) locomotive as specified under the Executive Order for a compliance period of five years, from January 1, 2027 to January 1, 2032. Chevron proposed under IC-1 the option for additional tier 4 locomotives to be deployed in the future. CARB encourages Chevron deploying additional clean locomotives, but staff must approve any changes to the Executive Order

based on a review of the specific locomotives that will be deployed. Please note that the use of locomotives under IC-1 may not be extended for another compliance period beyond January 1, 2032, as the In-Use Locomotive Regulation specified in California Code of Regulations Section 2478 specifies that the use of the LEAF locomotive is no longer in excess of regulation requirements.

In closing, we appreciate the opportunity to work with Chevron in its efforts to implement Innovative Concepts to meet the requirements of the 2020 At Berth Regulation. If you have any questions, please contact Angela Csondes, Manager, Marine Strategies Section at angela.csondes@arb.ca.gov. In addition, please feel free to contact Jonathan Foster, Staff Air Pollution Specialist, Marine Strategies Section at jonathan.foster@arb.ca.gov.

Sincerely,



Bonnie Soriano, Chief, Freight Activity Branch, Transportation and Toxics Division

Attachment: Executive Order G-23-295

cc: Angela Csondes, Section Manager, Marine Strategies Section

Jonathan Foster, Staff Air Pollution Specialist, Marine Strategies Section

**State of California
AIR RESOURCES BOARD**

Executive Order G-23-295

CARB approval of Chevron's Innovative Concepts for compliance with the Control Measure for Ocean-Going Vessels At Berth

WHEREAS August 27, 2020, the California Air Resource Board (CARB) adopted the Control Measure for Ocean-Going Vessels (OGV) At Berth, California Code of Regulations, sections 93130 - 93130.22 (2020 At Berth Regulation), which establishes requirements for ocean-going vessels at berth in a California port to reduce oxides of nitrogen (NO_x), diesel particulate matter (PM), and reactive organic gases (ROG) emissions from auxiliary engines;

WHEREAS section 93130.17 of the 2020 At Berth Regulation allows regulated entities to incorporate an Innovative Concept (IC) to reduce emissions from sources in and around the regulated port or marine terminal at a level equal or greater to what would be achieved by reducing emissions from vessels;

WHEREAS an IC must meet the general requirements specified in section 93130.17(a);

WHEREAS applications for an IC must contain the information specified in section 93130.17(b)(1);

WHEREAS Chevron Products Company (Chevron) submitted an Innovative Concept Application (IC Application) to CARB on December 1, 2021, which included multiple separate and distinct concepts for consideration;

WHEREAS the Chevron IC Application consists of 14 projects referred to in the application as project #1 through project #14, and denoted as sub-concepts IC-1 through IC-14 in this Executive Order;

WHEREAS on July 14, 2022, CARB requested clarification on missing information, and Chevron responded on August 19, 2022, to supplement their IC Application;

WHEREAS CARB staff reviewed the IC Application as specified in section 93130.17(b)(3), and on August 31, 2023, requested that Chevron provide additional information to supplement their IC Application, and Chevron responded on September 28, 2023;

WHEREAS this Executive Order does not constitute an air pollution or land use permit. All ICs must fully comply with applicable laws, ordinances, regulations and standards;

WHEREAS the strategy of Innovative Concept 1 (IC-1) is to reduce locomotive emissions by replacing one or more locomotives used at Chevron Richmond with a Lower Emissions and Fuel (LEAF) locomotive;

WHEREAS the first LEAF locomotive powered by a Cummins QSX-15 Tier 4 engine replacing the General Motors Electro-Motive Division (EMD) 12-645E Pre-Tier 0 locomotive

engine for IC-1 was brought into service on April 7, 2022, with the purpose of reducing emissions under IC-1;

WHEREAS the locomotive in IC-1 is lower-emitting than the replacement locomotive by the following delta as indicated in Table IC-1 (LEAF) Locomotive Emission Factors;

Table IC-1 Locomotive Emission Factors

	NOx (g/BHP-hr)	PM2.5 (g/BHP-hr)	ROG (g/BHP-hr)
Pre-Tier 0 locomotive	17.4	0.405	1.22
LEAF Locomotive	1.3	0.0276	0.169
Emissions Delta	16.1	0.377	1.05

NOW, THEREFORE, IT IS ORDERED that Chevron’s IC Application be approved for the following sub-concept for use in accruing emission reductions to offset vessel emissions to demonstrate compliance with the 2020 At Berth Regulation during the first compliance period between January 1, 2027, through December 31, 2031;

BE IT FURTHER ORDERED that Chevron shall comply with the following requirements relating to sub-concept IC-1:

Sub-Concept IC-1: Reduce locomotive emissions by replacing a locomotive with a LEAF locomotive.

Operational Requirements for IC-1

The LEAF locomotive used for IC-1 shall not exceed the following emission rates of 1.3 g/BHP-hr for NOx, 0.0276 g/BHP--hr for PM2.5 and 0.169 g/BHP-hr for ROG;

Monitoring and Reporting Requirements for IC-1

Chevron shall maintain records of operation for any locomotive associated with IC-1, including the hours of operation and fuel usage of the new lower emitting locomotive(s) while under the scope of IC-1;

Emissions reductions associated with the use of the LEAF locomotive shall be calculated using the emissions delta for each pollutant multiplied by the calculated brake horsepower hours as follows:

$$\text{Emissions Reductions per pollutant} = (\text{gal fuel consumed}) * (15.2 \text{ BHP-hr/gal fuel}) * (\text{Emissions Delta in g/BHP-hr});$$

For emission reductions between April 7, 2022, and January 31, 2024, Chevron will estimate gal fuel consumed by multiplying the hours of operation reported by the fuel consumption rate achieved from February 1, 2024, to

December 31, 2024, and after February 1, 2024, Chevron will use the actual gal fuel consumed;

Chevron shall report to CARB annually, by February 1 for the previous year, for IC-1 based on the requirements in section 93130.17(d) using the attached "IC-1 Reporting Template", which includes monthly fuel usage and monthly hours of operation of the LEAF locomotive;

The use of the LEAF locomotive under IC-1 will be able to generate emission reductions until January 1, 2030, when the In-Use Locomotive Regulation specified in California Code of Regulations Section 2478 specifies that the use of the LEAF locomotive is no longer in excess of regulation requirements;

The locomotive operator shall report under the In-Use Locomotive Regulation specified in Section 2478.11 by July 1, 2026;

BE IT FURTHER ORDERED that Chevron shall comply with the following requirements relating to this executive order and all sub-concepts:

General IC Reporting and Recordkeeping Requirements

A vessel operator or terminal operator using an IC at Chevron Richmond to comply with the 2020 At Berth Regulation will report the use of the IC in the vessel compliance checklist from Section 93130.7(e)(4)(U) or terminal compliance checklist from Section 93130.9(d)(5)(P) due to CARB within 30 days of a vessel's departure;

Chevron will determine the amount of emissions from all vessel visits at Chevron Richmond that used an IC toward compliance following Section 93130.17(d)(1) using the attached "IC Vessel Visit Reporting Template";

Chevron will determine and document the amount of emissions reductions achieved with the IC in excess of the emissions from vessel visits that used an IC toward compliance following Section 93130.17(d)(2);

General IC Requirements

Emission reductions achieved under an IC before the first compliance period beginning on January 1, 2027, can be used to offset emissions of vessels at Chevron Richmond complying with this IC for the first compliance period between January 1, 2027, and January 1, 2032, as specified in Section 93130.17(a)(11), or until the date the emissions reductions are no longer early or in excess of any other state, federal or international rule, regulation, statute, or any other legal requirement (including any requirement under a Memorandum of Understanding with a government entity);

Emission reductions achieved under an IC after January 1, 2027, must be used for compliance in the calendar year the reduction was generated, or the following calendar year as specified in Section 93130.17(a)(10);

The IC is valid for the first compliance period until January 1, 2032, unless extended by the Executive Officer for another compliance period of up to five years per section 93130.17(a)(7);

The reductions achieved by an IC must be at Chevron Richmond's facility, adjacent communities to Chevron Richmond, or within 3 nautical miles of Chevron Richmond;

Vessel visits made under an IC are not counted toward a fleet's Vessel Incident Events (VIE) or terminal operator's terminal incident events (TIE) in section 93130.11, and are ineligible for using the remediation fund provisions in section 93130.15;

No changes are permitted to any sub-concept of this IC without advanced approval from CARB;

The sub-concepts in this IC are distinct and severable, and as such, decisions to revoke or modify approval for a specific sub-concept may not necessarily result in revocation of the entire IC or other sub-concepts within the IC;

The Executive Officer may revoke this IC, or a sub-concept, for any of the reasons specified in section 93130.17(f);

This Executive Order does not relieve Chevron from complying with all other applicable regulations.

Executed at Sacramento, California, this third day of May 2024.



Bonnie Soriano, Branch Chief
Freight Activity Branch
Transportation and Toxics Division

Attachment 1: IC-1 Reporting Template

Attachment 2: IC Vessel Visit Reporting Template