Appendix D

~~Draft~~Final Supplemental Environmental Analysis

For the Proposed

Amendments to the Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate

California Air Resources Board

1001 I Street

Sacramento, California 95814

Date of Release: ~~July 27, 2021~~February 18, 2022

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List of Abbreviations

AB	Assembly Bill
APE	area of potential effect
ATCM	Airborne Toxic Control Measure
BAU	business-as-usual
BLM	Bureau of Land Management
Board	California Air Resources Board
CAL FIRE	California Department of Forestry and Fire Protection
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CPUC	California Public Utilities Commission
dBA	A-weighted decibels
diesel PM	diesel particulate matter
Draft Supplemental EA	draft supplemental environmental analysis
EIR	environmental impact report
EO	Executive Order
Final Supplemental EA	final supplemental environmental analysis
FTA	Federal Transit Administration
GHG	greenhouse gas
GWP	global warming potential
HDV	heavy-duty vehicle
HFC	hydrofluorocarbon
in/sec	inch per second
L_{eq}/L_{max}	equivalent noise level/maximum noise level

LOS	levels of service
LCFS	Low Carbon Fuel Standard
$MMTCO_2e$	million metric tons of CO_2 equivalent
NAAQS	national ambient air quality standards
NOx	oxides of nitrogen
NPDES	National Pollution Discharge Elimination System
$PM_{2.5}$	fine particulate matter
PPV	peak particle velocity
PRC	Public Resources Code
Proposed Amendments or Proposed Project	Proposed Amendments to the Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate
SB	Senate Bill
State SIP Strategy EA	EA for the State SIP Strategy
State SIP Strategy	Revised Proposed 2016 State Strategy for the State Implementation Plan
SWPPP	stormwater pollution prevention plan
TAC	toxic air contaminant
TCR	Tribal Cultural Resource
TRU	Transport Refrigeration Units
U.S. EPA	United States Environmental Protection Agency
ULETRU	ultra-low emission transport refrigeration unit
VdB	vibration decibels
VMT	vehicle miles travelled

Preface

The California Air Resources Board (CARB or Board) released a Draft Supplemental Environmental Analysis (Draft Supplemental EA) for the proposed Amendments to the Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate, herein referred to as the Proposed Amendments or the Proposed Project (i.e., the proposed project under the California Environmental Quality Act [CEQA]) on July 27, 2021, for a public review and comment period lasting more than 45 days that concluded September 19, 2021. Comments were also accepted during the CARB hearing on September 23, 2021. A total of 12 comments were submitted electronically on or before September 19, 2021 and during the public hearing on September 23, 2021 to the comment docket set up for the Proposed Regulation and its appendices, including the Draft Supplemental EA. Of the 12 comments, 6 written comments were presented during the public hearing. Out of the 12 total comment letters received, 1 was determined to include comments raising significant environmental issues related to the Draft Supplemental EA and requiring a written response under CARB's certified regulatory program and CEQA.

No modifications were made to the Draft Supplemental EA based on responses to comments received. However, some revisions were made to reflect that the Supplemental EA is now a Final Supplemental EA. To facilitate identifying modifications to the document, modified text is presented with ~~strike-through~~ for deletions and underline for additions. None of the modifications to the proposed Draft Supplemental EA alter any of the conclusions reached in the Supplemental EA or provide new information of substantial importance relative to the Supplemental EA. As a result, these minor revisions do not require recirculation of the document pursuant to the CEQA Guidelines, California Code of Regulations, title 14, Section 15088.5, before consideration by the Board.

1.0 Introduction and Background

A. Introduction

This ~~draft~~final supplemental environmental analysis (~~Draft~~Final Supplemental EA) is a program environmental document prepared to cover the Proposed Amendments to the Airborne Toxic Control Measure (ATCM) for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities where TRUs Operate (Proposed Amendments or Proposed Project). This ~~Draft~~Final Supplemental EA is Appendix D to the staff report that will be presented to the California Air Resources Board (CARB or the Board) for consideration. The Project Description section of this ~~Draft~~Final Supplemental EA presents a summary of the Proposed Amendments, as defined under the California Environmental Quality Act (CEQA). A detailed description of the Proposed Amendments is included in the "Staff Report: Proposed Amendments to the Airborne Toxic Control Measure for In-Use Diesel-Fueled TRU and TRU Generator Sets, and Facilities where TRUs Operate," (Staff Report) date of release July 27, 2021, which is hereby incorporated by reference.

This ~~Draft~~Final Supplemental EA is intended to identify and disclose the Proposed Amendments' potential significant impacts on the environment and identify potential feasible mitigation measures and alternatives to lessen or avoid those significant environmental impacts. The Proposed Amendments are intended to create environmental benefits related to greenhouse gas (GHG) reductions and air quality improvements. However, in some cases, as described in Chapter 4 of this ~~Draft~~Final Supplemental EA, potentially significant effects to environmental resources may occur due to implementation of compliance responses associated with the Proposed Amendments. It is expected that many of these potentially significant impacts can be feasibly avoided or mitigated to a less-than-significant level, as described in each resource area, due to project-specific environmental review processes associated with compliance responses and compliance with local and State laws and regulations. However, the ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusions (i.e., tending to overstate the risk that feasible mitigation may not be sufficient to mitigate an impact to less than significant or may not be implemented by other parties) and discloses, for CEQA compliance purposes, that potentially significant environmental impacts may be unavoidable.

B. Scope of Analysis and Assumptions

CARB has determined that a Supplemental EA is the appropriate kind of environmental document for evaluation of the Proposed Amendments. A Supplemental EA may be prepared when any of the following circumstances exist (Title 17 California Code of Regulations [CCR] Section 60004.3(a), Title 14 CCR Section 15162(a)):

- Substantial changes are proposed in the project which will require major revisions of the previous EA due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

- Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EA due to the involvement of new significant environmental effects or substantial increase in the severity of previously identified significant effects.

- New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EA was certified as complete shows the project will have one or more significant effects not discussed in the previous EA; significant effects previously examined will be substantially more severe than shown in the previous EA; or mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponent declines to adopt the mitigation measure or alternative; or, mitigation measures or alternatives that are considerably different from those analyzed in the previous EA would substantially reduce one or more significant effects on the environment, but the project proponent declines to adopt the mitigation measure or alternative.

The Proposed Amendments were initially included in the Revised Proposed 2016 State Strategy for the State Implementation Plan (State SIP Strategy). CARB certified an EA for the State SIP Strategy (State SIP Strategy EA) in March 2017; that EA is incorporated by reference into this ~~Draft~~Final Supplemental EA for the Proposed Amendments. The State SIP Strategy EA discussed TRUs in the category of off-road equipment. Potential compliance responses included (CARB 2017a):

- Increase in manufacturing, production, and use of zero-emission technology, requiring the construction or modification of associated manufacturing facilities to increase supply of this technology, including electric hybrid or full battery electric-powered equipment.

- Increased demand for lithium batteries that could increase production, along with increases in lithium mining and exports from source countries or other states.

- Construction of new facilities or modifications to existing facilities to accommodate battery recycling.

- Construction of new cold storage facilities or expansion of modification of existing cold storage facilities.

The State SIP Strategy EA evaluated the potential impacts of these compliance responses. As described in Section 2, Project Description, additional compliance responses are now anticipated, including installation of fueling infrastructure to support cryogenic transport refrigeration systems, increased manufacturing of metal cold plates, and construction of fuel cell manufacturing facilities. Therefore, CARB has decided to prepare a ~~Draft~~Final Supplemental EA for the Proposed Amendments. This ~~Draft~~Final

Supplemental EA contains only the information necessary to supplement the State SIP Strategy EA so that it is adequate for the Proposed Amendments (Title 17 CCR Section 60004.3(b)).

The analysis of potentially significant adverse environmental impacts of the Proposed Amendments is based on the following assumptions:

1. This analysis addresses the potentially significant adverse environmental impacts resulting from implementing the Proposed Amendments compared to existing conditions (see Chapter 2, "Project Description").

2. The analysis of environmental impacts and determinations of significance are based on reasonably foreseeable compliance responses taken in response to implementation of the Proposed Amendments.

3. The analysis in this ~~Draft~~Final Supplemental EA addresses environmental impacts both within California and outside the State to the extent they are reasonably foreseeable and do not require speculation.

4. The level of detail of impact analysis is necessarily and appropriately general because the Proposed Amendments are programmatic, in nature, because they apply, generally, to all potential regulated stakeholders. While the general locations of TRU owners and operators covered under the Proposed Amendments are known within California, decisions by the regulated entities regarding compliance options are unknown. Furthermore, attempting to predict decisions by entities regarding the specific location and design of infrastructure undertaken in response to implementation of the Proposed Amendments would be speculative at this stage due to the influence of other business and market considerations in those decisions. Since it would be speculative to predict the type and extent of development associated with potential compliance responses, it follows that any potential environmental impacts from this development are uncertain at this point. As a result, without adequate information about impacts, there is inherent uncertainty in the degree of mitigation that would ultimately need to be implemented to reduce any potentially significant impacts identified in this ~~Draft~~Final Supplemental EA.

   Notwithstanding the speculative nature of trying to predict specific compliance-response development inspired by the Proposed Amendments, for the sake of full disclosure, CARB staff identified, generally, potential types of development that could potentially occur in response to the Proposed Amendments. Though CARB staff acknowledges that CARB has no jurisdiction over land-use decisions, it, nonetheless, recommends several mitigation measures that lead agencies should consider to mitigate potential environmental impacts associated with individual, compliance-response inspired projects.

Since only the lead agencies have the jurisdiction to enforce these mitigation measures, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusions (i.e., tending to overstate the risk that feasible mitigation may not be implemented by the lead agency with authority to do so, or may not be sufficient to mitigate an impact to less than significant) and discloses, for CEQA compliance purposes, that potentially significant environmental impacts may be unavoidable, where appropriate. It is also possible that the amount of mitigation necessary to reduce environmental impacts to below a significant level may be less than disclosed in this ~~Draft~~Final Supplemental EA for any specific compliance response. Specific development projects undertaken to implement the Proposed Amendments would undergo project-level environmental review as required and CEQA compliance processes at the time they are proposed. It is expected that potentially significant impacts of many individual development projects not yet identified at this stage would be avoidable or mitigable to less than significant, consistent with CEQA.

5. This ~~Draft~~Final Supplemental EA generally does not analyze site-specific impacts when the location of future facilities or other infrastructure changes are speculative. However, the ~~Draft~~Final Supplemental EA does examine regional (e.g., air district and/or air basin) and local issues to the degree feasible, where appropriate. As a result, the impact conclusions in the resource-oriented sections of Chapter 4, Impact Analysis and Mitigation Measures, cover broad types of impacts, considering the potential effects of the full range of reasonably foreseeable actions undertaken in response to the Proposed Amendments.

The degree of specificity required in a CEQA document corresponds to the degree of specificity inherent in the underlying activity it evaluates. An EA for broad programs cannot be as detailed as an EA for specific construction projects that follow the broad program (Title 14 CCR Section 15146(b)). For example, the assessment of a construction project would be naturally more detailed than one concerning the adoption of a local general plan because construction-related effects can be predicted with more accuracy (Title 14 CCR Section 15146(a)). Because this analysis addresses a broad program, a general level of detail is appropriate. However, this ~~Draft~~Final Supplemental EA makes a rigorous effort to evaluate significant adverse impacts and beneficial impacts of the reasonably foreseeable compliance responses that could result from implementation of the Proposed Amendments and contains as much information about those impacts as is currently available, without being unduly speculative. The scope of analysis in this ~~Draft~~Final Supplemental EA is intended to help focus public review and comments on the Proposed Amendments and ultimately to inform the Board of the environmental benefits and adverse impacts of the proposal.

C. Background Information on the TRU ATCM

To date, California has made significant progress towards meeting federal air quality attainment standards and Assembly Bill (AB) 32 goals of reducing GHG emissions to 1990 levels by 2020; however, California must continue making progress beyond 2020

to meet goals established by Senate Bill (SB) 32, the SIP, and other established State goals. Key State goals are:

- Federal health-based ambient air quality standards (with key milestones in 2023 and 2031),
- 40 percent reduction in GHG emissions from the 1990 levels by 2030,
- 80 percent reduction in GHG emissions below 1990 levels by 2050,
- 40 percent reduction in methane and hydrofluorocarbon (HFC) emissions below 2013 levels by 2030,
- 50 percent reduction in black carbon emissions below 2013 levels by 2030,
- 50 percent petroleum reduction target by 2030,
- 100 percent zero-emission from off-road vehicles and equipment operations by 2035, and
- Continued reductions in criteria air pollutants and toxic air contaminants (TACs) to protect public health.

Meeting these goals requires a bold transformation in all sectors, including industrial, residential, electricity, and transportation.

CARB adopted the TRU ATCM on February 26, 2004, with amendments in 2010 and 2011, to reduce diesel particulate matter (diesel PM) pollutant emissions. TRUs are powered by diesel internal combustion engines and designed to refrigerate or heat perishable products transported in insulated trucks, trailers, shipping containers, or railcars. TRU generator sets are internal combustion engine-powered generators designed to provide electric power to electrically-driven refrigeration units of any kind. Significant numbers of these units congregate at refrigerated warehouses or distribution centers, grocery stores, seaport facilities, intermodal railyards, and other facilities, emitting diesel PM pollutant emissions, a TAC, creating a health risk for those that live nearby.

The TRU ATCM requires that TRU engines that operate in California, including out-of-state TRUs while they are operating in California, meet specific performance standards. The TRU ATCM includes provisions of in-use performance standards with two levels of stringency that were phased-in over time. The first phase, beginning in 2008, is the low emission TRU performance standards. The second phase, beginning in 2010, is the ultra-low emission TRU (ULETRU) performance standards.

CARB amended the TRU ATCM in 2010 and 2011. The 2010 amendments covered all TRU or TRU generator set original equipment manufacturers that directly or indirectly sell or offer for sale TRUs and TRU generator sets to the California market. They also

included more stringent definitions for compliance. The 2011 amendments extended certain TRU performance standard compliance deadlines from those originally contained in the 2004 regulation to improve enforceability. The TRU ATCM is fully implemented. TRU owners have the following compliance options under the TRU ATCM:

- Use a TRU equipped with an engine that meets the United States Environmental Protection Agency (U.S. EPA) Tier 4 final emission standards for 25-50 horsepower engines (meets ULETRU).

- Retrofit the existing TRU with a Level 3 Verified Diesel Emission Control Strategy with 85 percent PM control (meets ULETRU).

- Use an alternative technology that eliminates TRU diesel engine operation (and emissions) while at a facility. Alternative technologies include electrification, cryogenic refrigeration systems, alternative fuel systems, exclusive use of alternative diesel fuel, fuel cell-powered refrigeration systems, and other technologies that eliminate emissions while at a facility (meets ULETRU).

- Replace the existing unit (engine and refrigeration system) with a new TRU equipped with an engine that meets the U.S. EPA Tier 4 final off-road emission standards for less than 25 horsepower engines, which would be in compliance until the seventh year after the replacement TRU's engine model year (does not meet ULETRU).

The TRU ATCM is working in conjunction with several other CARB regulations to reduce TAC emissions throughout the State. Importantly, the State SIP Strategy included a proposed measure for TRUs as part of the off-road equipment category (CARB 2017b). The Proposed Amendments aim to be consistent with and meet the goals of the SIP, providing necessary emission reductions for all of California's nonattainment areas to meet national ambient air quality standards (Health and Safety Code Sections 39002, 39003, 39602.5, 43000, 43000.5, 43013, 43018).

A detailed description of the Proposed Amendments is contained in Section 2.0, "Project Description."

D. Environmental Review Process: Requirements under the California Air Resources Board Certified Regulatory Program

CARB is the lead agency for the Proposed Amendments and has prepared this ~~Draft~~Final Supplemental EA pursuant to its CEQA certified regulatory program. California Public Resources Code [PRC] Section 21080.5 allows public agencies with regulatory programs to prepare a "functionally equivalent" or substitute document in lieu of an environmental impact report or negative declaration, once the program has been certified by the Secretary for Resources Agency as meeting the requirements of CEQA. CARB's regulatory program was certified by the Secretary of the Resources

Agency in 1978 (Title 14 CCR Section 15251(d)). As required by CARB's certified regulatory program, and the policy and substantive requirements of CEQA, CARB prepared this ~~Draft~~Final Supplemental EA to assess the potential for significant adverse and beneficial environmental impacts associated with the Proposed Amendments and to provide a succinct analysis of those impacts (Title 17 CCR Section 60004.2). The resource areas from the CEQA Guidelines (Title 14 CCR Section 15000 et. seq.) Environmental Checklist (Appendix G of that document) were used as a framework for assessing potentially significant impacts.

CARB has determined that approval of the Proposed Amendments is a "project" as defined by CEQA. CEQA defines a project as "the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and that is an activity directly undertaken by any public agency (Title 14 CCR Section 15378(a))." Although the policy aspects of the Proposed Amendments do not directly change the physical environment, indirect physical changes to the environment could result from reasonably foreseeable compliance responses taken in response to implementation actions identified in the Proposed Amendments. In addition, some of the construction activities undertaken to comply with this Proposed Amendments may also be part of California electric utilities projects mandated by the Clean Energy and Pollution Reduction Act (SB 350).

As required by CEQA, this ~~Draft~~Final Supplemental EA contains "an environmental analysis of the reasonably foreseeable methods by which compliance with that rule or regulation will be achieved (Title 14 CCR Section 15378)." The analysis shall include reasonably foreseeable environmental impacts of the methods of compliance, reasonably foreseeable feasible mitigation measures related to significant impacts, and reasonably foreseeable alternative means of compliance that would avoid or eliminate significant impacts.

E. Organization of the ~~Draft~~Final Supplemental EA

The ~~Draft~~Final Supplemental EA is organized into the following chapters to assist the reader in obtaining information about the Proposed Amendments and its specific environmental issues.

- **Chapter 1, Introduction and Background,** provides a project overview and background information, and other introductory material.

- **Chapter 2, Project Description,** summarizes the Proposed Amendments, the potential reasonably foreseeable compliance responses taken in response to the Proposed Amendments, and implementation assumptions.

- **Chapter 3, Environmental and Regulatory Setting,** contains the environmental and regulatory setting relevant to the environmental analysis of the Proposed Amendments.

- **Chapter 4, Impact Analysis and Mitigation,** identifies the potential environmental impacts associated with the Proposed Amendments and mitigation measures for each resource impact area.

- **Chapter 5, Cumulative and Growth-Inducing Impacts,** analyzes the potential for cumulative effects of implementing the Proposed Amendments against a backdrop of past, present, and reasonably foreseeable future projects.

- **Chapter 6, Mandatory Findings of Significance,** discusses the potential for adverse impacts on human beings, cumulatively considerable environmental impacts, and whether the Proposed Amendments would have the potential to degrade the quality of the environment.

- **Chapter 7, Alternatives Analysis,** discusses a reasonable range of potentially feasible alternatives that could reduce or eliminate adverse environmental impacts associated with the Proposed Amendments.

- **Chapter 8, References,** identifies sources of information used in this ~~Draft~~Final Supplemental EA.

F. Public Review Process for the Environmental Analysis

On July 31, 2019, CARB issued a Notice of Preparation for the Proposed Amendments, announcing that it would prepare an EA. At public workshops held on August 28, 2019; September 3, 2019; and September 11, 2019, CARB staff discussed proposed regulatory activities for drafting the Proposed Amendments. Staff also described plans to prepare a ~~Draft~~Final Supplemental EA for the Proposed Amendments and invited public feedback on the scope of environmental analysis.

In accordance with CARB's certified regulatory program, and consistent with CARB's commitment to public review and input on regulatory actions, ~~this Draft Supplemental EA is~~the Draft Supplemental EA was subject to a public review process. The Staff Report, which ~~includes this~~included the ~~Draft~~ Supplemental EA, ~~is~~was posted for a public review period that ~~begins~~began on July 30, 2021 and ~~ends~~ended on September ~~13~~19, 2021. This period complies with the requirement for a minimum of 45 days of public review. (Title 17 CCR, section 60004.2(b)(2).)

At the conclusion of the public review period for the Draft Supplemental EA, the Board held a public hearing on the Proposed Regulation. At the hearing on September 23, 2021, the Board did not take any approval action on the proposal; however, the Board provided direction to staff on the Proposed Amendments.

Staff has compiled public comments and responses, including comments on the Draft EA made during the noticed 45-day comment period and September Board hearing, and prepared a final hearing package, which includes the Final EA and response to environmental comments, for the Proposed Amendments for the Board's consideration

at a second public hearing. This second hearing is currently planned for February 24, 2022. If the final Amendments are adopted by the Board at that time, a Notice of Decision will be posted on CARB's regulatory webpage and will be filed with the Secretary of the Natural Resources Agency. The Final Statement of Reasons (FSOR) for the Proposed Amendments would be prepared by staff and the completed regulatory package would be filed with the Office of Administrative Law.

2.0 Project Description

A. Objectives

Recognizing the need to attain the national ambient air quality standards (NAAQS) and California ambient air quality standards for criteria air pollutants, reduce exposure to TACs, and reduce GHG emissions, the primary objectives of the Proposed Amendments are the following:

1. Achieve reductions of oxides of nitrogen (NOx), fine particulate matter ($PM_{2.5}$), GHG, diesel particulate matter (diesel PM), black carbon, and HFC emissions from TRUs to provide public health benefits in communities near facilities that are heavily burdened by freight pollution.

2. Achieve the maximum emission reductions possible from TRUs to attain the NAAQS for criteria air pollutants (Health and Safety Code Sections 43000.5[b], 43018[a]).

3. Develop a regulation that is consistent with and meets the goals of the SIP, providing necessary emission reductions for all of California's nonattainment areas to meet NAAQS (Health and Safety Code Sections 39002, 39003, 39602.5, 43000, 43000.5, 43013, 43018).

4. Reduce the State's dependence on petroleum as an energy resource and support the use of diversified fuels in the State's transportation fleet (Health and Safety Code Section 43000[e], PRC Section 25000.5). In addition, petroleum use as an energy resource contributes substantially to the following public health and environmental problems: air pollution, acid rain, global warming, and the degradation of California's marine environment and fisheries (PRC Section 25000.5[b], [c]).

5. Decrease GHG emissions in support of statewide GHG reduction goals by limiting the use of internal-combustion-engine-powered TRUs, as identified in the Scoping Plan, which was developed to reduce GHG emissions in California, as directed by AB 32 (Ch. 488, Stats. of 2006, Nuñez). CARB's 2017 Climate Change Scoping Plan and 2016 Mobile Source Strategy aim to accelerate development and deployment of the cleanest feasible mobile source technologies and to improve access to clean transportation. Implementation of the Proposed Project would also provide further GHG reductions pursuant to AB 1493 (Ch. 200, Stats. of 2002, Pavley).

6. Maintain and continue reductions in emissions of GHGs beyond 2020, in accordance with AB 32 and SB 32 (Health and Safety Code Sections 38551[b], 38562, 38562.5, 38566), and pursue measures that implement reduction strategies covering the State's GHG emissions in furtherance of California's

mandate to reduce GHG emissions to the 1990 level by 2020 and 40 percent below the 1990 level by December 31, 2030.

7. Decrease HFC emissions through the use of lower global warming potential (GWP) refrigerants in TRUs, in accordance with Senate Bill 1383 (Health and Safety Code Section 39730.5), which requires a 40-percent reduction of HFC emissions below 2013 levels by 2030.

8. Lead the transition of California's off-road sector to zero-emission technology.

9. Complement existing programs and plans to ensure, to the extent feasible, that activities undertaken pursuant to the measures complement, and do not interfere with, existing planning efforts to reduce GHG emissions, criteria pollutants, petroleum-based transportation fuels, and TAC emissions.

10. Achieve emission reductions that are real, permanent, quantifiable, verifiable, and enforceable (Health and Safety Code Sections 38560, 38562[d][1]).

11. Improve zero-emission technologies for TRUs and fueling infrastructure to guide the acceleration of the development of environmentally superior TRUs that will continue to deliver the performance, practicality, and safety demanded by the market.

12. Ensure that all Californians can live, work, and play in a healthful environment free from harmful exposure to air pollution. Protect and preserve public health and well-being, and prevent irritation to the senses, interference with visibility, and damage to vegetation and property (Health and Safety Code Section 43000[b]) in recognition that the emission of air pollutants from motor vehicles is the primary cause of air pollution in many parts of the State (Health and Safety Code Section 43000[a]).

B. Description of Proposed Project and Reasonably Foreseeable Compliance Responses

1. TRU Reporting Requirements

a) Summary

Beginning December 31, 2023, CARB staff are proposing that owners report all truck TRUs, trailer TRUs, domestic shipping container TRUs, railcar TRUs, and TRU generator sets operating in California to CARB. This includes California-based and out-of-state-based units.

b) Compliance Responses

This requirement is administrative and would not result in any direct or indirect environmental impacts.

2. Applicable Facility Registration and Reporting Requirements

a) Summary

Beginning December 31, 2023, CARB staff are proposing that owners of applicable facilities register their facility with CARB and choose one of two reporting options:

- Option 1: Report all TRUs that operate at their facility to CARB, or
- Option 2: Attest that only compliant TRUs operate at their facility.

Applicable Facilities include refrigerated warehouses or distribution centers with a building size greater than or equal to 20,000 square feet, grocery stores with a building size greater than or equal to 15,000 square feet, seaport facilities, and intermodal railyards if one or more trailer TRUs or TRU generator sets operate within the legal property boundary of the facility.

b) Compliance Responses

This requirement is administrative and would not result in any direct or indirect environmental impacts.

3. Lower Global Warming Potential Refrigerant Requirement

a) Summary

Beginning December 31, 2022, CARB staff are proposing that all newly-manufactured truck TRUs, trailer TRUs, and domestic shipping container TRUs use refrigerant with a GWP less than or equal to 2,200, or no refrigerant at all.

b) Compliance Responses

Reasonably foreseeable compliance responses associated with a lower-GWP refrigerant requirement could include changes in refrigerant manufacturing for new TRUs. Lower-GWP refrigerant would be introduced through natural turnover (i.e., replacement of existing units with new units that use refrigerant with a GWP less than or equal to 2,200, or no refrigerant at all). The current predominantly-used refrigerant in TRUs is R-404A. Despite being non-ozone depleting, R-404A refrigerant has a high GWP value of 3,922, which is above the proposed threshold of 2,200. R-452A refrigerant is a hydrofluoroolefin-based replacement for R-404A. Like R-404A, R-452A is non-ozone depleting, but has a lower GWP of 2,140 and will meet the proposed threshold. R-452A is a "design-compatible" replacement for R-404A because it offers similar levels of refrigeration performance, fuel efficiency, reliability, and refrigerant charge (Refrigerated Transporter 2017). Because TRUs using R-452A refrigerant are currently commercially available from both of the two major TRU manufacturers (Carrier Transicold 2020, Fleet Owner 2017), staff anticipate that TRUs with lower-GWP refrigerant will be manufactured at current facilities and production lines. Therefore, the use of lower-GWP refrigerants under this measure would not produce demand that could not be met by existing manufacturing facilities; therefore, the construction or expansion of new manufacturing facilities would not be required. No direct or indirect

adverse environmental impacts would be likely to occur. As a result, these compliance responses are not evaluated further in this ~~Draft~~Final Supplemental EA.

4. PM Emission Standard Requirement

a) Summary

Beginning December 31, 2022, CARB staff are proposing that model year 2023 and newer trailer TRU, domestic shipping container TRU, railcar TRU, and TRU generator set engines meet a PM emission standard of 0.02 grams per brake horsepower-hour. Model year 2022 and older trailer TRU, domestic shipping container TRU, railcar TRU, and TRU generator set engines will continue to operate under the seven-year compliance deadline provided in the existing TRU ATCM requirements, in which they must meet ULETRU by December 31st of the seventh year after the engine model year.

b). Compliance Responses

Reasonably foreseeable compliance responses associated with the PM emission standard requirement could include changes in engine manufacturing. This would include improvements in technologies related to exhaust after treatment and/or engine performance. Such changes would be accommodated within the footprint of existing manufacturing facilities and production lines. Use of engines that meet the PM standard under this measure would not produce demand that could not be met by existing manufacturing facilities because two major TRU manufacturers capture a majority of the market and either produce a product that meets the requirement or intend to develop one. It is presumed these manufacturers would continue to capture a majority of the market; therefore, the construction or expansion of new manufacturing facilities would not be required. New units meeting the new PM standard would be introduced through natural turnover (i.e., replacement of existing units with new units equipped with engines that meet the PM standard). No new manufacturing facilities would be anticipated to be required. No direct or indirect adverse environmental impacts would likely occur. As a result, these compliance responses are not evaluated further in this ~~Draft~~Final Supplemental EA.

5. Zero-Emission Technology Requirements

a) Summary

Beginning December 31, 2023, CARB staff are proposing that truck TRU fleets turnover at least 15 percent each year (for 7 years) to zero-emission technology. All truck TRUs operating in California must be zero-emission by December 31, 2029.

b) Compliance Responses

i) Batteries

The most likely compliance response for truck TRUs is the purchase of battery-electric TRUs and installation of supporting electrical infrastructure at approximately 1,000 truck

TRU home base facilities statewide. This is based on stakeholder input,[1] and that many products require TRUs to both heat and cool to maintain a stable temperature while controlling humidity and promoting adequate airflow, which other technologies are not capable of. This response would result in an increase in the manufacturing of battery-electric TRUs and in the construction of associated facilities to support the supply of battery-electric TRUs, as well as the construction of new battery-electric TRU charging stations to support operations throughout the State. Increased deployment of battery-electric TRUs could displace energy consumption in the form of fossil fuel combustion to the State's electricity grid, resulting in increased production of electricity and reduced rates of oil and gas extraction. Increased demand for lithium-ion batteries could result in the expansion or construction of new facilities, along with associated increases in lithium mining and exports from source countries or other states. For lithium-ion batteries, it is anticipated they would still have some useful life at the end of TRU life and are likely to be repurposed for a second life.

Disposal of any portion of TRUs, including portions of lithium-ion batteries that could not be repurposed, would be subject to and have to comply with existing laws and regulations governing solid and hazardous waste, such as California's Hazardous Waste Control laws (Health and Safety Code, Division 20, Chapter 6.5; 22 CCR, Division 4.5), and implementing regulations, such as the Universal Waste Rule (22 CCR Division 4.5, Chapter 23). Disposal of used batteries into solid waste landfills is prohibited; however, they could be refurbished, reused, or disposed of as hazardous waste. To meet an increased demand of refurbishing or reusing batteries, new facilities or modifications to existing facilities may be constructed to accommodate battery-recycling activities.

Fleet turnover would be largely unaffected. The annual 15 percent phase-in compliance schedule generally aligns with the average 7-to-10-year useful life for a truck TRU. Therefore, the proposed purchase requirement would not require a significant number of accelerated purchases.

ii) Solar Assist

Existing deployments of zero-emission truck TRUs use solar panels to extend the operating range of the TRU, in which the energy collected by the solar-assist system is used to directly run the refrigeration system or refuel the batteries. While this is a voluntary measure to extend range, given the current commercial adoption of solar assist units for zero-emission truck TRUs, it is expected that truck TRU fleet operators will continue to use them as they comply with the Proposed Amendments. High efficiency monocrystalline silicone solar photovoltaic cells are mounted on top of the refrigerated truck's roof to capture solar irradiation and convert it to electricity. A solar charge controller is used to optimize the power coming from the photovoltaic cells and manage the electric power delivery to the on-board deep-cycle absorbed glass mat or battery. Use of solar assist could result in the increased production of solar photovoltaic panels, requiring the construction of new or the modification of existing manufacturing

[1] Stakeholder comments during TRU Infrastructure Work Group Meeting on December 17, 2019.

facilities. Installation of solar assist systems on TRUs would require the use of minor construction equipment.

iii) Cold Plates

Eutectic cold plate TRU systems have been commercially available and in use for more than 50 years. Cold plate systems consist of a sheet metal shell, with cooling coils built inside, which holds the eutectic fluid. The fluid used in cold plates is a mixture of water and salts (e.g., sodium and potassium salts) that form a eutectic solution that has the lowest possible melting/freezing point. Cold plates are similar to the gel packs used in lunch boxes and ice chests, but larger. The cold plates are mounted on the ceiling and/or interior walls, or as partitions in the cargo area. Before perishable products are loaded, the TRU is plugged into base power and runs until the plates are frozen. After the plates are frozen and the product is loaded, the TRU is unplugged, and the truck begins the refrigerated deliveries.

Cold plate technology is already being used successfully in TRU operations. Cold plate refrigeration systems provide cooling for daily runs of 10–12 hours and are feasible only for fleets that return each day to base, where refueling infrastructure could be installed.

Use of this technology could result in an increase in manufacturing of metal cold plates, requiring new or modified production plants. Increased use would also require the installation of supporting electrical infrastructure at locations where daily refueling of cold plates could occur. These installations would be implemented within the footprint of existing facilities that would support refueling. These locations would be on previously disturbed land and consistent with applicable zoning. Increased cold plate use would also generate increased demand for electricity, prompting the need for more electricity generation. However, reliance on fossil fuels for energy would decrease as would the associated environmental impacts related to their extraction, refinement, manufacture, distribution, and combustion.

iv) Cryogenic

Cryogenic TRUs, use a cryogenic fluid (liquid carbon dioxide, liquid nitrogen, or liquid air) as the cooling agent, which replaces the diesel engine-driven refrigeration system utilized in a conventional TRU. The cryogenic fluid is contained in a refillable storage tank on the truck near the cargo space. When cooling is needed by the microprocessor controller, valves open to allow the liquid to flow from the tank into the evaporator coils, also called a heat exchanger, inside the cargo space. Electric fans circulate air through the coils. As the liquid evaporates, it cools the coil and the air passing over it. As a result, cool air is circulated through the cargo, maintaining the temperature set-point. Having cooled the coil and the air, the cryogenic fluid is directed outside the vehicle body into the atmosphere.[2]

Cryogenic transport refrigeration systems have been commercially available in Europe since the early 2000s. Even so, in the United States, this technology is in the pilot-scale

[2] Note that this byproduct does not contribute harmful emissions to the atmosphere.

deployment phase. Cryogenic TRUs are feasible for truck TRU fleets that return each day to base, where refueling infrastructure could be installed.

Use of this technology could result in the increased installation of cryogenic fueling infrastructure. These installations would be implemented within the footprint of existing facilities that would support refueling. These locations would be on previously disturbed land and consistent with applicable zoning. Increased demand for cryogenic TRUs would require increased production of cryogenic fluid, which is currently energy intensive. For this reason, the amount of fossil fuels that would be displaced because of the use of cryogenics is speculative—that is, some of the fuel savings realized from use of cryogenic technology could be offset by the fuel used during their manufacture, depending on the source of the energy for manufacturing.

v) Fuel Cells

Fuel cells are an emerging technology with potential application as an emissions-reducing technology for TRUs. Fuel cells convert the chemical energy of fuel, typically hydrogen or natural gas, to electricity through electrochemical reactions. If the fuel is natural gas, or if it is hydrogen obtained from the reformation of hydrocarbons (e.g., methane and methanol) the increased hydrocarbon use would offset some of the benefits from zero-emission TRU technology. For TRUs, fuel cells have been demonstrated. However, the high cost of the technology and limited availability of hydrogen fueling infrastructure need to be addressed prior to market acceptance. Fuel-cell-powered TRUs could be deployed in future years if the overall cost of the technology becomes viable, which could increase demand for these products, resulting in the construction and operation of new or expanded manufacturing facilities. However, this technology is not currently considered reasonably foreseeable given the stage of development.

C. Summary of Compliance Responses

Reasonably foreseeable compliance responses to the Proposed Project include the construction and operation of new or expanded manufacturing facilities for zero-emission TRU technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); the construction of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; new or modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states. Equipment turnover would be largely unaffected because the proposed requirements would apply at the time of normal purchase and would not require any accelerated purchases.

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3.0 Environmental Setting

The CEQA Guidelines require an environmental impact report (EIR) to include an environmental setting section, which discusses the current environmental conditions near the project. This environmental setting constitutes the baseline physical conditions by which an impact is determined to be significant (Title 14 CCR Section 15125). For this ~~Draft~~Final Supplemental EA, the CARB is using the baseline used in the prior environmental review to inform the evaluation required under CARB's certified regulatory program (see Title 17 CCR Section 60004.3(b)).

As discussed in Chapter 1 of this ~~Draft~~Final Supplemental EA, CARB has a CEQA certified regulatory program and prepares an EA in lieu of an EIR. This ~~Draft~~Final Supplemental EA is a functional equivalent to an EIR under CEQA; therefore, in an effort to comply with the policy objectives of CEQA, an environmental setting and a regulatory setting with environmental laws and regulations relevant to the Proposed Amendments have been included as Attachment A to this ~~Draft~~Final Supplemental EA.

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4.0 Impact Analysis and Mitigation measures

A. Approach to Environmental Impact Analysis and Significance Determinations

This chapter contains an analysis of mitigation measures that could result from the Proposed Amendments. The baseline for the evaluation of impacts, as previously explained, is the baseline used in the State SIP Strategy EA.

Determinations reflected in this ~~Draft~~Final Supplemental EA are based on the direction to provide only the information necessary to make the previous environmental analysis adequate for the project as revised (Title 17 CCR Section 60004.3). As a result, this analysis focuses on evaluating the following (Title 17 CCR Section 60004.3(a), title 14 CCR Section 15162(a)):

- Whether substantial changes are proposed in the project which will require major revisions of the previous EA due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

- Whether substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EA due to the involvement of new significant environmental effects or substantial increase in the severity of previously identified significant effects.

- Whether new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EA was certified as complete shows the project will have one or more significant effects not discussed in the previous EA; significant effects previously examined will be substantially more severe than shown in the previous EA; or mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponent declines to adopt the mitigation measure or alternative; or, mitigation measures or alternatives that are considerably different from those analyzed in the previous EA would substantially reduce one or more significant effects on the environment, but the project proponent declines to adopt the mitigation measure or alternative.

To determine whether the Proposed Amendments would have a potential effect on the environment that is new or substantially more severe than previously analyzed, CARB evaluated the potential physical changes to the environment resulting from the reasonably foreseeable compliance responses described in further detail in Chapter 2 of this EA.

1. Adverse Environmental Impact

The analysis of adverse effects on the environment and significance determinations for those effects reflect the programmatic nature of the analysis of the reasonably foreseeable compliance responses of the regulated entities and the marketplace. These reasonably foreseeable compliance responses are described in detail in Chapter 2. The ~~Draft~~Final Supplemental EA addresses broadly defined types of impacts or actions that may be taken by others in the future as a result of the Proposed Amendments.

CARB does not have the ability or need to determine which specific projects (e.g., charging infrastructure) would occur at potentially thousands of locations, or the size and character of new or modified manufacturing facilities. CARB undertook an analysis of TRU home base locations as part of a process to determine the potential need for compliance extensions because locations were important for understanding what kinds of delays might be expected. This information was used to estimate the potential number of compliance extensions that might be needed. Although some home base locations were evaluated for the purpose of quantifying potential extensions, using these scenarios to inform the CEQA analysis would be insufficient because it is an incomplete set of information and is limited to home base locations studied for the sake of defining the potential need for compliance extensions. Furthermore, assuming what could occur at each location is not considered to be "reasonably foreseeable" as defined under CEQA, as various other projects could also occur. Attempting a location-specific analysis for the thousands of potential project locations in California would provide information that could be misleading since CARB has no way to predict which projects may occur where. Actual project locations would be driven by business-making decisions based on what is best for a given company and their operations using data unique to each location. CARB does not have access to, nor a practical way of obtaining or analyzing that specific type of information. Therefore, this EA does not contain location-specific analyses, although it does provide information on typical impacts that would result from the various technologies and other compliance responses anticipated to occur. Because these details cannot be known, CARB does not need to determine site-specific environmental characteristics affected by potential future manufacturing facilities and other infrastructure needed to accommodate the demand for zero-emission TRUs created by Proposed Amendments.

This ~~Draft~~Final Supplemental EA takes a conservative approach and considers some environmental impacts as potentially significant because of the inherent uncertainties in the relationship between physical actions that are reasonably foreseeable under the Proposed Amendments and environmentally sensitive resources or conditions that may be affected. This approach tends to overstate environmental impacts considering these uncertainties and is intended to satisfy the good-faith, full-disclosure intention of CEQA. If specific projects are proposed and subjected to project-level environmental review, it is expected that many of the impacts recognized as potentially significant in the ~~Draft~~Final Supplemental EA that are not already mitigated or avoided with this proposed approval, can later be avoided or reduced to a less-than-significant level. If a potentially significant environmental effect cannot be feasibly mitigated with certainty, this

~~Draft~~Final Supplemental EA identifies the impact as significant and unavoidable. Thus, if the Board adopts the Proposed Amendments with one or more significant and unavoidable environmental effect identified in this ~~Draft~~Final Supplemental EA, the Board would adopt findings as part of the approval action for each significant impact in addition to a statement of overriding considerations (i.e., other benefits of the action including economic, legal, social, and technological are determined to outweigh and override its significant unavoidable effects).

2. Mitigation Measures

The ~~Draft~~Final Supplemental EA contains a degree of uncertainty regarding implementation of feasible mitigation for potentially significant impacts. "'Feasible' means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." (PRC Section 21061.1) While CARB is responsible for adopting the Proposed Amendments, it does not have authority over all the potential infrastructure and development projects that could be carried out in response to the Proposed Amendments. Other agencies are responsible for the review and approval, including any required environmental analysis, of any facilities and infrastructure that are reasonably foreseeable, including any definition and adoption of feasible project-specific mitigation measures, and any monitoring of mitigation implementation. For example, local cities or counties must review and decide to approve proposals to construct new facilities; CARB does not have jurisdiction over land use permitting of any potential development associated with the compliance responses. (Cal. Const., Article XI, section 7 ["A county or city may make and enforce within its limits all local, police, sanitary, and other ordinances and regulations not in conflict with general laws."]; California Building Industry Assn. v. City of San Jose (2015) 61 Cal.4th 435, 455; Big Creek Lumber Co. v. County of Santa Cruz (2006) 38 Cal.4th 1139, 1151-1152; HSC sections 39000-44474 [CARB's statutory authority provides no authority to regulate local land use permitting].) Additionally, State and/or federal permits may be needed for specific environmental resource impacts, such as take of endangered species, filling of wetlands, and streambed alteration.

Because CARB cannot predict the location, design, or setting of specific projects that may result and does not have authority over implementation of specific infrastructure projects that may occur, the programmatic analysis in the ~~Draft~~Final Supplemental EA does not allow for identification of the precise details of project-specific mitigation. As a result, there is inherent uncertainty in the degree of feasible mitigation that would ultimately need to be implemented to reduce any potentially significant impacts identified in the ~~Draft~~Final Supplemental EA.

Given the foregoing, and due to legal factors affecting the feasibility of CARB's proposed mitigation for several of the identified potential significant indirect impacts associated with the Proposed Amendments, CARB's implementation of the identified mitigation measures is infeasible, based on the following: 1) the lack of certainty of the scope, siting and specific design details of compliance-response development projects,

which prevents CARB from being able to determine the projects' significant environmental impacts; and 2) even there was certainty with respect to compliance-response development projects and associated significant environmental impacts, CARB lacks the legal authority and jurisdiction to permit these projects, which, inherently, prevents CARB from legally imposing any enforceable mitigation measures on the projects. Therefore, CARB's implementation of the mitigation measures suggested, below, in this EA are legally infeasible to implement and enforce.

Consequently, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusions (i.e., tending to overstate the risk that feasible mitigation may not be sufficient to mitigate an impact to less than significant) and discloses, for CEQA compliance purposes, that potentially significant environmental impacts may be unavoidable, where appropriate. It is also possible that the amount of mitigation necessary to reduce environmental impacts to below a significant level may be far less than disclosed in this ~~Draft~~Final Supplemental EA on a case-by-case basis. It is expected that many potentially significant impacts of facility and infrastructure projects would be avoidable or mitigatable to a less-than-significant level as an outcome of their project-specific environmental review processes, conducted by the appropriate permitting agency with jurisdiction as the lead agency under CEQA. Note that, because this is a ~~Draft~~Final Supplemental EA, application of State SIP Strategy EA mitigation measures is appropriate for certain impacts. Where State SIP Strategy EA mitigation measures are applied for significant impacts, a reference is included to the State SIP Strategy EA mitigation title.

Where applicable, consistent with CARB's certified regulatory program requirements (Title 17 CCR Section 60004.2), this ~~Draft~~Final Supplemental EA also acknowledges potential beneficial effects on the environment in each resource area that may result from implementation of the Proposed Amendments.

B. Resource Area Impacts and Mitigation Measures

The following discussion provides a programmatic analysis of the reasonably foreseeable compliance responses that could result from implementation of the Proposed Amendments, described in Chapter 2 of this ~~Draft~~Final Supplemental EA.

1. Aesthetics

Impact 1-1: Short-Term Construction-Related and Long-Term Operation-Related Effects to Aesthetics

Reasonably foreseeable compliance responses associated with the Proposed Amendments include construction and operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); construction and operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or

modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA include increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Landscape character can be defined as the visual and cultural image of a geographic area. It consists of the combination of physical, biological, and cultural attributes that make each landscape identifiable or unique. Visual character may range from predominately natural to heavily influenced by human development. Its value is related, in part, to the importance of a site to those who view it. Viewer groups typically include residents, motorists, and recreationists.

Impact 1-1 of the State SIP Strategy EA describes the short-term construction-related and long-term operational impacts on aesthetics. The analysis states that new or expanded manufacturing and recycling facilities, new infrastructure, and increased mining would introduce new construction equipment, staging areas, sources of nighttime lighting, ground disturbance, vegetation removal, and the introduction of new permanent structures that could alter the visual character of a landscape of scenic significance. However, Impact 1-1 of the State SIP Strategy EA indicates that it would be possible that some of the reasonably foreseeable compliance responses could be accomplished with minimal ground-disturbing activity. For lithium mining, the increased demand for lithium-ion batteries could cause additional lithium extracting resulting in adverse visual effects in areas where hard rock mining (Australia) and brine extraction activities (e.g., Chile, Argentina, Bolivia, and the United States) occur.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Amendments would be similar to those identified and evaluated in the State SIP Strategy EA. Although the State SIP Strategy did not specifically discuss, for example, the use of cold plates, the impact of associated compliance responses would be similar. Cold plate technology could result in increased manufacturing and installation of fueling infrastructure within existing facilities, which would have aesthetic impacts similar to new and modified facilities as discussed in the State SIP Strategy EA. Thus, short-term construction-related and long-term operational impacts on aesthetics would be potentially significant as identified in the State SIP Strategy EA.

Once an applicant actually develops the proposed plans for the development, the lead agency will have adequate information from which it can determine project-specific aesthetic impacts associated with these potential compliance-response development projects. Once the lead agency identifies these project impacts, it can likely reduce them

to a less-than-significant level by adopting feasible mitigation at the time of project approval. Notwithstanding this uncertainty of the impacts due to the equally uncertain nature and scope of potential compliance-response development projects, for the sake of full transparency, CARB identified mitigation in the State SIP Strategy EA, noted below, that lead agencies can and should consider for mitigation of any aesthetic impacts from these future projects. Since implementation and enforcement of this mitigation measure is beyond the authority of CARB, however, CARB finds it legally infeasible to adopt and implement this measure on its own.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 1-1: Implement State SIP Strategy EA Mitigation Measure 1-1

The Regulatory Setting in Attachment A includes applicable laws and regulations that relate to aesthetics. CARB does not have the authority to require implementation of mitigation related to new or modified facilities that would be approved by local jurisdictions. The ability to require such measures is under the purview of jurisdictions with local or State land use approval and/or permitting authority. New or modified facilities in California would most likely qualify as a "project" under CEQA. The jurisdiction with primary approval authority over a proposed action is the Lead Agency, which is required to review the proposed action for compliance with CEQA statutes. Project specific impacts and mitigation would be identified during the environmental review by agencies with project-approval authority. Recognized general practices routinely required to avoid and/or minimize impacts to aesthetic resources include:

- Proponents of new or modified facilities or infrastructure constructed as a result of reasonably foreseeable compliance responses would coordinate with State or local land use agencies to seek entitlements for development including the completion of all necessary environmental review requirements (e.g., CEQA). The local or State land use agency or governing body must follow all applicable environmental regulations as part of approval of a project for development.

- Based on the results of the environmental review, proponents would implement all feasible mitigation to reduce or substantially lessen the potentially significant scenic or aesthetic impacts of the project.

- The project proponent would color and finish the surfaces of all project structures and buildings visible to the public to: (1) minimize visual intrusion and contrast by blending with the landscape; (2) minimize glare; and (3) comply with local design policies and ordinances. The project proponent would submit a surface treatment plan to the lead agency for review and approval.

- To the extent feasible, the sites selected for use as construction staging and laydown areas would be areas that are already disturbed and/or are in locations of low visual sensitivity. Where feasible, construction staging and laydown areas for equipment, personal vehicles, and material storage would be sited to take advantage of natural screening opportunities provided by existing structures,

topography, and/or vegetation. Temporary visual screens would be used where helpful if existing landscape features did not screen views of the areas.

- All construction, operation, and maintenance areas would be kept clean and tidy, including the re-vegetation of disturbed soil and storage of construction materials and equipment would be screened from view and/or are generally not visible to the public, where feasible.

- Siting projects and their associated elements next to important scenic landscape features or in a setting for observation from State scenic highways, national historic sites, national trails, and cultural resources would be avoided to the greatest extent feasible.

- The project proponent would contact the lead agency to discuss the documentation required in a lighting mitigation plan, submit to the lead agency a plan describing the measures that demonstrate compliance with lighting requirements, and notify the lead agency that the lighting has been completed and is ready for inspection.

Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if it approves these potential projects.

Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation conditions imposed by land use and/or permitting agency acting as lead agencies under CEQA, if and when a project applicant seeks a permit for compliance-response related project, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that short-term construction-related and long-term operational impacts to aesthetics associated with the Proposed Amendments would remain **potentially significant and unavoidable** as identified in the State SIP Strategy EA.

2. Agriculture and Forestry Resources

Impact 2-1: Short-Term Construction-Related and Long-Term Operation-Related Effects to Agriculture and Forestry Resources

Reasonably foreseeable compliance responses associated with the Proposed Amendments include construction and operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); construction and operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel

extraction, refinement, manufacture, distribution, and combustion; operation of new or modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA include increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Impact 2-1 of the State SIP Strategy EA describes the short-term construction-related and long-term operational impacts on agriculture and forestry resources. The analysis states that new or expanded manufacturing and recycling facilities, new infrastructure, and increased mining would likely occur in areas of compatible zoning (e.g., industrial); however, there exists the potential that Prime Farmland, Unique Farmland, Farmland of Statewide Importance, Williamson Act conservation contracts, and forest land or timberlands could be converted to industrial uses.

Impact 2-1 states that, while it is reasonable to anticipate that land use policies controlling the location of new industrial facilities would generally avoid conversion of important agricultural land, the potential cannot be entirely dismissed. If a facility were located on important farmland or property under a Williamson Act Contract, conversion of the agricultural land to urban uses could occur.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Amendments would be similar to those identified and evaluated in the State SIP Strategy EA. Although the State SIP Strategy did not specifically discuss, for example, the use of cold plates, the impact of associated compliance responses would be similar. Cold plate technology could result in increased manufacturing and installation of fueling infrastructure within existing facilities, which would have agriculture and forest impacts similar to new and modified facilities as discussed in the State SIP Strategy EA. Thus, short-term construction-related and long-term operational impacts on agriculture and forestry resources would be potentially significant as identified in the State SIP Strategy EA.

Once an applicant actually develops the proposed plans for the development, the lead agency will have adequate information from which it can determine project-specific agriculture and forestry impacts associated with these potential compliance-response development projects. Once the lead agency identifies these project impacts, it can likely reduce them to a less-than-significant level by adopting feasible mitigation at the time of project approval. Notwithstanding this uncertainty of the impacts due to the equally uncertain nature and scope of potential compliance-response development projects, for the sake of full transparency, CARB identified mitigation in the State SIP Strategy EA, noted below, that lead agencies can and should consider for mitigation of

any agriculture and forestry impacts from these future projects. Because implementation and enforcement of this mitigation measure is beyond the authority of CARB, however, CARB finds it legally infeasible to adopt and implement this measure on its own.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 2-1: Implement State SIP Strategy EA Mitigation Measure 2-1

The Regulatory Setting in Attachment A includes applicable laws and regulations that relate to agriculture and forestry. CARB does not have the authority to require implementation of mitigation related to new or modified facilities that would be approved by local jurisdictions. The ability to require such measures is under the purview of jurisdictions with local or State land use approval and/or permitting authority. New or modified facilities in California would most likely qualify as a "project" under CEQA. The jurisdiction with primary approval authority over a proposed action is the Lead Agency, which is required to review the proposed action for compliance with CEQA statutes. Project-specific impacts and mitigation would be identified during the environmental review by agencies with project-approval authority. Recognized practices that are routinely required to avoid and/or minimize agriculture and forestry resource impacts include:

- Proponents of new or modified facilities constructed as a result of reasonably foreseeable compliance responses would coordinate with local or State land use agencies to seek entitlements for development including the completion of all necessary environmental review requirements (e.g., CEQA). The local or State land use agency or governing body must follow all applicable environmental regulations as part of approval of a project for development.

- Based on the results of the environmental review, proponents would implement all feasible mitigation to reduce or substantially lessen the environmental impacts of the project. Because CARB has no land use authority, mitigation is not within its purview to reduce potentially significant impacts to less-than-significant levels. Any mitigation specifically required for a new or modified facility would be determined by the lead agency and future environmental documents by local and State lead agencies should include analysis of the following:

    - Avoidance of lands designated as Important Farmlands (State defined Prime Farmland, Farmland of Statewide Importance, and Unique Farmland) as defined by the Farmland Mapping and Monitoring Program.

    - Analysis of the feasibility of using farmland that is not designated as Important Farmland prior to deciding on the conversion of Important Farmland.

    - The feasibility, proximity, and value of the proposed project sites should be balanced before a decision is made to locate a facility on land designated as Important Farmland.

- Any action resulting in the conversion of Important Farmlands should consider mitigation for the loss of such farmland. Any such mitigation should be completed prior to the issuance of a grading or building permit by providing the permitting agency with written evidence of completion of the mitigation. Mitigation may include but is not limited to:

- Permanent preservation of off-site Important Farmland (State defined Prime Farmland, Farmland of Statewide Importance, and Unique Farmland) of equal or better agricultural quality, at a ratio of at least 1:1.

    - Preservation may include the purchase of agricultural conservationeasement(s); purchase of credits from an established agricultural farmland mitigation bank; contribution of agricultural land or equivalent funding to an organization that provides for the preservation of farmland towards the ultimate purchase of an agricultural conservation easement.

    - Participation in any agricultural land mitigation program, including local government maintained, that provides equal or more effective mitigation than the measures listed.

Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if it approves these potential projects.

Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation conditions imposed by land use and/or permitting agency acting as lead agencies under CEQA, if and when a project applicant seeks a permit for compliance-response related project, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that short-term construction-related and long-term operational impacts to agriculture and forestry resources associated with the Proposed Amendments would remain **potentially significant and unavoidable** as identified in the State SIP Strategy EA.

3. Air Quality

Impact 3-1: Short-Term Construction-Related Effects to Air Quality

Reasonably foreseeable compliance responses associated with the Proposed Amendments include construction and operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); construction and operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for

electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA include increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Impact 3-1 of the State SIP Strategy EA summarizes the potential short-term air quality impacts associated with construction activities. Although the specific location, type, and number of construction activities is not known, site grading and excavation activities would generate criteria air pollutants and TACs. For example, fugitive PM dust emissions, which is the primary pollutant of concern during construction, would be created. Exhaust emissions from off-road construction equipment, material delivery trips, and construction worker-commute trips could also contribute to short-term increases in PM emissions, but to a lesser extent. Exhaust emissions from construction-related mobile sources also include reactive organic gases (ROGs) and NOx, which are precursors to ozone formation. These emission types and associated levels fluctuate greatly depending on the particular type, number, and duration of usage for the varying equipment. As discussed under State SIP Strategy EA Impact 3-1, these short-term emissions could contribute to the degradation of local and regional air quality, expose sensitive receptors to substantial pollutant concentrations, and conflict with applicable air quality plans.

Future construction emissions would be evaluated against an applicable threshold of significance established by the local air district. The types and severity of construction impacts associated with the reasonably foreseeable compliance responses related to the Proposed Amendments would be similar to those identified and evaluated in the State SIP Strategy EA. Although the State SIP Strategy did not specifically discuss, for example, the use of cold plates, the impact of associated compliance responses would be similar. Cold plate technology could result in increased manufacturing and installation of fueling infrastructure within existing facilities, which would have air quality impacts similar to new and modified facilities as discussed in the State SIP Strategy EA. Thus, short-term construction-related impacts on air quality would be potentially significant as identified in the State SIP Strategy EA.

In connecting an air district's thresholds of significance to its anticipated date of attainment, projects that demonstrate levels of construction-related criteria air pollutant emissions below the applicable thresholds would not result in emissions that would conflict with an area achieving future attainment status under the NAAQS and California ambient air quality standards (CAAQS) as outlined by an applicable air quality plan.

Similarly, projects that demonstrate criteria air pollutant emissions levels in exceedance of an applicable threshold could contribute to the continued nonattainment designation of a region or potentially degrade a region from attainment to nonattainment resulting in acute or chronic respiratory and cardiovascular illness associated with human exposure to concentrations of criteria air pollutants above what U.S. EPA and CARB consider safe. Symptoms can include coughing, difficulty breathing, chest pain, eye and throat irritation and, in extreme cases, death caused by exacerbation of existing respiratory and cardiovascular disease, cancer, and impaired immune and lung function. Additional information on criteria air pollutants, their health effects, and background on NAAQS and CAAQS is provided in Attachment A.

However, the exact location and magnitude of specific health impacts that could occur as a result of project-level construction-related emissions in specific air basins is infeasible to model with any degree of accuracy with the level of information known about the Proposed Amendments. CARB estimates premature death and other health effects related to PM and NOx exposure based on peer-reviewed methodology developed by U.S. EPA and quantifies health benefits of regulations and programs using an incidence-per-ton methodology. There is an approximate linear relationship between premature deaths and other health outcomes and emission concentrations (CARB 2019). This modeling requires characterizing a change in air quality occurring under a policy or other change. There is substantial uncertainty regarding the construction details about compliance responses that would be needed to evaluate health effects related to construction emissions. For example, it is not known if a certain kind of compliance response would be clustered in one area or another, or the degree of grading that would be needed for each project (which affects PM emissions), or the kind of construction equipment that would be used (which affects PM and NOx emissions) so that a total amount of emissions across the State can be obtained that could be used in the incidence-per-ton methodology. As a result, it is not feasible to associate specific health impacts with compliance response construction emissions for the Proposed Amendments. This contrasts with operational emissions, which represent the air quality benefits of the Proposed Amendments. The net emissions reductions resulting from operation of the compliance responses can be modeled and demonstrate a net decrease in emissions, as discussed under Impact 3-2, and therefore conclusions about operational health benefits can be and are made on a broader scale.

Once an applicant actually develops the proposed plans for the development, the lead agency will have adequate information from which it can determine project-specific, short-term construction-related impacts on air quality associated with these potential compliance-response development projects. Once the lead agency identifies these project impacts, it can likely reduce them to a less-than-significant level by adopting feasible mitigation at the time of project approval. Notwithstanding this uncertainty of the impacts due to the equally uncertain nature and scope of potential compliance-response development projects, for the sake of full transparency, CARB identified mitigation in the State SIP Strategy EA, noted below, that lead agencies can and should consider for mitigation of any short-term construction-related impacts on air quality from these future projects. Since implementation and enforcement of this

mitigation measure is beyond the authority of CARB, however, CARB finds it legally infeasible to adopt and implement this measure on its own.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 3-1: Implement State SIP Strategy EA Mitigation Measure 3-1

The Regulatory Setting in Attachment A includes applicable laws and regulations that relate to air quality. CARB does not have the authority to require implementation of mitigation related to new or modified facilities that would be approved by local jurisdictions. The ability to require such measures is under the purview of jurisdictions with local or State land use approval and/or permitting authority. New or modified facilities in California would most likely qualify as a "project" under CEQA. The jurisdiction with primary approval authority over a proposed action is the Lead Agency, which is required to review the proposed action for compliance with CEQA statutes. Project specific impacts and mitigation would be identified during the environmental review by agencies with project-approval authority. Recognized practices that are routinely required to avoid and/or minimize air quality impacts include:

- Proponents of new or modified facilities or infrastructure constructed as a result of reasonably foreseeable compliance responses would coordinate with State or local land use agencies to seek entitlements for development including the completion of all necessary environmental review requirements (e.g., CEQA). The local or State land use agency or governing body must follow all applicable environmental regulations as part of approval of a project for development.

- Based on the results of the environmental review, proponents would implement all feasible mitigation to reduce or substantially lessen the potentially significant scenic or aesthetic impacts of the project.

- Project proponents would apply for, secure, and comply with all appropriate air quality permits for project construction from the local agencies with air quality jurisdiction and from other applicable agencies, if appropriate, prior to construction mobilization.

- Project proponents would comply with the federal Clean Air Act (The Act) and the California Clean Air Act (e.g., New Source Review and Best Available Control Technology criteria, if applicable).

- Project proponents would comply with local plans, policies, ordinances, rules, and regulations regarding air quality-related emissions and associated exposure (e.g., construction-related fugitive PM dust regulations, indirect source review, and payment into offsite mitigation funds).

- For projects located in PM nonattainment areas, prepare and comply with a dust abatement plan that addresses emissions of fugitive dust during construction and operation of the project.

Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if they approve these potential projects.

Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation conditions imposed by land use and/or permitting agency acting as lead agencies under CEQA, if and when a project applicant seeks a permit for compliance-response related project, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that short-term construction-related impacts to air quality associated with the Proposed Amendments would remain **potentially significant and unavoidable** as identified in the State SIP Strategy EA. While short-term construction impacts would be significant and unavoidable, the long-term operation-related effects to air quality described under Impact 3-2 would be beneficial, consistent with the objectives of the Proposed Amendments.

Impact 3-2: Long-Term Operation-Related Effects to Air Quality

Reasonably foreseeable compliance responses associated with the Proposed Amendments include construction and operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); construction and operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA include increased infrastructure for zero and near-zero emission technologies, hydrogen fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Impact 3-2 of the State SIP Strategy EA summarizes long-term operation-related effects to air quality and states that the proposed measures would result in substantial long-term reductions in criteria air pollutants and TACs, concluding that effects to air quality would be beneficial.

For the Proposed Amendments, staff determined the air quality CEQA baseline[3] is the 2019 emission level (referred to as the "2019 existing conditions" or "2019 Baseline") under the current level of compliance of TRUs subject to the TRU ATCM. The 2019 Baseline does not represent 100 percent compliance with the existing regulation; therefore, staff has determined that the level of emissions under current conditions provides the most accurate and informative baseline for CEQA analyses. The rate of emission reductions expected from the Proposed Amendments is compared to the 2019 existing conditions. CARB estimates TRU emissions in California using the statewide TRU emission inventory model. To model non-compliance, the inventory uses historical trends for units that did not comply with the TRU ATCM and is based on data reported in the Air Resources Board Equipment Registration program. Based on 2011 through 2018 reporting data, the modeled compliance rate in 2019 and in future years is 89 percent. The data sources and methodology used in the statewide TRU emission inventory model are described in Appendix H to the Staff Report.

While it is not possible to forecast precisely future levels of noncompliance, the compliance rate assumed in the emission inventory is based on multiple years of reporting data. Staff have made a good faith effort to anticipate and disclose the emissions levels assuming the current level of compliance is carried forward through the period analyzed in this EA (2019–2040). CARB staff has elected to include both a current baseline and future baseline in this Air Quality analysis to provide the public and the decision-maker (the Board) with the most accurate picture practically possible of the Proposed Amendments' beneficial impacts on air quality.

Based on CARB's current data on TRU production and sales, there has been a consistent trend of TRU growth due, in large part, to population growth and increased online and offline deliveries and the transport of temperature sensitive products that require the use of TRUs. While there is relative uncertainty about the actual future TRU population growth given the fluctuations of economic conditions over time, CARB expects TRU emission levels to follow along with the historical TRU growth trends. Even with this trend of growth in TRUs, the existing TRU ATCM would provide emissions reductions below the 2019 existing conditions, which is illustrated in Figure 4.B-1 and 4.B-2, below, with the exception of NOx emissions eventually exceeding the 2019 existing conditions mid-decade in the 2030s. CARB characterizes these emission reduction levels in the future as the business-as-usual (BAU) scenario. The BAU scenario is provided in addition to the 2019 existing conditions because it is useful for understanding ongoing benefits to air quality as it considers emissions that would occur under the current regulatory environment. As shown in Figure 4.B-1 and Figure 4.B-2, BAU emissions are anticipated to fluctuate and be less than 2019 existing conditions (i.e., baseline) over time.

[3] The CEQA baseline for determining the existence of any new or more significant adverse air quality or greenhouse gas impact is normally the existing environmental conditions at the time the analysis is conducted (14 CCR 15125).

Figure 4.B-1: $PM_{2.5}$ Emissions Projections with Forecasted TRU Population Growth

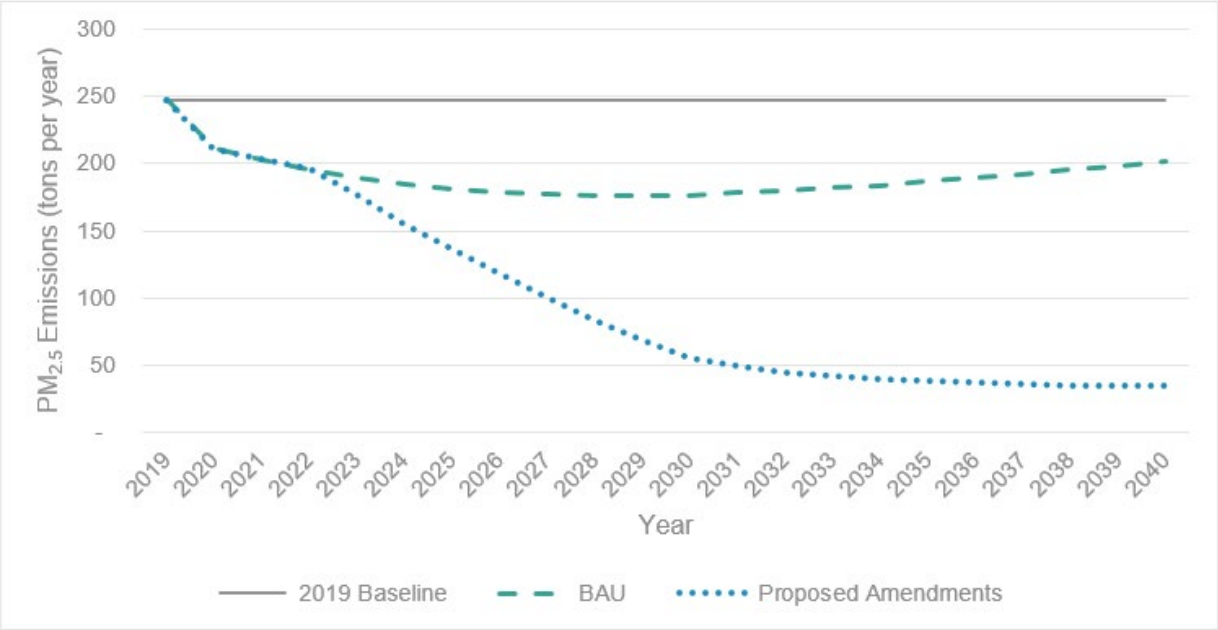
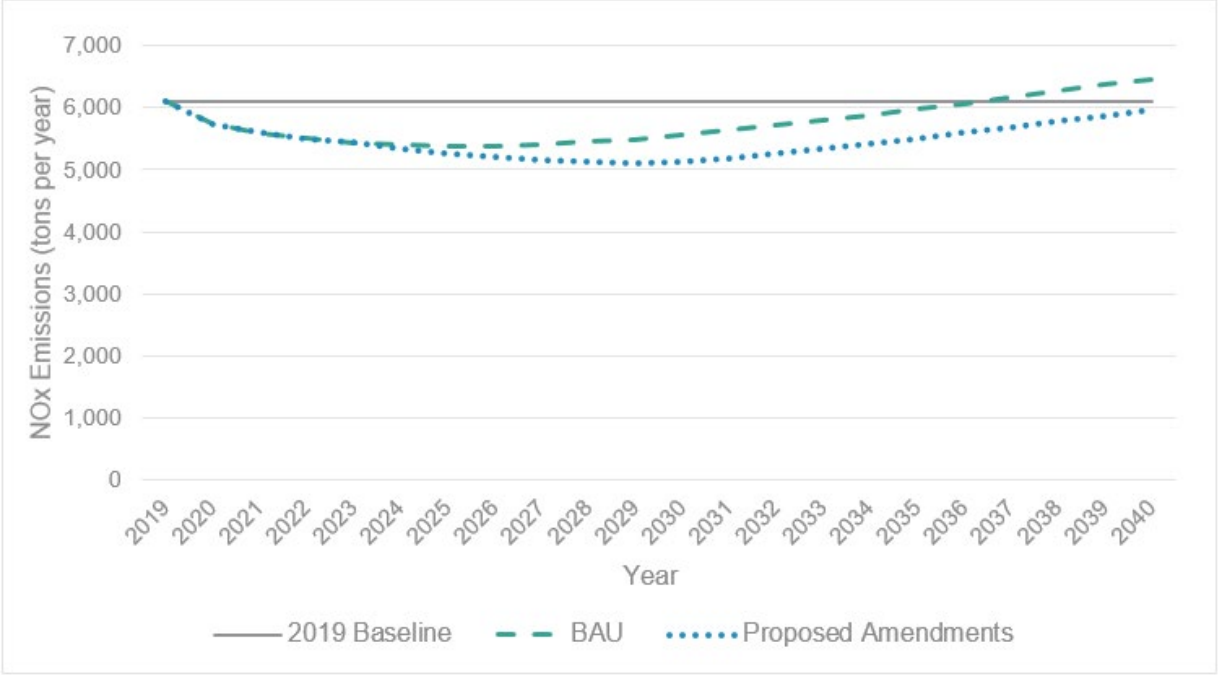


Figure 4.B-2: NOx Emissions Projections with Forecasted TRU Population Growth



Additionally, assuming the existing TRU population remained the same from 2019 onward, the Proposed Amendments would result in even more $PM_{2.5}$ and NOx emission reductions relative to the 2019 baseline as compared to the reductions that include the potential forecasted TRU population growth. This is due to a significant reduction in $PM_{2.5}$ and NOx emissions per existing TRU unit when comparing the $PM_{2.5}$ and NOx

emissions per unit under the 2019 baseline and the emissions under the Proposed Amendments; the Proposed Amendments result in lower $PM_{2.5}$ and NOx emissions per TRU unit than the $PM_{2.5}$ and NOx emissions per TRU unit under the 2019 Baseline. Figures 4.B-3 and 4.B-4 summarize the $PM_{2.5}$ and NOx emissions under the 2019 existing conditions, a BAU scenario, and the Proposed Amendments without forecasted TRU population growth. In sum, the Proposed Amendments would reduce $PM_{2.5}$ and NOx emissions from diesel-powered TRUs relative to the 2019 existing conditions and the BAU scenario.

Figure 4.B-3: $PM_{2.5}$ Emissions Projections without Forecasted TRU Population Growth

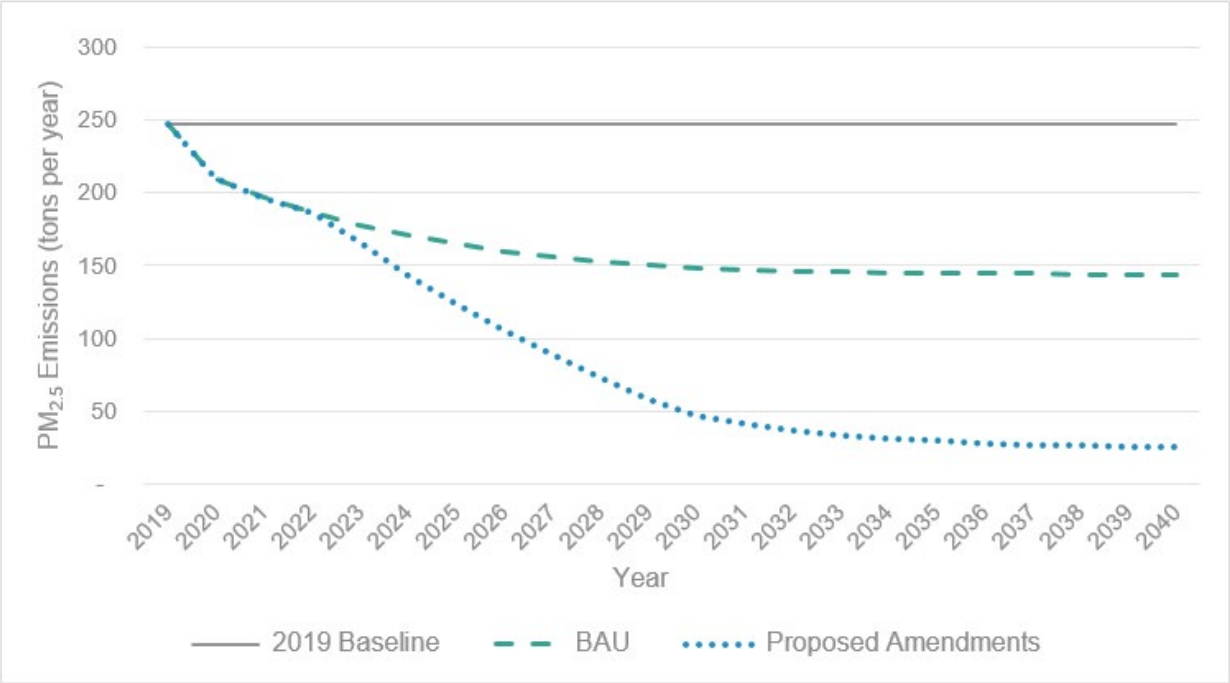
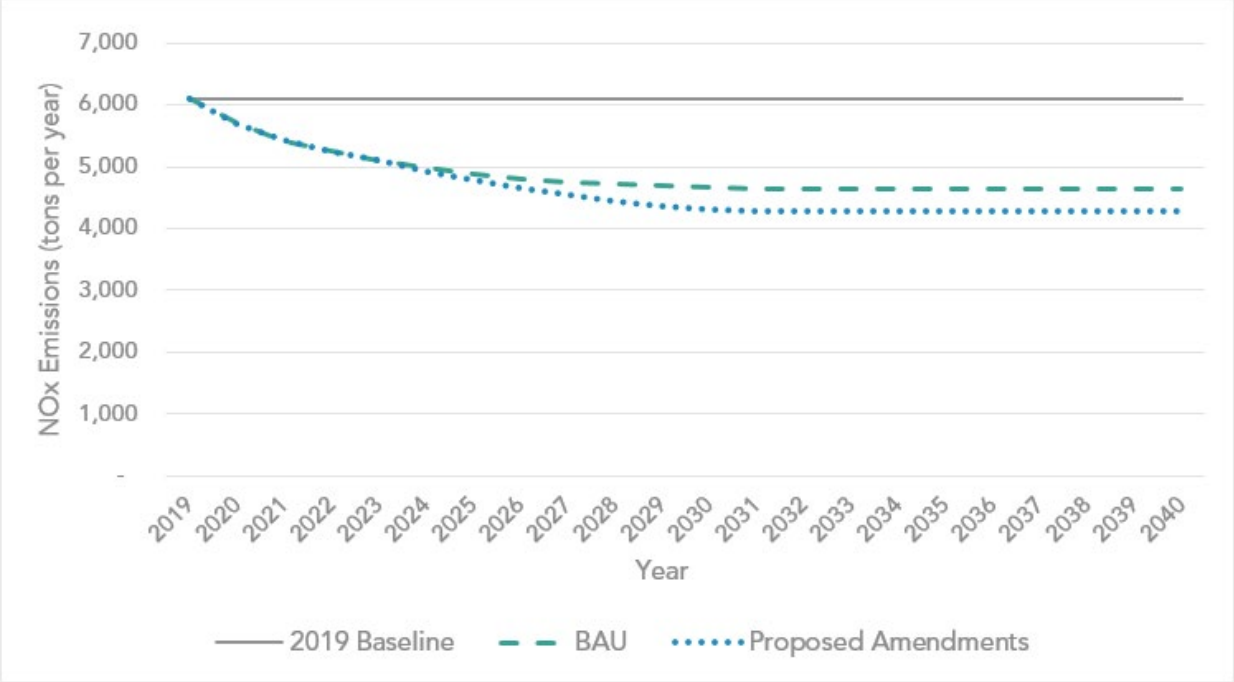


Figure 4.B-4: NOx Emissions Projections without Forecasted TRU Population Growth



The $PM_{2.5}$ emission benefits of the Proposed Amendments relative to 2019 existing conditions are greater than those relative to the BAU scenario. Compared with 2019 existing conditions, the Proposed Amendments result in $PM_{2.5}$ emission reductions beyond what would be achieved in the BAU scenario starting in 2023 because the Proposed Amendments require newly-manufactured trailer TRU, domestic shipping container TRU, railcar TRU, and TRU generator set engines to meet a more stringent diesel PM emission standard. The Proposed Amendments result in $PM_{2.5}$ and NOx emission reductions in 2024 when TRU owners would be required to transition 15 percent of their truck TRU fleet to zero-emission technology. In addition, the zero-emission technologies required under the Proposed Amendments will help create economies-of-scale and assist with reducing costs for the future advanced technology deployment in other sectors to further help achieve the emission reduction goals identified in the State SIP Strategy (CARB 2017a). Refer to Appendix H to the Staff Report for emissions modeling details.

Table 4.B-1 and Table 4.B-2 show the emission benefits from the Proposed Amendments with forecasted TRU population growth for $PM_{2.5}$ and NOx for the calendar year 2019, 2025, 2030, 2035, and 2040. Table 4.B-3 and Table 4.B-4 show the emission benefits from the Proposed Amendments without forecasted TRU population growth for $PM_{2.5}$ and NOx in the same years. By 2040, $PM_{2.5}$ and NOx emissions would be reduced by 83 percent and 8 percent, respectively, as compared to the BAU scenario. Reductions compared to the 2019 existing conditions would be greater, as shown in Figure 4.B-1 and Figure 4.B-2, and the Proposed Amendments would reduce

an eventual increase in NOx emissions projected in the BAU scenario as shown in Figure 4.B-2.

Table 4.B-1: $PM_{2.5}$ Emission Benefits from the Proposed Amendments with Forecasted TRU Population Growth (Tons per Year)

Year	BAU Emissions	Emissions Under Proposed Amendments	Emission Benefits††	Percent Emission Reduction††
2019†	247	247	0	0%
2025	182	136	46	25%
2030	177	55	122	69%
2035	187	38	149	80%
2040	201	35	166	83%

† The 2019 BAU emissions reflect the "2019 existing conditions" or "2019 Baseline."
†† The benefits shown are relative to BAU, and the benefit relative to the 2019 existing conditions would be higher.

Table 4.B-2: NOx Emission Benefits from the Proposed Amendments with Forecasted TRU Population Growth (Tons per Year)

Year	BAU Emissions	Emissions Under Proposed Amendments	Emission Benefits††	Percent Emission Reduction††
2019†	6,108	6,108	0	0%
2025	5,378	5,258	120	2%
2030	5,557	5,127	430	8%
2035	5,970	5,505	465	8%
2040	6,462	5,959	503	8%

† The 2019 BAU emissions reflect the "2019 existing conditions" or "2019 Baseline."
†† The benefits shown are relative to BAU, and the benefit relative to the 2019 existing conditions would be higher.

Table 4.B-3: $PM_{2.5}$ Emission Benefits from the Proposed Amendments without Forecasted TRU Population Growth (Tons per Year)

Year	BAU Emissions	Emissions Under Proposed Amendments	Emission Benefits††	Percent Emission Reduction††
2019†	247	247	0	0%
2025	165	124	41	25%
2030	148	47	101	68%
2035	145	29	116	80%
2040	144	25	119	83%

† The 2019 BAU emissions reflect the "2019 existing conditions" or "2019 Baseline."
†† The benefits shown are relative to BAU, and the benefit relative to the 2019 existing conditions would be higher.

Table 4.B-4: NOx Emissions Benefits from the Proposed Amendments without Forecasted TRU Population Growth (Tons per Year)

Year	BAU Emissions	Emissions Under Proposed Amendments	Emission Benefits††	Percent Emission Reduction††
2019†	6,108	6,108	0	0%
2025	4,889	4,781	108	2%
2030	4,667	4,306	361	8%
2035	4,631	4,271	360	8%
2040	4,631	4,270	361	8%

† The 2019 BAU emissions reflect the "2019 existing conditions" or "2019 Baseline."
†† The benefits shown are relative to BAU, and the benefit relative to the 2019 existing conditions would be higher.

Operation of new and modified facilities for manufacturing and fueling zero-emission TRUs would consume fuel over the long-term, emitting criteria air pollutants. Fuel would be consumed, for example, to provide electricity during the manufacturing process and for general building operation (e.g., lighting; heating, ventilation, and air-conditioning (HVAC) systems). Additionally, vehicle trips for employees and materials would consume fuel. Increased demand for lithium batteries could increase production, lithium mining, and exports from source countries or other states, which would require of fuel consumption for mineral extraction, processing, and transport. The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Amendments would be similar to those identified and evaluated in the State SIP Strategy EA. Although the State SIP Strategy did not specifically discuss, for example, the use of cold plates, the impact of associated compliance responses would be similar. Cold plate technology could result in increased manufacturing and installation of fueling infrastructure within existing facilities, which would have air quality impacts similar to new and modified facilities as discussed in the State SIP Strategy EA. However, since there is no substantial evidence that can precisely identify project-specific impacts from potential compliance-response development projects due to the unknown nature of these projects, the identified emissions benefits from the Proposed Amendments cannot be counterweighed, without speculation, against any potential long-term operational air quality impacts from these projects. Therefore, given the substantial reductions of criteria air pollutants from implementation of the Proposed Amendments as compared to the BAU scenario and 2019 existing conditions, there would be a net decrease in criteria pollutant emissions, as discussed above. This decrease in criteria pollutant emissions is expected to result in a reduction in adverse health outcomes, particularly in communities near facilities that are heavily burdened by freight pollution. These reduced adverse health outcomes include cardiopulmonary mortality, hospital admissions for cardiovascular and respiratory illnesses, and emergency room visits for asthma. Thus, long-term operational impacts on air quality would be **beneficial** as identified in the State SIP Strategy EA.

New and modified facilities would not include activities or processes that are associated with major odor sources (e.g., landfills). Thus, implementation of the Proposed

Amendments would not create objectionable odors affecting a substantial number of people. Additionally, diesel fuel exhaust from diesel-powered TRUs can create objectionable odors, and the increased use of zero-emissions technology would decrease diesel-fueled exhaust emissions and associated odors over time. As a result, odor impacts could be **beneficial**.

4. Biological Resources

Impact 4-1: Short-Term Construction-Related Effects to Biological Resources

Reasonably foreseeable compliance responses associated with the Proposed Amendments include construction and operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); construction and operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA include increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Impact 4-1 of the State SIP Strategy EA evaluated short-term construction-related effects to biological resources. Impact 4-1 states that the construction of new manufacturing plants and zero and near-zero emission infrastructure would result in ground disturbance that could adversely affect biological resources, and the biological resources affected would depend on the specific location of the compliance responses. These impacts would occur from modifications to existing habitat including the removal, degradation, and fragmentation of riparian systems, wetlands, and/or other sensitive natural wildlife habitats and plant communities; interference with wildlife movement or wildlife nursery sites; loss of special-status species; and/or conflicts with the provisions of adopted habitat conservation plans, natural community conservation plans, or other conservation plan or policies to protect natural resources.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Amendments would be similar to those identified and evaluated in the State SIP Strategy EA. Although the State SIP Strategy did not specifically discuss, for example, the use of cold plates, the impact of associated compliance responses would be similar. Cold plate technology could result in increased manufacturing and installation of fueling infrastructure within existing facilities, which would have biological resources impacts similar to new and modified facilities as

discussed in the State SIP Strategy EA. Thus, short-term construction-related impacts on biological resources would be potentially significant as identified in the State SIP Strategy EA.

Once an applicant actually develops the proposed plans for the development, the lead agency will have adequate information from which it can determine project-specific, short-term construction-related impacts on biological resources associated with these potential compliance-response development projects. Once the lead agency identifies these project impacts, it can likely reduce them to a less-than-significant level by adopting feasible mitigation at the time of project approval. Notwithstanding this uncertainty of the impacts due to the equally uncertain nature and scope of potential compliance-response development projects, for the sake of full transparency, CARB identified mitigation in the State SIP Strategy EA, noted below, that lead agencies can and should consider for mitigation of any short-term construction-related impacts on biological resources from these future projects. Since implementation and enforcement of this mitigation measure is beyond the authority of CARB, however, CARB finds it legally infeasible to adopt and implement this measure on its own.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 4-1: Implement State SIP Strategy EA Mitigation Measure 4-1

The Regulatory Setting in Attachment A includes applicable laws and regulations that relate to biological resources. CARB does not have the authority to require implementation of mitigation related to new or modified facilities that would be approved by local jurisdictions. The ability to require such measures is under the purview of jurisdictions with local or State land use approval and/or permitting authority. New or modified facilities in California would most likely qualify as a "project" under CEQA. The jurisdiction with primary approval authority over a proposed action is the Lead Agency, which is required to review the proposed action for compliance with CEQA statutes. Project specific impacts and mitigation would be identified during the environmental review by agencies with project-approval authority. Recognized practices that are routinely required to avoid and/or minimize biological resource impacts include:

- Proponents of new or modified facilities or infrastructure constructed as a result of reasonably foreseeable compliance responses would coordinate with State or local land use agencies to seek entitlements for development including the completion of all necessary environmental review requirements (e.g., CEQA). The local or State land use agency or governing body must follow all applicable environmental regulations as part of approval of a project for development.

- Based on the results of the environmental review, proponents would implement all feasible mitigation to reduce or substantially lessen the potentially significant biological resources impacts of the project.

- Actions required to mitigate potentially significant biological impacts may include the following; however, any mitigation specifically required for a new or modified facility would be determined by the lead agency.

- Retain a qualified biologist to prepare a biological inventory of site resources prior to ground disturbance or construction. If protected species or their habitats are present, comply with applicable federal and State endangered species acts and regulations. Construction and operational planning will require that important fish or wildlife movement corridors or nursery sites are not impeded by project activities.

- Retain a qualified biologist to prepare a wetland survey of onsite resources. This survey shall be used to establish setbacks and prohibit disturbance of riparian habitats, streams, intermittent and ephemeral drainages, and other wetlands. Wetland delineation is required by Section 404 of the Clean Water Act and is administered by the U.S. Army Corps of Engineers.

- Prohibit construction activities during the rainy season with requirements for seasonal weatherization and implementation of erosion prevention practices.

- Prohibit construction activities in the vicinity of raptor nests during nesting season or establish protective buffers and provide monitoring, as needed, to address project activities that could cause an active nest to fail.

- Prepare site design and development plans that avoid or minimize disturbance of habitat and wildlife resources, and prevent stormwater discharge that could contribute to sedimentation and degradation of local waterways. Depending on disturbance size and location, a National Pollution Discharge Elimination System (NPDES) construction permit may be required from the California State Water Resources Control Board.

- Prepare spill prevention and emergency response plans, and hazardous waste disposal plans as appropriate to protect against the inadvertent release of potentially toxic materials.

- Plant replacement trees and establish permanent protection suitable habitat at ratios considered acceptable to comply with "no net loss" requirements.

- Contractor will keep the site and materials organized and store them in a way to prevent attracting wildlife by not creating places for wildlife to hide or nest (e.g., capping pipes, covering trashcans and emptying trash receptacles consistently and promptly when full).

Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree

of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if it approves these potential projects.

Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation conditions imposed by land use and/or permitting agency acting as lead agencies under CEQA, if and when a project applicant seeks a permit for compliance-response related project, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that short-term construction-related impacts to biological resources associated with the Proposed Amendments would remain **potentially significant and unavoidable** as identified in the State SIP Strategy EA.

Impact 4-2: Long-Term Operation-Related Effects to Biological Resources

Reasonably foreseeable compliance responses associated with the Proposed Amendments include construction and operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); construction and operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA include increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Impact 4-2 of the State SIP Strategy EA summarizes the anticipated operation-related impacts to biological resources from the reasonably foreseeable compliance responses listed above. Adverse operational impacts to biological resources would likely occur primarily from increased mining activity associated with increased demand for lithium batteries to power zero and near-zero technologies. As discussed under State SIP Strategy EA Impact 4-2, hard rock and continental brine mining activities would directly alter the character of a sensitive habitat that may support special-status species or serve as a wildlife corridor. Impacts could include reduction in habitat, loss of special-status species, water contamination, and conflict with a habitat conservation plan or natural community conservation plan.

Additionally, long-term operation of new manufacturing and recycling facilities would often include the presence of workers; movement of automobiles, trucks, and heavy equipment; and operation of stationary equipment. This environment would not be conducive to the presence of biological resources located on-site or nearby. For

example, operation of a new facility could deter wildlife from the surrounding habitat or could impede wildlife movement through the area. This impact would be substantial if there is not adequate habitat nearby. Vegetation management may be necessary to comply with fire codes and defensible space requirements, which may require tree trimming and other habitat modification that could, for example, result in species mortality or nest failure.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Amendments would be similar to those identified and evaluated in the State SIP Strategy EA. Although the State SIP Strategy did not specifically discuss, for example, the use of cold plates, the impact of associated compliance responses would be similar. Cold plate technology could result in increased manufacturing and use of fueling infrastructure within existing facilities, which would have biological resources impacts similar to new and modified facilities. Thus, long-term operation-related impacts on biological resources would be potentially significant as identified in the State SIP Strategy EA.

Once an applicant actually develops the proposed plans for the development, the lead agency will have adequate information from which it can determine project-specific, long-term operation-related impacts on biological resources associated with these potential compliance-response development projects. Once the lead agency identifies these project impacts, it can likely reduce them to a less-than-significant level by adopting feasible mitigation at the time of project approval. Notwithstanding this uncertainty of the impacts due to the equally uncertain nature and scope of potential compliance-response development projects, for the sake of full transparency, CARB identified mitigation, noted below, that lead agencies can and should consider for mitigation of any long-term operation-related impacts on biological resources from these future projects. Since implementation and enforcement of this mitigation measure is beyond the authority of CARB, however, CARB finds it legally infeasible to adopt and implement this measure on its own.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 4-2

The Regulatory Setting in Attachment A includes applicable laws and regulations that relate to biological resources. CARB does not have the authority to require implementation of mitigation related to new or modified facilities that would be approved by local jurisdictions. The ability to require such measures is under the purview of jurisdictions with local or State land use approval and/or permitting authority. New or modified facilities in California would most likely qualify as a "project" under CEQA. The jurisdiction with primary approval authority over a proposed action is the Lead Agency, which is required to review the proposed action for compliance with CEQA statutes. Project-specific impacts and mitigation would be identified during the environmental review by agencies with project-approval authority. Recognized practices that are routinely required to avoid and/or minimize biological resource impacts include:

- Proponents of new or modified facilities or infrastructure constructed as a result of reasonably foreseeable compliance responses would coordinate with State or

local land use agencies to seek entitlements for development including the completion of all necessary environmental review requirements (e.g., CEQA). The local or State land use agency or governing body must follow all applicable environmental regulations as part of approval of a project for development.

- Based on the results of the environmental review, proponents would implement all feasible mitigation to reduce or substantially lessen the potentially significant biological resources impacts of the project.

- Prohibit vegetation management activities in the vicinity of raptor nests during nesting season or establish protective buffers and provide monitoring as needed to ensure that project activity does not cause an active nest to fail.
- Maintain site design and development plan features that avoid or minimize disturbance of habitat and wildlife resources and prevents stormwater discharge that could contribute to sedimentation and degradation of local waterways during project operation.
- Maintain and replace, as needed, replacement trees and permanently protected suitable habitat identified during the construction phase of the project.

Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if it approves these potential projects.

Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation conditions imposed by land use and/or permitting agency acting as lead agencies under CEQA, if and when a project applicant seeks a permit for compliance-response related project, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that long-term operation-related impacts to biological resources under the Proposed Amendments would be **potentially significant and unavoidable** as identified in the State SIP Strategy EA.

5. Cultural Resources

Impact 5-1: Short-Term Construction-Related and Long-Term Operation-Related Effects to Cultural Resources

Reasonably foreseeable compliance responses associated with the Proposed Amendments include construction and operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); construction and operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for

electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA include increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Impact 5-1 of the State SIP Strategy EA evaluated the potential adverse impacts to cultural resources from the construction and operation of the reasonably foreseeable compliance responses. State SIP Strategy EA Impact 5-1 indicates that ground disturbance such as clearing of vegetation, earth movement and grading, trenching for utility lines, erection of new buildings, and paving of lots and roadway associated with the construction of new infrastructure and facilities could damage cultural, prehistoric and historic sites, tribal cultural resources, paleontological resources, historic buildings, and heritage landscapes. The reasonably foreseeable compliance responses that could entail demolition activity (e.g., the construction of new manufacturing facilities on sites that support existing structures) could result in the loss of a historically or culturally significant structure. Impact 5-1 of the State SIP Strategy EA states that future new facilities could be located in a region where undocumented prehistoric or historic-era cultural resources may be found.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Amendments would be similar to those identified and evaluated in the State SIP Strategy EA. Although the State SIP Strategy did not specifically discuss, for example, the use of cold plates, the impact of associated compliance responses would be similar. Cold plate technology could result in increased manufacturing and installation of fueling infrastructure within existing facilities, which would have cultural resources impacts similar to new and modified facilities as discussed in the State SIP Strategy EA. Thus, short-term construction-related and long-term operation-related impacts on cultural resources would be potentially significant as identified in the State SIP Strategy EA.

Once an applicant actually develops the proposed plans for the development, the lead agency will have adequate information from which it can determine project-specific, impacts on cultural resources associated with these potential compliance-response development projects. Once the lead agency identifies these project impacts, it can likely reduce them to a less-than-significant level by adopting feasible mitigation at the time of project approval. Notwithstanding this uncertainty of the impacts due to the equally uncertain nature and scope of potential compliance-response development projects, for the sake of full transparency, CARB identified mitigation in the State SIP

Strategy EA, noted below, that lead agencies can and should consider for mitigation of any impacts on cultural resources from these future projects. Since implementation and enforcement of this mitigation measure is beyond the authority of CARB, however, CARB finds it legally infeasible to adopt and implement this measure on its own.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 5-1: Implement State SIP Strategy EA Mitigation Measure 5-1

The Regulatory Setting in Attachment A includes applicable laws and regulations that relate to cultural resources. CARB does not have the authority to require implementation of mitigation related to new or modified facilities that would be approved by local jurisdictions. The ability to require such measures is under the purview of jurisdictions with local or State land use approval and/or permitting authority. New or modified facilities in California would most likely qualify as a "project" under CEQA. The jurisdiction with primary approval authority over a proposed action is the Lead Agency, which is required to review the proposed action for compliance with CEQA statutes. Project specific impacts and mitigation would be identified during the environmental review by agencies with project-approval authority. Recognized practices that are routinely required to avoid and/or minimize cultural resource impacts include:

- Proponents of new or modified facilities or infrastructure constructed as a result of reasonably foreseeable compliance responses would coordinate with State or local land use agencies to seek entitlements for development including the completion of all necessary environmental review requirements (e.g., CEQA). The local or State land use agency or governing body must follow all applicable environmental regulations as part of approval of a project for development.

- Based on the results of the environmental review, proponents would implement all feasible mitigation to reduce or substantially lessen the potentially significant cultural resources impacts of the project. Actions required to mitigate potentially significant cultural impacts may include the following; however, any mitigation specifically required for a new or modified facility would be determined by the lead agency.

    - Retain the services of cultural resources specialists with training and background that conforms to the U.S. Secretary of Interior's Professional Qualifications Standards, as published in Title 36, Code of Federal Regulations, part 61.

    - Seek guidance from the State and federal lead agencies, as appropriate, for coordination of Nation-to-Nation consultations with the Native American Tribes.

    - Provide notice to Native American Tribes of project details to identify potential Tribal Cultural Resources (TCRs). In the case that a TCR is identified, prepare mitigation measures that:

- Avoid and preserve the resources in place,
- Treat the resource with culturally appropriate dignity,
- Employ permanent conservation easements, and
- Protect the resource.

- Consult with lead agencies early in the planning process to identify the potential presence of cultural properties. The agencies will provide the project developers with specific instruction on policies for compliance with the various laws and regulations governing cultural resources management, including coordination with regulatory agencies and Native American Tribes.

- Define the area of potential effect (APE) for each project, which is the area within which project construction and operation may directly or indirectly cause alterations in the character or use of historic properties. The APE should include a reasonable construction buffer zone and laydown areas, access roads, and borrow areas, as well as a reasonable assessment of areas subject to effects from visual, auditory, or atmospheric impacts, or impacts from increased access.

- Retain the services of a paleontological resources specialist with training and background that conforms with the minimum qualifications for a vertebrate paleontologist as described in Measures for Assessment and Mitigation of Adverse Impacts to Non-Renewable Paleontological Resources: Standard Procedures (Society of Vertebrate Paleontology 2010).

- Conduct initial scoping assessments to determine whether proposed construction activities would disturb formations that may contain important paleontological resources. Whenever possible potential impacts to paleontological resources should be avoided by moving the site of construction or removing or reducing the need for surface disturbance. The scoping assessment should be conducted by the qualified paleontological resources specialist in accordance with applicable agency requirements.

- The project proponent's qualified paleontological resources specialist would determine whether paleontological resources would likely be disturbed in a project area on the basis of the sedimentary context of the area and a records search for past paleontological finds in the area. The assessment may suggest areas of high known potential for containing resources. If the assessment is inconclusive a surface survey is recommended to determine the fossiliferous potential and extent of the pertinent sedimentary units within the project site. If the site contains

areas of high potential for significant paleontological resources and avoidance is not possible, prepare a paleontological resources management and mitigation plan that addresses the following steps:

- a preliminary survey (if not conducted earlier) and surface salvage prior to construction;
- physical and administrative protective measures and protocols such as halting work, to be implemented in the event of fossil discoveries;
- monitoring and salvage during excavation;
- specimen preparation;
- identification, cataloging, curation and storage; and
- a final report of the findings and their significance.

Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if it approves these potential projects.

Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation conditions imposed by land use and/or permitting agency acting as lead agencies under CEQA, if and when a project applicant seeks a permit for compliance-response related project, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that short-term construction-related and long-term operation-related impacts to cultural resources associated with the Proposed Amendments would remain **potentially significant and unavoidable** as identified in the State SIP Strategy EA.

6. Energy Demand

Impact 6-1: Short-Term Construction-Related Effects on Energy Demand

Reasonably foreseeable compliance responses associated with the Proposed Amendments include construction and operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); construction and operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or

modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA include increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Impact 6-1 of the State SIP Strategy EA stated that implementation of the compliance responses would result in temporary increases in energy demand associated with new facilities from the combustion of fuels and natural gas during construction, as well as short-term electricity consumption. As summarized in Impact 6-1 of the State SIP Strategy EA, heavy-duty construction equipment including graders, scrapers, backhoes, jackhammers, front-end loaders, generators, water trucks, and dump trucks would likely be used to construct new infrastructure and facilities. However, this energy consumption would be short-term in nature and would not be considered inefficient, wasteful, or unnecessary.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Amendments would be similar to those identified and evaluated in the State SIP Strategy EA. Although the State SIP Strategy did not specifically discuss, for example, the use of cold plates, the impact of associated compliance responses would be similar. Cold plate technology could result in construction of manufacturing facilities and installation of fueling infrastructure within existing facilities, which would require a short-term use of energy similar to new and modified facilities as discussed in the State SIP Strategy EA, in which the short-term energy use was found not to be inefficient, wasteful, or unnecessary. Thus, short-term construction-related energy impacts would remain **less than significant** as identified in the State SIP Strategy EA.

Impact 6-2: Long-Term Operation-Related Effects on Energy Demand

Reasonably foreseeable compliance responses associated with the Proposed Amendments include construction and operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); construction and operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA include increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

In Impact 6-2, the State SIP Strategy EA identified the following significance criteria derived from Appendix F of the State CEQA Guidelines (CCR, tit. 14, Section 15000 et seq.):

1. Decreasing overall per capita energy consumption;

2. Decreasing reliance on fossil fuel such as coal, natural gas, and oil; and

3. Increasing reliance on renewable energy sources.

Impact 6-2 of the State SIP Strategy stated that implementation of zero-emission vehicles and other technologies would increase the use of electricity and decrease the use of petroleum, which would support wise and efficient uses of energy resulting in beneficial long-term operation impacts on energy demand.

The State SIP Strategy EA does not specifically address cold plates as a compliance response, and the use of cold plate technology would increase electricity consumption. However, it is merely one means of achieving compliance with the Proposed Amendments and therefore, accounted for in the renewable energy consumption contemplated in the State SIP Strategy EA. As a result, the long-term operation-related energy impacts would continue to be **beneficial** as identified in the State SIP Strategy EA.

7. Geology and Soils

Impact 7-1: Short-Term Construction-Related and Long-Term Operation-Related Effects to Geology, Seismicity, and Soils

Reasonably foreseeable compliance responses associated with the Proposed Amendments include construction and operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); construction and operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA included increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified

facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Impact 7-1 of the State SIP Strategy EA evaluated the short-term construction-related and long-term operation-related impacts to geology, seismicity, and soils from implementation of the reasonably foreseeable compliance responses listed above. Impact 7-1 sates that construction activities such as clearing of vegetation, earth movement and grading, trenching for utility lines, erection of new buildings, mining, and paving of parking lots, delivery areas, and roadways would have the potential to adversely affect soil and geology resources. Impact 7-1 of the State SIP Strategy EA indicates that the location of new infrastructure and facilities constructed could be located on a variety of geologic, soil, and slope conditions; erosion potential; and seismic activity; however, the characteristic of future construction sites and designs of compliance responses are unknown at the time of writing this ~~Draft~~Final Supplemental EA.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Amendments would be similar to those identified and evaluated in the State SIP Strategy EA. Although the State SIP Strategy did not specifically discuss, for example, the use of cold plates, the impact of associated compliance responses would be similar. Cold plate technology could result in increased manufacturing and installation of fueling infrastructure within existing facilities, which would have geology, soils, and seismicity impacts similar to new and modified facilities as discussed in the State SIP Strategy EA. Thus, short-term construction-related and long-term operation-related impacts on geology, seismicity, and soils would be potentially significant as identified in the State SIP Strategy EA.

Once an applicant actually develops the proposed plans for the development, the lead agency will have adequate information from which it can determine project-specific, impacts on geology, seismicity, and soils associated with these potential compliance-response development projects. Once the lead agency identifies these project impacts, it can likely reduce them to a less-than-significant level by adopting feasible mitigation at the time of project approval. Notwithstanding this uncertainty of the impacts due to the equally uncertain nature and scope of potential compliance-response development projects, for the sake of full transparency, CARB identified mitigation in the State SIP Strategy EA, noted below, that lead agencies can and should consider for mitigation of any impacts on geology, seismicity, and soils from these future projects. Since implementation and enforcement of this mitigation measure is beyond the authority of CARB, however, CARB finds it legally infeasible to adopt and implement this measure on its own.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 7-1: Implement State SIP Strategy EA Mitigation Measure 7-1

The Regulatory Setting in Attachment A includes applicable laws and regulations that relate to geology and soils. CARB does not have the authority to require implementation of mitigation related to new or modified facilities that would be approved by local jurisdictions. The ability to require such measures is under the purview of jurisdictions with

local or State land use approval and/or permitting authority. New or modified facilities in California would most likely qualify as a "project" under CEQA. The jurisdiction with primary approval authority over a proposed action is the Lead Agency, which is required to review the proposed action for compliance with CEQA statutes. Project specific impacts and mitigation would be identified during the environmental review by agencies with project-approval authority. Recognized practices that are routinely required to avoid and/or minimize impacts to geology, seismicity, and soils include:

- Proponents of new or modified facilities or infrastructure constructed as a result of reasonably foreseeable compliance responses would coordinate with State or local land use agencies to seek entitlements for development including the completion of all necessary environmental review requirements (e.g., CEQA). The local or State land use agency or governing body must follow all applicable environmental regulations as part of approval of a project for development.

- Based on the results of the environmental review, proponents would implement all feasible mitigation to reduce or substantially lessen the potentially significant geology and soils impacts of the project. Actions required to mitigate potentially significant geology and soil impacts may include the following; however, any mitigation specifically required for a new or modified facility would be determined by the lead agency.

    - Prior to the issuance of any development permits, proponents of new or modified facilities or infrastructure would prepare a geotechnical investigation/study, which would include an evaluation of the depth to the water table, liquefaction potential, physical properties of subsurface soils including shrink-swell potential (expansion), soil resistivity, slope stability, mineral resources, and the presence of hazardous materials.

    - Proponents of new or modified facilities or infrastructure would provide a complete site grading plan, and drainage, erosion, and sediment control plan with applications to applicable lead agencies. Proponents would avoid locating facilities on steep slopes, in alluvial fans and other areas prone to landslides or flash floods, or with gullies or washes, as much as possible.

    - Disturbed areas outside of the permanent construction footprint would be stabilized or restored using techniques such as soil loosening, topsoil replacement, revegetation, and surface protection (i.e., mulching).

Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if it approves these potential projects.

Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation conditions imposed by land use and/or permitting agency acting as lead agencies under CEQA, if and when a project applicant seeks a permit for compliance-response related project, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that short-term construction-related and long-term operation-related impacts to geology, seismicity, and soils associated with the Proposed Amendments would remain **potentially significant and unavoidable** as identified in the State SIP Strategy EA.

8. Greenhouse Gas Emissions and Climate Change

Impact 8-1: Short-Term Construction-Related and Long-Term Operation-Related Effects to Greenhouse Gas Emissions and Climate Change

Reasonably foreseeable compliance responses associated with the Proposed Amendments include construction and operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); construction and operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA included increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Impact 8-1 of the State SIP Strategy EA evaluated the short-term construction-related and operation-related GHG emissions associated with the reasonably foreseeable compliance responses and their contribution to global climate change. State SIP Strategy EA Impact 8-1 summarizes the types of construction activity that would result in emissions of GHGs including use of earth-moving heavy-duty equipment such as graders, scrapers, backhoes, jackhammers, front-end loaders, generators, water trucks, and dump trucks. Additional construction-related sources of GHGs are vehicle emissions from construction worker commute and material transport trips. These GHG emissions are expected to be short-term and limited in their amount. Although the State SIP Strategy did not specifically discuss, for example, the use of cold plates, the impact of associated compliance responses would be similar. Cold plate technology could result in construction of manufacturing facilities and installation of fueling infrastructure within existing facilities, which would have GHG emissions similar to new and modified facilities as discussed in the State SIP Strategy EA.

As stated in Impact 8-1 of the State SIP Strategy EA, construction-generated GHG emissions would be short-term in nature and would not be considered substantial when evaluated in the context of the long-term operation-related GHG reductions that would be realized through implementation of the SIP Strategy. With respect to the Proposed Amendments, which were evaluated as a component of the SIP Strategy, construction emissions would occur, and would also be reduced through mitigation efforts for air quality (i.e., TRU ~~Draft~~Final Supplemental EA Mitigation Measure 3-1). Construction of these facilities would also ultimately support implementation of the Proposed Amendments, which would result in long-term operational GHG reduction benefits for the reasons detailed below.

Implementation of the Proposed Amendments could result in an increase in manufacturing and associated facilities to increase the supply of zero-emission TRUs, along with construction of new fueling stations and electric charging stations to support zero-emission TRU operations. Increased deployment of zero-emission TRUs would result in a corresponding decrease in deployment of diesel-fueled TRUs. Likewise, increased deployment of zero-emission TRUs could result in a relatively small increase in production of electricity and cryogenic fuel, reduce rates of oil and gas extraction, and result in associated increases in lithium mining and exports from source countries or other states. This could result in increased rates of disposal of lithium batteries; however, disposal would need to comply with California law, including but not limited to California's Hazardous Waste Control Law and implementing regulations. For lithium-ion batteries, it is anticipated they would still have some useful life at the end of the TRU's life and are likely to be repurposed for a second life. To meet an increased demand of refurbishing or reusing batteries, new facilities or modifications to existing facilities could be constructed to accommodate recycling activities.

As discussed previously, the Proposed Amendments are expected to result in GHG emission reductions. Replacing diesel-powered truck TRUs with zero-emission truck TRUs and the use of lower-GWP refrigerant in newly-manufactured truck TRUs, trailer TRUs, and domestic shipping container TRUs would result in GHG emission reduction benefits. Figure 3 summarizes the GHG emissions in million metric tons of CO_2 equivalent ($MMTCO_2e$) under the 2019 existing conditions, the BAU scenario (which represents the projected emission reductions under the current level of compliance with the TRU ATCM), and the Proposed Amendments.

For the Proposed Amendments, using the current level of compliance of TRUs subject to the TRU ATCM, staff compared the GHG emissions impacts of the Proposed Amendments to the 2019 emission level (referred to as the "2019 existing conditions" or "2019 Baseline"), as well as the BAU scenario, which is a future baseline. The 2019 Baseline does not represent 100 percent compliance with the existing regulation; therefore, staff has determined that the level of emissions under current conditions provides the most accurate and informative baseline for CEQA analyses. Under the BAU scenario, staff used the current level of compliance and included forecasted annual TRU population growth to determine the projected emissions in the future under the existing TRU ATCM. CARB estimates TRU emissions in California using the statewide TRU

emission inventory model. The data sources and methodology used in the statewide TRU emission inventory model are described in Appendix H to the Staff Report.

Although the Proposed Amendments are expected to achieve GHG emissions benefits for all TRUs that operate in California, TRUs in California will still generate higher statewide GHG emissions when compared to the 2019 Baseline. The observed increase in GHG emissions is due to TRU population growth, which the statewide TRU emission inventory assumes to be approximately 1.6 percent per year based on historical TRU trends. Since the Proposed Amendments do not cause this TRU population growth which increases the GHG emissions projections higher than the 2019 baseline, the Proposed Amendments do not cause a GHG impact. Rather, for additional context, assuming the existing TRU population remained the same from 2019 onward, the Proposed Amendments would result in significant GHG emission reductions relative to the 2019 baseline. This is due to a reduction in GHG emissions per TRU unit when comparing the GHG emissions per unit under the 2019 baseline and the Proposed Amendments. In this scenario - using the 2019 TRU population as the basis for determining GHG impacts- the Proposed Amendments result in lower GHG emissions than the GHG emissions per unit under the 2019 Baseline.

The Proposed Amendments also have a GHG emissions benefit compared to a future baseline, identified as the BAU scenario. Even using the projected TRU population increase in California for this operational GHG impact analysis, staff expect the Proposed Amendments to reduce GHG emissions relative to the BAU scenario from 2019 to 2040. Similarly, this GHG emissions benefit is reflective of the per unit GHG reductions under the Proposed Amendments compared to those that would operate under the BAU scenario.

Figure 4.B-5 summarizes the GHG emissions in $MMTCO_2e$ under the 2019 existing conditions, the BAU scenario (which represents the projected emission reductions under the current level of compliance with the TRU ATCM), and the Proposed Amendments, assuming 1.6 percent population growth year-over-year for BAU and Proposed Amendment emissions projections.

Figure 4.B-5: GHG Emissions Projections with Forecasted TRU Population Growth

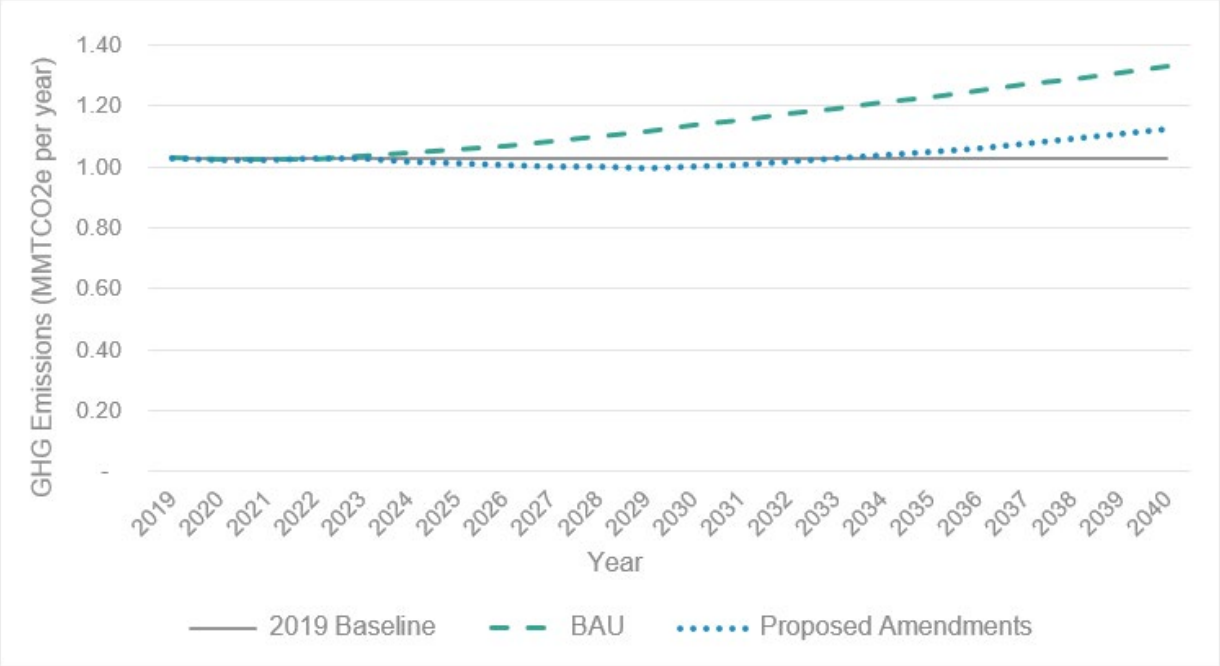


Figure 4.B-6 summarizes the GHG emissions in $MMTCO_2e$ under the 2019 existing conditions, the BAU scenario, and the Proposed Amendments without forecasted TRU population growth.

Figure 4.B-6: GHG Emissions Projections without Forecasted TRU Population Growth

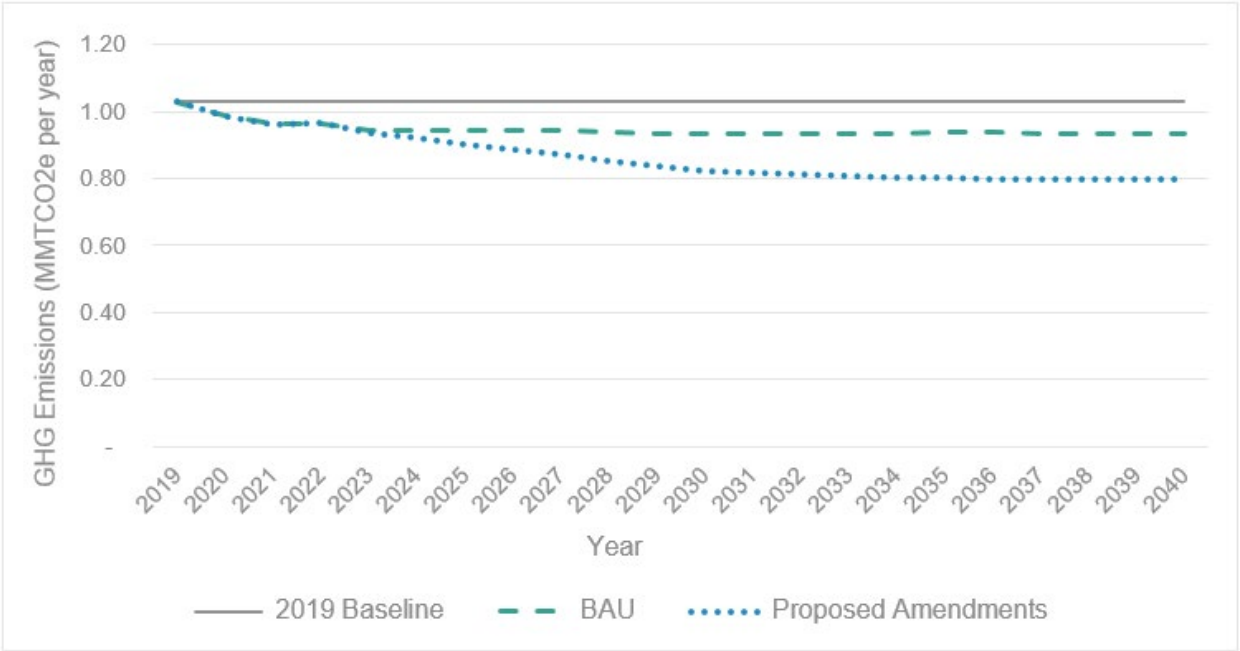


Table 4.B-5 shows the GHG emission benefits from the Proposed Amendments with forecasted TRU population growth for the calendar year 2019, 2025, 2030, 2035, and 2040. Table 4.B-6 shows the GHG emission benefits from the Proposed Amendments without forecasted TRU population growth.

Table 4.B-5: GHG Emission Benefits from Proposed Amendments with Forecasted TRU Population Growth ($MMTCO_2e$ per Year)

Year	BAU Emissions	Emissions Under Proposed Amendments	Emission Benefits††	Percent Emission Reduction††
2019†	1.03	1.03	0.00	0%
2025	1.06	1.01	0.05	5%
2030	1.13	1.00	0.13	12%
2035	1.23	1.05	0.18	15%
2040	1.33	1.13	0.20	15%

† The 2019 BAU emissions reflect the "2019 existing conditions" or "2019 Baseline."
†† The benefits shown are relative to BAU.

Table 4.B-6: GHG Emissions Benefits from Proposed Amendments without Forecasted TRU Population Growth ($MMTCO_2e$ per Year)

Year	BAU Emissions	Emissions Under Proposed Amendments	Emission Benefits††	Percent Emission Reduction††
2019†	1.03	1.03	0.00	0%
2025	0.94	0.90	0.04	4%
2030	0.93	0.82	0.11	12%
2035	0.94	0.80	0.14	15%
2040	0.93	0.80	0.13	14%

† The 2019 BAU emissions reflect the "2019 existing conditions" or "2019 Baseline."
†† The benefits shown are relative to BAU.

Implementation of the Proposed Amendments could result in decreased demand for fossil fuels and reduce rates of oil and gas extraction and associated emissions. Use of zero-emission TRUs would displace GHG emissions generated from internal combustion engines to emissions generated from the energy sector. However, various regulatory programs (i.e., Renewables Portfolio Standard (RPS), SB 350) would be implemented concurrently with the Proposed Amendments, which would reduce GHG emissions from the energy sector through the transition to renewable energy statewide. For example, as mandated by SB 350, the State must achieve 50 percent renewable energy by 2030. Subsequently, zero-emission TRUs could receive electricity from renewable resources (e.g., solar, wind).

Operation of new and modified facilities for manufacturing, fueling, and recycling would consume fuel over the long term of the program. Fuel would be consumed, for example,

to provide electricity during the manufacturing and recycling processes, and for general building operation (e.g., lighting; HVAC systems). Additionally, vehicle trips for employees and materials would consume fuel. Increased demand for lithium batteries could increase production, lithium mining, and exports from source countries or other states, which would require energy use in the form of fuel consumption for mineral extraction, processing, and transport. As more zero-emission TRUs are introduced into the fleet, electricity use would increase, and the use of other liquid or gaseous fuels that emit GHGs would decrease. The higher efficiency of zero-emission TRUs compared to conventional TRUs would reduce total energy use and would provide GHG emissions reductions that are not already attributed to the Low Carbon Fuel Standard (LCFS) regulation. The LCFS program covers the entire on-road vehicle sector and some other transportation fuels in California, which is several magnitudes higher than the fuel volume required by diesel TRUs that would be displaced. It is reasonable to assume that the Proposed Amendments would not be a big enough driver to affect the demand and supply of renewable diesel. Implementing the Proposed Amendments is anticipated to result in a reduction of GHG emissions from more efficient use of energy.

Implementation of the Proposed Amendments would also result in the construction and operation of electric TRU charging stations and hydrogen fueling stations to support the deployment of electric and hydrogen fuel-cell-powered TRUs. The availability of such infrastructure would improve the accessibility and feasibility of using zero-emission TRUs as compared to conventional internal combustion engine-powered TRUs. Zero-emission TRU use coupled with regulatory improvements to increase statewide renewable energy usage (e.g., the RPS, SB 350) would further serve to reduce GHG emissions from the transportation sector. As a greater portion of the State's energy portfolio is sourced from renewable energy, electricity generated from renewable resources will become available to power electric automobiles.

As noted above, since the Proposed Amendments do not cause the TRU population growth identified in the GHG emissions analysis for the BAU scenario, it is more appropriate to rely on the existing TRU population for purposes of determining the full extent of the GHG emissions benefits from the Proposed Amendments. Neither CARB's CRP nor CEQA require that a lead agency forecast GHG emissions not caused by a proposed project. Thus, while CARB elected to provide a picture of the GHG emissions benefits in the future by using an estimate of TRU population growth to compare the GHG emissions under a BAU scenario and the Proposed Amendments, that future GHG emissions picture provides more substantive effect to CARB's SIP commitments rather than to its impact analysis under CEQA. Nonetheless, it's notable that when compared to the future baseline (the BAU scenario), using projected TRU population growth, and the 2019 existing conditions, using the existing TRU population, the overall GHG emissions benefits of the Proposed Amendments would be greater than a comparatively small level of GHG emissions related to construction and operation of facilities associated with the reasonably foreseeable compliance responses, as described above. Therefore, impacts to climate change from GHG emissions resulting from the Proposed Amendments would remain **beneficial** as identified in the State SIP Strategy EA.

9. Hazards and Hazardous Materials

Impact 9-1: Short-Term Construction-Related Effects to Hazards and Hazardous Materials

Reasonably foreseeable compliance responses associated with the Proposed Amendments include construction and operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); construction and operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA included increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Impact 9-1 of the State SIP Strategy states the construction of the reasonably foreseeable compliance responses may require the transport, use, and disposal of hazardous materials such as lubricating fluids for heavy-duty equipment. Impact 9-1 states that maintenance of heavy-duty construction equipment presents the potential for the accidental release of hazardous materials due to the location of where maintenance activities would occur. Impact 9-1 states that while precautions would be taken to minimize risk, the potential for accidental upset of a hazardous material during construction still exists.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Amendments would be similar to those identified and evaluated in the State SIP Strategy EA. Although the State SIP Strategy did not specifically discuss, for example, the use of cold plates, the impact of associated compliance responses would be similar. Cold plate technology could result in construction of manufacturing facilities and installation of fueling infrastructure within existing facilities, which would have hazards and hazardous materials impacts similar to new and modified facilities as discussed in the State SIP Strategy EA. Thus, short-term construction-related impacts on hazards and hazardous materials would be potentially significant as identified in the State SIP Strategy EA.

Once an applicant actually develops the proposed plans for the development, the lead agency will have adequate information from which it can determine project-specific, short-term construction-related impacts on hazards and hazardous materials associated with these potential compliance-response development projects. Once the lead agency identifies these project impacts, it can likely reduce them to a less-than-significant level

by adopting feasible mitigation at the time of project approval. Notwithstanding this uncertainty of the impacts due to the equally uncertain nature and scope of potential compliance-response development projects, for the sake of full transparency, CARB identified mitigation in the State SIP Strategy EA, noted below, that lead agencies can and should consider for mitigation of any short-term construction-related impacts on hazards and hazardous materials from these future projects. Since implementation and enforcement of this mitigation measure is beyond the authority of CARB, however, CARB finds it legally infeasible to adopt and implement this measure on its own.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 9-1: Implement State SIP Strategy EA Mitigation Measure 9-1

The Regulatory Setting in Attachment A includes applicable laws and regulations that relate to hazards and hazardous materials. CARB does not have the authority to require implementation of mitigation related to new or modified facilities that would be approved by local jurisdictions. The ability to require such measures is under the purview of jurisdictions with local or State land use approval and/or permitting authority. New or modified facilities in California would most likely qualify as a "project" under CEQA. The jurisdiction with primary approval authority over a proposed action is the Lead Agency, which is required to review the proposed action for compliance with CEQA statutes. Project specific impacts and mitigation would be identified during the environmental review by agencies with project-approval authority. Recognized practices that are routinely required to avoid and/or minimize impacts to hazards and hazardous materials include:

- Proponents of new or modified facilities or infrastructure constructed as a result of reasonably foreseeable compliance responses would coordinate with State or local land use agencies to seek entitlements for development including the completion of all necessary environmental review requirements (e.g., CEQA). The local or State land use agency or governing body must follow all applicable environmental regulations as part of approval of a project for development.

- Based on the results of the environmental review, proponents would implement all feasible mitigation to reduce or substantially lessen the potentially significant hazards and hazardous materials impacts of the project.

- Actions required to mitigate potentially significant upset and accident-related hazard impacts may include the following; however, any mitigation specifically required for a new or modified facility would be determined by the lead agency.

- Handling of potentially hazardous materials/wastes should be performed under the direction of a licensed professional with the necessary experience and knowledge to oversee the proper identification, characterization, handling and disposal or recycling of the materials generated as a result of the project. As wastes are generated, they would be placed, at the direction of the licensed professional, in designated areas that offer secure, secondary containment and/or protection from stormwater runoff. Other forms of containment may

include placing waste on plastic sheeting (and/or covering with same) or in steel bins or other suitable containers pending profiling and disposal or recycling.

- The temporary storage and handling of potentially hazardous materials/wastes should be in areas away from sensitive receptors such as schools or residential areas. These areas should be secured with chain-link fencing or similar barrier with controlled access to restrict casual contact from non-project personnel. All project personnel that may come into contact with potentially hazardous materials/wastes will have the appropriate health and safety training commensurate with the anticipated level of exposure.

Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if it approves these potential projects.

Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation conditions imposed by land use and/or permitting agency acting as lead agencies under CEQA, if and when a project applicant seeks a permit for compliance-response related project, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that short-term construction-related impacts to hazards and hazardous materials associated with the Proposed Amendments would remain **potentially significant and unavoidable** as identified in the State SIP Strategy EA.

Impact 9-2: Long-Term Operation-Related Effects to Hazards and Hazardous Materials

Reasonably foreseeable compliance responses associated with the Proposed Amendments include construction and operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); construction and operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA included increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified

facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Impact 9-2 of the State SIP Strategy EA evaluates the potential health hazard of exposure to lithium stating that as the lightest solid metal, lithium is easily absorbed into the body through inhalation and ingestion. Impact 9-2 of the State SIP Strategy EA also summarizes the volatility of lithium with other compounds such as oxidants, acids, hydrocarbons, halogens, halons, concrete, sand, and asbestos causing fire and explosion hazards. Impact 9-2 further explains that lithium is a highly flammable substance and presents a potentially substantial environmental hazard. Impact 9-2 of the State SIP Strategy EA states that while lithium in its raw form may result in the aforementioned impacts, lithium metal batteries do not contain toxic metals; the primary hazard posed by lithium batteries is their ability to overheat and ignite. However, when properly packaged and handled, lithium batteries pose no environmental hazard.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Amendments would be similar to those identified and evaluated in the State SIP Strategy EA. Although the State SIP Strategy did not specifically discuss, for example, the use of cold plates or cryogenic technologies, the impact of associated compliance responses would be similar. Cold plate technology could result in construction of manufacturing facilities and installation of fueling infrastructure within existing facilities, which would have hazards and hazardous materials impacts similar to new and modified facilities as discussed in the State SIP Strategy EA. Cryogenic liquids could be spilled in an upset condition, risking physical injury through cold exposure. However, compliance with the appropriate federal and state laws governing the handling of potentially hazardous materials would be sufficient to minimize this risk because, as described in Attachment A, they ensure adequate handling and disposal safeguards to address these risks. Thus, long-term operation-related impacts on hazards and hazardous materials would be **less than significant** as identified in the State SIP Strategy EA.

10. Hydrology and Water Quality

Impact 10-1: Short-Term Construction-Related Effects on Hydrology and Water Quality

Reasonably foreseeable compliance responses to the Proposed Project include construction of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); the construction of supporting infrastructure, such as electric chargers and fueling stations; and construction of new or modified recycling or refurbishment facilities to accommodate battery disposal.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA included increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery

manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Impact 10-1 of the State SIP Strategy EA describes the short-term construction-related impacts on hydrology and water quality. As discussed in this impact, construction activities could require disturbance of undeveloped areas, such as clearing of vegetation, earth movement and grading, trenching for utility lines, erection of new buildings, and paving of parking lots, delivery areas, and roadways. Specific construction projects would be required to comply with applicable erosion, water quality standards, and waste discharge requirements (e.g., NPDES, stormwater pollution prevention plan [SWPPP]). With respect to depleting groundwater supplies, impairing water quality, and polluted runoff issues, construction of new facilities would not be anticipated to result in substantial groundwater demands, water quality, or runoff due to the nature of associated activities. However, depending on the location of construction activities, there could be adverse effects on drainage patterns and exposure of people or structures to areas susceptible to flood, seiche, tsunami, or mudflow.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Project would be similar to those identified and evaluated in the State SIP Strategy EA. Although the State SIP Strategy did not specifically discuss, for example, the use of cold plates, the impact of associated compliance responses would be similar. Cold plate technology could result in increased manufacturing and installation of fueling infrastructure within existing facilities, which would have impacts similar to new and modified facilities as discussed in the State SIP Strategy EA. Thus, short-term construction-related impacts on hydrology and water quality would be potentially significant as identified in the State SIP Strategy EA.

Once an applicant actually develops the proposed plans for the development, the lead agency will have adequate information from which it can determine project-specific, short-term construction-related impacts on hydrology and water quality associated with these potential compliance-response development projects. Once the lead agency identifies these project impacts, it can likely reduce them to a less-than-significant level by adopting feasible mitigation at the time of project approval. Notwithstanding this uncertainty of the impacts due to the equally uncertain nature and scope of potential compliance-response development projects, for the sake of full transparency, CARB identified mitigation in the State SIP Strategy EA, noted below, that lead agencies can and should consider for mitigation of any short-term construction-related impacts on hydrology and water quality from these future projects. Since implementation and enforcement of this mitigation measure is beyond the authority of CARB, however, CARB finds it legally infeasible to adopt and implement this measure on its own.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 10-1: Implement State SIP Strategy EA Mitigation Measure 10-1

The Regulatory Setting in Attachment A includes applicable laws and regulations regarding hydrology and water quality. CARB does not have the authority to require

implementation of mitigation related to new or modified facilities that would be approved by local jurisdictions. The ability to require such measures is under the purview of jurisdictions with local or State land use approval and/or permitting authority. New or modified facilities in California would most likely qualify as a "project" under CEQA. The jurisdiction with primary approval authority over a proposed action is the Lead Agency, which is required to review the proposed action for compliance with CEQA statutes. Project-specific impacts and mitigation would be identified during the environmental review by agencies with project-approval authority. Recognized practices that are routinely required to avoid and/or mitigate hydrology and water quality-related impacts include the following:

- Proponents of new or modified facilities or infrastructure constructed as a result of reasonably foreseeable compliance responses would coordinate with State or local land use agencies to seek entitlements for development including the completion of all necessary environmental review requirements (e.g., CEQA). The local or State land use agency or governing body must follow all applicable environmental regulations as part of approval of a project for development.

- Based on the results of the environmental review, proponents would implement all feasible mitigation to reduce or substantially lessen the potentially significant hydrology and water quality impacts of the project. Actions required to mitigate potentially significant hydrology and water quality impacts may include the following; however, any mitigation specifically required for a new or modified facility would be determined by the lead agency.

- Under the oversight of the lead agency, prior to issuance of any construction permits, the proponents for the proposed renewable energy project would prepare a stormwater drainage and flood control analysis and management plan. The plans would be prepared by a qualified professional and would summarize existing conditions and the effects of project improvements, and would include all appropriate calculations, a watershed map, changes in downstream flows and flood elevations, proposed on- and off-site improvements, features to protect downstream uses, and property and drainage easements to accommodate downstream flows from the site. Project drainage features would be designed to protect existing downstream flow conditions that would result in new or increased severity of offsite flooding.

- Establish drainage performance criteria for off-site drainage, in consultation with county engineering staff, such that project-related drainage is consistent with applicable facility designs, discharge rates, erosion protection, and routing to drainage channels, which could be accomplished by, but is not limited to: (a) minimizing directly connected impervious areas; (b) maximizing permeability of the site; and, (c) stormwater quality controls such as infiltration, detention/retention, and/or biofilters; and basins, swales, and pipes in the system design.

- The project proponent would design and construct new facilities to provide appropriate flood protection such that operations are not adversely affected by flooding and inundation. These designs would be approved by the local or State land use agency. The project proponent would also consult with the appropriate flood control authority on the design of offsite stream crossings such that the minimum elevations are above the predicted surface-water elevation at the agency's designated design peak flows. Drainage and flood prevention features shall be inspected and maintained on a routine schedule specified in the facility plans, and as specified by the county authority.

- As part of subsequent project-level planning and environmental review, the project proponent shall coordinate with the local groundwater management authority and prepare a detailed hydrogeological analysis of the potential project-related effects on groundwater resources prior to issuance of any permits. The proponent shall mitigate for identified adverse changes to groundwater by incorporating technically achievable and feasible modifications into the project to avoid offsite groundwater level reductions, use alternative technologies or changes to water supply operations, or otherwise compensate or offset the groundwater reductions.

Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if it approves these potential projects.

Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation conditions imposed by land use and/or permitting agency acting as lead agencies under CEQA, if and when a project applicant seeks a permit for compliance-response related project, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that short-term construction-related impacts to hydrology and water quality associated with the Proposed Project would remain **potentially significant and unavoidable** as identified in the State SIP Strategy EA.

Impact 10-2: Long-Term Operation-Related Effects to Hydrology and Water Quality

Reasonably foreseeable compliance responses to the Proposed Project include operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or modified recycling or refurbishment facilities to accommodate battery disposal;

and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA included increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

The operation of new plants, stations, and modifications would be required to comply with applicable erosion, water quality standards, and waste discharge requirements (e.g., NPDES, SWPPP). Operation of these facilities would not require additional ground disturbance beyond that already disturbed during construction. With respect to depleting groundwater supplies, new facilities are not anticipated to result in substantial demands due to the nature of associated activities.

Under the Proposed Project, the demand for oil and gas extraction activities could also decrease. Oil and gas extraction can produce substantial adverse effects to hydrology. For instance, fracking requires the use of millions of liters of water and consequently millions of liters of wastewater, which can contaminate groundwater with toxic chemical compounds (European Parliament 2012). As on June 2015, U.S. EPA had identified 1,173 known chemicals used in the fracking industry. Additionally, accidental release of oil or gas and related wastewater (e.g., spills from pipelines or trucks, leakage from wastewater ponds or tanks) can introduce toxicants, radionuclides, and dissolved metals, and affect the salinity of local drinking water supplies (Environmental Health Perspectives 2016). Through implementation of the Proposed Project, the aforementioned effects to hydrologic resources would be reduced as zero-emission TRUs displace internal combustion engine-powered TRUs. As a result, adverse hydrologic effects associated with oil and gas extraction would be decreased through implementation of the Proposed Project.

Implementation of the Proposed Project would result in increased demand for lithium-ion batteries, which would accelerate the market for mined lithium. Mining of hard rock would require the use of conventional mining practices including the creation of underground mines and open pits, which would result in the removal of organic material (e.g., bedrock, vegetation). Additionally, lithium can be collected from continental brines found in basins. Salty groundwater is pumped into lagoons where it undergoes evaporation, producing salts containing lithium compounds. This process could result in overdrafting of groundwater.

Extraction of lithium has substantial effects on water quality. Due to its high reactivity, lithium is found bound to other elements. To process lithium, toxic chemicals must be used which can cause water pollution through leaching and spills. Further, lithium mining from continental brines is a water-intensive process, which, as mining typically occurs in

arid landscapes, could result in the depletion of available for water resources (Friends of the Earth 2013).

Mineral extraction and mining activities within the U.S. would be required to comply with the provisions of the Clean Water Act and the natural resource protection and land reclamation requirements of the appropriate State and federal land managers. For instance, the federal Bureau of Land Management (BLM) and U.S. Forest Service mining permit conditions contain protections for hydrologic resources and require mining reclamation standards. However, lithium is obtained from areas outside of the United States, where State and U.S laws and regulations are not enforced. Thus, water quality impacts related to mining could occur because of implementation of the reasonably foreseeable compliance responses associated with the Proposed Project.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Project would be similar to those identified and evaluated in the State SIP Strategy EA. Although the State SIP Strategy did not specifically discuss, for example, the use of cold plates, the impact of associated compliance responses would be similar. Cold plate technology could result in operation of fueling infrastructure within existing facilities, which would have impacts similar to operation of facilities as discussed in the State SIP Strategy EA. Thus, long-term operational impacts on hydrology and water quality would be potentially significant as identified in the State SIP Strategy EA.

Once an applicant actually develops the proposed plans for the development, lead agency will have adequate information from which it can determine project-specific, long-term operational impacts on hydrology and water quality associated with these potential compliance-response development projects. Once the lead agency identifies these project impacts, it can likely reduce them to a less-than-significant level by adopting feasible mitigation at the time of project approval. Notwithstanding this uncertainty of the impacts due to the equally uncertain nature and scope of potential compliance-response development projects, for the sake of full transparency, CARB identified mitigation in the State SIP Strategy EA, noted below, that lead agencies can and should consider for mitigation of any long-term operational impacts on hydrology and water quality from these future projects. Since implementation and enforcement of this mitigation measure is beyond the authority of CARB, however, CARB finds it legally infeasible to adopt and implement this measure on its own.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 10-2a: Implement State SIP Strategy EA Mitigation Measure 10-1

Full text of measure previously provided.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 10-2b: Implement State SIP Strategy EA Mitigation Measure 10-2

The Regulatory Setting in Attachment A includes applicable laws and regulations that provide protection of hydrology and water quality. CARB does not have the authority to require implementation of mitigation related to new or modified facilities that would

be approved by local jurisdictions. The ability to require such measures is under the purview of jurisdictions with local or State land use approval and/or permitting authority. New or modified facilities in California would most likely qualify as a "project" under CEQA. The jurisdiction with primary approval authority over a proposed action is the Lead Agency, which is required to review the proposed action for compliance with CEQA statutes. Project-specific impacts and mitigation would be identified during the environmental review by agencies with project-approval authority. Recognized practices that are routinely required to avoid and/or minimize impacts to hydrology and water quality:

- Identify and avoid areas with unstable slopes and local factors that can cause slope instability (groundwater conditions, precipitation, seismic activity, slope angles, and geologic structure).
- Identify soil properties, engineering constraints, and facility design criteria.
- Develop a site grading and management plan to identify areas of disturbance, areas of cut and fill, slope during and after grading, existing vegetation, and measures to protect slope, drainages, and existing vegetation in the project area.
- Develop an erosion control plan to delineate measures to minimize soil loss and reduce sedimentation to protect water quality.
- Design runoff control features to minimize soil erosion.
- Construct drainage ditches only where necessary.
- Use appropriate structures at culvert outlets to prevent erosion.

Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if it approves these potential projects.

Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation conditions imposed by land use and/or permitting agency acting as lead agencies under CEQA, if and when a project applicant seeks a permit for compliance-response related project, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that long-term operational impacts to hydrology and water quality associated with the Proposed Project would be **potentially significant and unavoidable**.

11. Land Use Planning

Impact 11-1: Short-Term Construction-Related and Long-Term Operation-Related Impacts on Land Use and Planning

Reasonably foreseeable compliance responses to the Proposed Project include construction of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); the construction of supporting infrastructure, such as electric chargers and fueling stations; and construction of new or modified recycling or refurbishment facilities to accommodate battery disposal.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA included increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Impact 11-1 of the State SIP Strategy EA addresses effects on land use and planning. This impact discusses the potential for an intensification of adverse effects associated with the conversion or modification of natural lands or of existing agriculture to developed uses, such as impacts on sensitive species populations; soil carbon content; annual carbon sequestration losses, depending on the land use; long-term erosion effects; and adverse effects on local or regional water resources. While the State SIP Strategy EA does not specifically address cold plates fueling installation as a compliance response, fueling infrastructure would be located within areas that are already disturbed. Planning efforts associated with the implementation of compliance responses would be made in coordination with local, State, or federal jurisdictions. Thus, reasonably foreseeable compliance responses would not be anticipated to conflict with a land use or conservation plan.

The environmental consequences of land use changes are considered in their respective sections of this ~~Draft~~Final Supplemental EA. Potential indirect environmental impacts associated with land use change on agriculture and forestry, biology, geology and soils, and hydrology and their related mitigation measures are discussed in further detail under Impacts 2-1, 2-2, 4-1, 4-2, and 10-1.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Project would be the same as those identified and evaluated in the State SIP Strategy EA. Thus, short-term construction-related and long-term operational impacts on land use and planning would be **less than significant** as identified in the State SIP Strategy EA.

12 Mineral Resources

Impact 12-1: Short-Term Construction-Related Effects to Mineral Resources

Reasonably foreseeable compliance responses to the Proposed Project include construction of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); the construction of supporting infrastructure, such as electric chargers and fueling stations; and construction of new or modified recycling or refurbishment facilities to accommodate battery disposal.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA included increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

As discussed in the State SIP Strategy EA Impact 12-1, increased demand for zero-emissions technologies would result in increased construction of new manufacturing plants that specialize in the production of batteries and supporting infrastructure. These types of development would occur in areas where zoning considerations included the availability of mineral resources within the project site. Thus, the availability of known mineral resources would not be lost due to implementation of the Proposed Project.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Project would be similar to those identified and evaluated in the State SIP Strategy EA. While the State SIP Strategy EA does not specifically address cold plates fueling installation as a compliance response, fueling infrastructure would be located within areas that are already disturbed and also would not affect availability of mineral resources. Thus, short-term construction-related impacts on mineral resources would be less than significant as identified in the State SIP Strategy EA.

Impact 12-2: Long-Term Operation-Related Effects to Mineral Resources

Reasonably foreseeable compliance responses to the Proposed Project include operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

Increased demand for lithium batteries could increase production, along with associated increases in lithium mining and exports from source countries or other states. This could result in increased rates of disposal of lithium batteries; however, disposal if such items into landfills is prohibited (Title 22 CCR Chapter 23). As such, lithium batteries could be refurbished or re-used. To meet an increased demand of refurbishing or reusing batteries, new facilities, or modifications to existing facilities, could be constructed to accommodate recycling activities. Fleet turnover largely would be unaffected since the regulation is based on changes at time of normal TRU purchase or contract renewal.

The operation of new plants, stations, and modifications would be required to comply with applicable erosion, water quality standards, and waste discharge requirements (e.g., NPDES, SWPPP). Operation of these facilities would not require additional ground disturbance beyond that already disturbed during construction. With respect to depleting groundwater supplies, new facilities are not anticipated to result in substantial demands due to the nature of associated activities.

Long-term operational compliance responses associated with the Proposed Project include increased mining and processing of rare materials (e.g., lithium) used in batteries. Depending on the magnitude of required materials, implementation of the Proposed Project could affect the availability of known minerals.

The State SIP Strategy EA discussed impacts related to lithium mining. An updated discussion is provided here to include information about lithium mining that has developed since the State SIP Strategy EA. Additionally, analysis is provided for compliance responses not evaluated in the State SIP Strategy EA. The demand for additional mining to meet increased use of batteries could result in the development of new mines and mining of lithium. For the purposes of this document, it would be too speculative to determine if, when, and where a new mine may be located. In the case that new mines are required, they would go through independent environmental review at the appropriate federal, state, or local level (see Attachment A for more information). It is assumed, for the purposes of this analysis that any new mines located within the U.S. or the State would be in areas with appropriate zoning, and subject to Federal, State, and/or local requirements.

Batteries associated with zero-emission TRU technology are primarily lithium-based. Generally, other types of battery options, such as nickel-metal hydride are not as favorable due to challenges related to high cost, high self-discharge, and heat generation at high temperatures. Thus, it is assumed that mineral resource requirements associated with implementation of recommended measures in the Proposed Project would be tied to lithium resources and other lithium-ion battery-related metals (i.e., cobalt).

As of January 2020, the only domestic lithium mine in operation in the United States is a brine operation in Nevada. However, there are current initiatives at the State and federal level that are likely to influence lithium mining domestically, which includes efforts in California. Two companies produced a wide range of downstream lithium compounds in

the United States from domestic or imported lithium carbonate, lithium chloride, and lithium hydroxide. Although lithium markets vary by location, global end-use markets are estimated as follows: batteries, 65 percent; ceramics and glass, 18 percent; lubricating greases, 5 percent; polymer production, 3 percent; continuous casting mold flux powders, 3 percent; air treatment, 1 percent; and other uses, 5 percent. Lithium consumption for batteries has increased significantly in recent years because rechargeable lithium batteries are used extensively in the growing market for portable electronic devices and increasingly are used in electric tools, electric vehicles, and grid storage applications. Lithium minerals were used directly as ore concentrates in ceramics and glass applications.

One domestic company has recycled lithium metal and lithium-ion batteries since 1992 at its facility in British Columbia, Canada. In 2015, the company began operating the first U.S. recycling facility for lithium-ion vehicle batteries in Lancaster, Ohio. From 2016 to 2019, the United States imported lithium from Argentina (55 percent), Chile (36 percent), China (5 percent), Russia (2 percent), and others (2 percent) (USGS 2021).

Table 4.B-7: Lithium Mine Production and Reserves[1]

Country	Mine Production in 2019 (Tons)	Mine Production in 2020 (Tons)	Reserve Amount (Tons)
United States	W[2]	W[2]	750,000
Argentina	6,300	6,200	1,900,000
Australia	45,000	40,000	4,700,000
Brazil	2,400	1,900	95,000
Canada	200	—	530,000
Chile	19,300	18,000	9,200,000
China	10,800	14,000	1,500,000
Portugal	900	900	60,000
Zimbabwe	1,200	1,200	220,000
Other	—	—	2,100,000
Worldwide Total (rounded and excluding US production)	86,000	82,000	21,000,000

Source: USGS 2021.

Owing to continuing exploration, identified lithium resources have increased substantially worldwide. Worldwide in 2020, lithium resources are currently estimated to be approximately 82 million tons, including 6.2 million tons in Argentina, 21 million tons in Bolivia, 9.6 million tons in Chile, 6.4 million tons in Australia, 5.1 million tons in China, 3 million tons in the Congo, 2.9 million tons in Canada, 1.7 million tons in Mexico, 1.3 million tons in Czechia, and 1.2 million tons in Serbia. In addition, Peru, Mali, Zimbabwe, Brazil, Spain, Portugal, Ghana, Austria, Finland, Kazakhstan, and Namibia have resources of less than one million each. Further, due to steadily increasing demand for lithium, domestic recycling of lithium has also increased (USGS 2021).

As mentioned, there are efforts to increase domestic supply of lithium. Efforts to address supply chains of mineral commodities has gained substantial interest from the State and

federal government, both of which have sought to address mineral independence and security. Examples of efforts include AB 1657 (Garcia), Chapter 271, 2020, which requires the California Energy Commission (CEC) to convene a Blue-Ribbon Commission on Lithium Extraction in California (Lithium Valley Commission) on or before March 1, 2021. The Lithium Valley Commission is charged with reviewing, investigating, and analyzing issues and potential incentives regarding lithium extraction and use in California. This effort includes consultation with the U.S. EPA and the U.S. Department of Energy in performing these tasks. The statute requires the Lithium Valley Commission to submit, on or before October 1, 2022, a report to the Legislature documenting its findings and recommendations. Additionally, the CEC awarded $16 million in grant funding to private companies to investigate feasibility of lithium extraction at Salton Sea geothermal plants. One of the companies is using funding on a pilot project and anticipates constructing a demonstration plant (Cart 2021).

At the federal level, Executive Order (EO) 14017 (86 FR 11849, February 24, 2021) directed federal agencies to perform a 100-day review of "supply chain risks" for four classes of products, which includes high-capacity batteries, including for electric vehicles, as well as critical and strategic minerals, including rare earths, which shall also update work completed pursuant to EO 13953. The EO additionally directs agencies to perform year-long reviews of supply chains in six critical sectors, which includes transportation and energy. The reviews will seek to identify supply chain risks that leave the United States vulnerable to reductions in the availability and integrity of critical goods, products, and services, and will include policy recommendations for address such risks. The EO indicates that, among other approaches, the current administration will explore how trade policies and agreements can be used to strengthen the resilience of U.S. supply chains.

In summary, while substantial research has been done and there is a clear commitment to increasing domestic supply of lithium, exact actions that will be taken in response to this goal of increasing domestic supply of lithium are yet to be identified with certainty.

While lithium-ion batteries are not reliant on the use of the metal cobalt, other consumer products such as laptops, cell phones, and other electronics use cobalt as a battery component. Cobalt is comparatively rarer than lithium. As such, increased demand for lithium-ion cobalt containing batteries has risen in recent years. As a result, the rate of recycling lithium constituents has also increased.

Appendix G of the CEQA Guidelines considers an impact on mineral resources to be the loss of availability of a known mineral resource that would be of value to a local entity, a region, or the state. This type of impact could result from actions such as building a structure over an area that contains mineral resources, thereby prohibiting access to mining activities. As discussed above, buildings developed in response to implementation of the Proposed Project would be located in areas within existing footprints or in areas with consistent zoning where original permitting and analyses considered these issues. Implementation of the proposed project and associated compliance responses could result in increased mining for lithium and PGMs but would

not affect the economic potential related to known mineral resources. However, the Proposed Amendments may increase lithium mining, which would also contribute to the loss of availability of lithium as it is mined and consumed.

While the State SIP Strategy EA does not specifically address cold plates fueling installation as a compliance response, fueling infrastructure would be located within areas that are already disturbed and also would not affect availability of mineral resources.

Thus, long-term operation-related mineral resources effects associated with the Proposed Project would be **potentially significant**.

Once an applicant actually develops the proposed plans for the development, the lead agency will have adequate information from which it can determine project-specific, long-term operation-related mineral resource impacts associated with these potential compliance-response development projects. Once the lead agency identifies these project impacts, it can likely reduce them to a less-than-significant level by adopting feasible mitigation at the time of project approval. Notwithstanding this uncertainty of the impacts due to the equally uncertain nature and scope of potential compliance-response development projects, for the sake of full transparency, CARB identified mitigation, noted below, that lead agencies can and should consider for mitigation of any long-term operation-related mineral resource impacts from these future projects. Since implementation and enforcement of this mitigation measure is beyond the authority of CARB, however, CARB finds it legally infeasible to adopt and implement this measure on its own.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 12-2

The Regulatory Setting in Attachment A includes applicable laws and regulations that provide protection of mineral resources. CARB does not have the authority to require implementation of mitigation related to new or modified infrastructure that would be approved by local jurisdictions. The ability to require such measures is under the purview of jurisdictions with local or State land use approval and/or permitting authority. New or modified infrastructure in California would most likely qualify as a "project" under CEQA. The jurisdiction with primary approval authority over a proposed action is the Lead Agency, which is required to review the proposed action for compliance with CEQA statutes. Project-specific impacts and mitigation measures may be identified during the environmental review by agencies with project-approval authority. Recognized practices that are routinely required to avoid and/or minimize impacts to mineral resources include:

- Proponents of construction activities implemented because of reasonably foreseeable compliance responses associated with the Proposed Amendments would coordinate with State or local land use agencies to seek entitlements for development including the completion of all necessary environmental review requirements (e.g., CEQA). The local or State land use agency or governing body

must follow all applicable environmental regulations as part of approval of a project for development.

- Based on the results of the environmental review, proponents will implement all feasible mitigation to reduce or substantially lessen the potentially significant impacts on mineral resources associated with the project.

- Actions required to mitigate potentially significant mineral resource impacts may include the following; however, any mitigation specifically required for a new or modified facility would be determined by the lead agency.

    - Prior to the issuance of any development permits, proponents of new or modified infrastructure will prepare an investigation/study, which will include an evaluation of the development's impact on the availability of mineral resources valuable to the region and residents of the State or delineated on a local general plan, specific plan, or other land use plan.

    - Proponents of new or modified infrastructure will provide a complete site plan showing any overlapping areas between the proposed plan and locally important mineral resources delineated on a local general plan, specific plan, or other land use plan. Proponents will avoid locating infrastructure that would result in the loss of availability of locally important mineral resources, as much as possible.

Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if it approves these potential projects.

Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation conditions imposed by land use and/or permitting agency acting as lead agencies under CEQA, if and when a project applicant seeks a permit for compliance-response related project, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that long-term operational impacts to mineral resources associated with the Proposed Project would remain **potentially significant and unavoidable**.

13. Noise

Impact 13-1: Short-Term Construction-Related Noise Effects

Reasonably foreseeable compliance responses to the Proposed Project include construction of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, fuels, cold plates, solar photovoltaics); the

construction of supporting infrastructure, such as electric chargers and fueling stations; and construction of new or modified recycling or refurbishment facilities to accommodate battery disposal.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA included increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Impact 13-1 of the State SIP Strategy EA describes the potential noise effects associated with construction of new facilities. As discussed in this impact, the effects of construction noise largely depend on the type of construction activities occurring on any given day, noise levels generated by those activities, distances to noise sensitive receptors, and the existing ambient noise environment in the receptor's vicinity. Construction generally occurs in several discrete stages, each phase requiring a specific complement of equipment with varying equipment type, quantity, and intensity. These variations in the operational characteristics of the equipment change the effect they have on the noise environment of the project site and in the surrounding community for the duration of the construction process.

As further discussed in Impact 13-1 of the State SIP Strategy EA, the site preparation phase typically generates the most substantial noise levels because of the on-site equipment associated with grading, compacting, and excavation, which uses the noisiest types of construction equipment. Site preparation equipment and activities include backhoes, bulldozers, loaders, and excavation equipment (e.g., graders and scrapers). Construction of large structural elements and mechanical systems could require the use of a crane for placement and assembly tasks, which may also generate noise levels. Although a detailed construction equipment list is not currently available, based on this project type it is expected that the primary sources of noise would include backhoes, bulldozers, and excavators. Noise emission levels from typical types of construction equipment can range from approximately 74 to 94 A-weighted decibels (dBA) at 50 feet. Based on these and general attenuation rates, exterior noise levels at noise-sensitive receptors located within thousands of feet from project sites could exceed typical standards (e.g., 50/60 dBA equivalent noise level/maximum noise level (L_{eq}/L_{max}) during the daytime hours and 40/50 dBA L_{eq}/L_{max} during the nighttime hours).

Impact 13-1 of the State SIP Strategy EA goes on to describe how construction activities may result in varying degrees of temporary groundborne noise and vibration, depending on the specific construction equipment used and activities involved. Groundborne noise and vibration levels caused by various types of construction equipment and activities (e.g., bulldozers, blasting) range from 58 to 109 vibration decibels (VdB) and from 0.003 to 0.089 inch per second (in/sec) peak particle velocity (PPV) at 25 feet. Similar to the above discussion, although a detailed construction equipment list is not currently available, based on this project type it is expected that

the primary sources of groundborne vibration and noise would include bulldozers and trucks. According to the Federal Transit Administration (FTA), levels associated with the use of a large bulldozer and trucks are 0.089 and 0.076 in/sec PPV (87 and 86 VdB) at 25 feet, respectively. With respect to the prevention of structural damage, construction-related activities would not exceed recommended levels (e.g., 0.2 in/sec PPV). However, based on FTA's recommended procedure for applying a propagation adjustment to these reference levels, bulldozing and truck activities could exceed recommended levels with respect to the prevention of human disturbance (e.g., 80 VdB) within 275 feet.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Project would be similar to those identified and evaluated in the State SIP Strategy EA. While the State SIP Strategy EA does not specifically address cold plates fueling installation as a compliance response, fueling infrastructure would be located within areas that are already used for similar purposes and are unlikely to have sensitive receptors nearby. Thus, short-term construction-related impacts on noise would be potentially significant as identified in the State SIP Strategy EA.

Once an applicant actually develops the proposed plans for the development, the lead agency will have adequate information from which it can determine project-specific, short-term construction-related noise impacts associated with these potential compliance-response development projects. Once the lead agency identifies these project impacts, it can likely reduce them to a less-than-significant level by adopting feasible mitigation at the time of project approval. Notwithstanding this uncertainty of the impacts due to the equally uncertain nature and scope of potential compliance-response development projects, for the sake of full transparency, CARB identified mitigation in the State SIP Strategy EA, noted below, that lead agencies can and should consider for mitigation of any agriculture and forestry impacts from these future projects. Because implementation and enforcement of this mitigation measure is beyond the authority of CARB, however, CARB finds it legally infeasible to adopt and implement this measure on its own.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 13-1: Implement State SIP Strategy EA Mitigation Measure 13-1

The Regulatory Setting in Attachment A includes, but is not limited to, applicable laws and regulations that pertain to noise. CARB does not have the authority to require implementation of mitigation related to new or modified facilities that could be approved by local jurisdictions. The ability to require such measures is under the purview of jurisdictions with local or State land use approval and/or permitting authority. New or modified facilities in California would most likely qualify as a "project" under CEQA. The jurisdiction with primary approval authority over a proposed action is the Lead Agency, which is required to review the proposed action for compliance with CEQA statutes. Project-specific impacts and mitigation would be identified during the environmental review by agencies with project-approval authority. Recognized practices that are routinely required to avoid and/or minimize noise include:

- Proponents of new or modified facilities or infrastructure constructed as a result of reasonably foreseeable compliance responses would coordinate with State or local land use agencies to seek entitlements for development including the completion of all necessary environmental review requirements (e.g., CEQA). The local or State land use agency or governing body must follow all applicable environmental regulations as part of approval of a project for development.

- Based on the results of the environmental review, proponents would implement all feasible mitigation to reduce or substantially lessen the potentially significant noise and vibration impacts of the project. Actions required to mitigate potentially significant noise impacts may include the following; however, any mitigation specifically required for a new or modified facility would be determined by the lead agency.

    - Ensure noise-generating construction activities (including truck deliveries, pile driving, and blasting) are limited to the least noise-sensitive times of day (e.g., weekdays during the daytime hours) for projects near sensitive receptors.

    - Consider use of noise barriers, such as berms, to limit ambient noise at property lines, especially where sensitive receptors may be present.

    - Ensure all project equipment has sound-control devices no less effective than those provided on the original equipment.

    - All construction equipment used would be adequately muffled and maintained.

    - Consider use of battery-powered forklifts and other facility vehicles.

    - Ensure all stationary construction equipment (i.e., compressors, generators) is located as far as practicable from nearby sensitive receptors or shielded.

    - Properly maintain mufflers, brakes and all loose items on construction and operation related vehicles to minimize noise and address operational safety issues. Keep truck operations to the quietest operating speeds. Advise about downshifting and vehicle operations in sensitive communities to keep truck noise to a minimum.

    - Use noise controls on standard construction equipment; shield impact tools.

    - Consider use of flashing lights instead of audible back-up alarms on mobile equipment.

- Install mufflers on air coolers and exhaust stacks of all diesel and gas-driven engines.
- Equip all emergency pressure relief valves and steam blow-down lines with silencers to limit noise levels.
- Contain facilities within buildings or other types of effective noise enclosures.
- Employ engineering controls, including sound-insulated equipment and control rooms, to reduce the average noise level in normal work areas.

Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if it approves these potential projects.

Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation conditions imposed by land use and/or permitting agency acting as lead agencies under CEQA, if and when a project applicant seeks a permit for a compliance-response related project, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that short-term construction-related impacts to noise associated with the Proposed Project would remain **potentially significant and unavoidable** as identified in the State SIP Strategy EA.

Impact 13-2: Long-Term Operation-Related Noise Effects

Reasonably foreseeable compliance responses to the Proposed Project include operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA included increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

As described in the State SIP Strategy EA Impact 13-2, new sources of noise could be associated with manufacturing plants and lithium mining operations (e.g., excavation equipment). However, it would be expected that expansion of existing mines would not involve sensitive receptors given that mines typically are located in areas zoned for such uses. While it would be anticipated that new lithium mines initiated as a compliance response to the State SIP Strategy would be located in areas of consistent zoning and therefore not in close proximity to sensitive receptors, the exact locations are not known at this time.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Project would be similar to those identified and evaluated in the State SIP Strategy EA. While the State SIP Strategy EA does not specifically address cold plates fueling installation as a compliance response, fueling infrastructure would be located within areas that are already disturbed and also would not appreciably affect the noise environment. Thus, long-term operational impacts on noise would be potentially significant as identified in the State SIP Strategy EA.

Once an applicant actually develops the proposed plans for the development, the lead agency will have adequate information from which it can determine project-specific, long-term operational noise impacts associated with these potential compliance-response development projects. Once the lead agency identifies these project impacts, it can likely reduce them to a less-than-significant level by adopting feasible mitigation at the time of project approval. Notwithstanding this uncertainty of the impacts due to the equally uncertain nature and scope of potential compliance-response development projects, for the sake of full transparency, CARB identified mitigation in the State SIP Strategy EA, noted below, that lead agencies can and should consider for mitigation of any agriculture and forestry impacts from these future projects. Since implementation and enforcement of this mitigation measure is beyond the authority of CARB, however, CARB finds it legally infeasible to adopt and implement this measure on its own.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 13-2: Implement State SIP Strategy EA Mitigation Measure 13-1

Full text of measure previously provided.

Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if it approves these potential projects.

Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation conditions imposed by land use and/or permitting agency acting as lead agencies under CEQA, if and when a project applicant seeks a permit for

compliance-response related project, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that long-term operational impacts to noise associated with the Proposed Project would remain **potentially significant and unavoidable** as identified in the State SIP Strategy EA.

14. Population and Housing

Impact 14-1: Short-Term Construction-Related and Long-Term Operation-Related Effects to Population and Housing

Reasonably foreseeable compliance responses to the Proposed Project include construction of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); the construction of supporting infrastructure, such as electric chargers and fueling stations; and construction of new or modified recycling or refurbishment facilities to accommodate battery disposal.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA included increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Impact 14-1 of the State SIP Strategy EA describes the potential to affect population and housing due to the demand for construction and operation of new facilities. As described in this impact, there is uncertainty as to the exact location or character of any new facilities. Construction activities would be anticipated to require relatively small crews, and demand for these crews would be temporary (e.g., 6 to 12 months per project). Therefore, it is anticipated that there would not be a need for substantial numbers of construction workers to relocate and that a sufficient construction employment base would likely be available.

As further described under State SIP Strategy EA Impact 14-1, operation of new facilities and lithium mines would generate varying levels of employment opportunity. The numbers of jobs produced would be directly related to the size, capacity, and, in some cases, commodity manufactured. This range could be between twenty (e.g., small feedstock processing facility) to several thousand (e.g., Tesla Gigafactory); however, it would be expected that locations of these facilities would be selected such that an appropriate employment base existed to support operation or where local jurisdictions have planned for increased population and employment growth.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Project would be similar to those identified and evaluated in the State SIP Strategy EA. While the State SIP Strategy EA does not specifically address cold plates fueling installation as a compliance response,

fueling infrastructure would be located within areas that are already used for similar activities, would not need a substantial number of new employees, and could be served by the existing workforce. Thus, short-term construction-related and long-term operational impacts on population and housing would be **less than significant** as identified in the State SIP Strategy EA.

15. Public Services

Impact 15-1: Short-Term Construction-Related and Long-Term Operation-Related Effects to Public Services

Reasonably foreseeable compliance responses to the Proposed Project include construction of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); the construction of supporting infrastructure, such as electric chargers and fueling stations; and construction of new or modified recycling or refurbishment facilities to accommodate battery disposal.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA included increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

As discussed in Impact 15-1 of the State SIP Strategy EA, facilities associated with the Proposed Project would likely be located in areas with zoning that would permit the development of manufacturing or industrial uses. Construction activities would be anticipated to require relatively small crews, and demand for these crews would be temporary (e.g., 6 to 12 months per project). Therefore, it is anticipated that there would not be a need for substantial numbers of construction workers to relocate and that a sufficient construction employment base would likely be available. Furthermore, operation of plants, mines, and facilities would provide a range of employment opportunities depending on size and capacity. While implementation of the State SIP Strategy, including the Proposed Project, would produce long-term employment, it would be anticipated that a sufficient employment base would be available. Thus, operational activities would not require a substantial amount of new additional housing to accommodate new populations or generate changes in land use and, therefore, would not be expected to increase population levels such that the provisions of public services would be substantially affected.

Thus, the types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Project would be similar to those identified and evaluated in the State SIP Strategy EA. While the State SIP Strategy EA does not specifically address cold plates fueling installation as a compliance response, fueling infrastructure would be located within areas that are already used for similar activities, would not result in a need for new or expanded public services. Thus,

short-term construction-related and long-term operational impacts on public services would be **less than significant** as identified in the State SIP Strategy EA.

16.Recreation

Impact 16-1: Short-Term Construction-Related and Long-Term Operation-Related Effects to Recreation

Reasonably foreseeable compliance responses to the Proposed Project include construction of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); the construction of supporting infrastructure, such as electric chargers and fueling stations; and construction of new or modified recycling or refurbishment facilities to accommodate battery disposal.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA included increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

As discussed in Impact 14-1, "Short-Term Construction-Related and Long-Term Operational Effects on Population and Housing," in the State SIP Strategy EA, operation of plants, mines, and facilities would provide a range of employment opportunity depending on size and capacity. While implementation of State SIP Strategy, including the Proposed Project, would produce long-term employment, it would be anticipated that a sufficient employment base would be available. The minimal increase in employment opportunity would not create an increased demand on recreational facilities within communities containing new plants and facilities, as described in Impact 16-1 of the State SIP Strategy EA.

Thus, the types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Project would be the same as those identified and evaluated in the State SIP Strategy EA. While the State SIP Strategy EA does not specifically address cold plates fueling installation as a compliance response, fueling infrastructure would be located within areas that are already used for similar activities, would not need a substantial number of new employees, and could be served by the existing workforce, avoiding any increase in demand for recreational facilities. Thus, short-term construction-related and long-term operational impacts on recreation resources would be **less than significant** as identified in the State SIP Strategy EA.

17.Transportation

Impact 17-1: Short-Term Construction-Related Effects to Transportation

Reasonably foreseeable compliance responses to the Proposed Project include construction of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar

photovoltaics); the construction of supporting infrastructure, such as electric chargers and fueling stations; and construction of new or modified recycling or refurbishment facilities to accommodate battery disposal.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA included increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Section 15064.3 was added to the State CEQA Guidelines effective December 28, 2018, after certification of the State SIP Strategy EA. The section addresses the determination of significance for transportation impacts, which requires that the analysis be based on vehicle miles travelled (VMT) instead of a congestion metric (such as levels of service [LOS]). The change in the focus of transportation analysis is the result of legislation (SB 743, Statutes of 2013) and is intended to change the focus from congestion to, among other things, reduction in GHG emissions, encouraging mixed use development, and other factors. Pursuant to State CEQA Guidelines Section 15064.3(c), this change in analysis may be implemented now and is mandated to be addressed beginning July 1, 2020.

SB 743 requirements are designed to be most relevant to urban travel related to residential and employment-generating land uses. State CEQA Guidelines Section 15064.3(b) identifies criteria for analyzing the transportation impacts of a project, including land use projects (Section 15064.3[b][1]) and transportation projects (Section 15064.3[b][2]). As discussed under Impact 14-1, construction activities would be anticipated to require relatively small crews, and demand for these crews would be temporary (e.g., 6 to 12 months per project) and would not result in unplanned population growth. Therefore, while implementation of the Proposed Project includes development and operation of new facilities, short-term construction would not drive development of urban areas, residential development, major employment generation, or transportation projects. Thus, increased VMT from construction-related activities would not be substantial and would be short-term.

Impact 17-1 of the State SIP Strategy EA described the short-term construction-related impacts on transportation. As discussed in this impact analysis, although detailed information about potential specific construction activities is not currently available, it would be anticipated to result in short-term construction traffic (primarily motorized) from worker commute- and material delivery-related trips. The amount of construction activity would vary depending on the particular type, number, and duration of usage for the varying equipment, and the phase of construction. These variations would affect the amount of project-generated traffic for both worker commute trips and material deliveries. Depending on the number of trip generation and the location of new facilities, implementation could conflict with applicable programs, plans, ordinances, or policies (e.g., performance standards, congestion management); and/or result in

hazardous design features and emergency access issues from road closures, detours, and obstruction of emergency vehicle movement, especially due to project-generated heavy-duty truck trips.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Project would be the same as those identified and evaluated in the State SIP Strategy EA. While the State SIP Strategy EA does not specifically address cold plates fueling installation as a compliance response, installation of fueling infrastructure would not generate a substantial number of trips. Thus, short-term construction-related impacts on transportation would be potentially significant as identified in the State SIP Strategy EA.

Once an applicant actually develops the proposed plans for the development, the lead agency will have adequate information from which it can determine project-specific, short-term construction-related impacts on transportation associated with these potential compliance-response development projects. Once the lead agency identifies these project impacts, it can likely reduce them to a less-than-significant level by adopting feasible mitigation at the time of project approval. Notwithstanding this uncertainty of the impacts due to the equally uncertain nature and scope of potential compliance-response development projects, for the sake of full transparency, CARB identified mitigation in the State SIP Strategy EA, noted below, that lead agencies can and should consider for mitigation of any agriculture and forestry impacts from these future projects. Since implementation and enforcement of this mitigation measure is beyond the authority of CARB, however, CARB finds it legally infeasible to adopt and implement this measure on its own.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 17-1: Implement State SIP Strategy EA Mitigation Measure 17-1

The Regulatory Setting in Attachment A includes applicable laws and regulations regarding transportation. CARB does not have the authority to require implementation of mitigation related to new or modified facilities that would be approved by local jurisdictions. The ability to require such measures is under the purview of jurisdictions with local or State land use approval and/or permitting authority. New or modified facilities in California would most likely qualify as a "project" under CEQA. The jurisdiction with primary approval authority over a proposed action is the Lead Agency, which is required to review the proposed action for compliance with CEQA statutes. Project-specific impacts and mitigation would be identified during the environmental review by agencies with project-approval authority. Recognized practices that are routinely required to avoid and/or minimize construction traffic impacts include:

- Proponents of new or modified facilities or infrastructure constructed as a result of reasonably foreseeable compliance responses would coordinate with State or local land use agencies to seek entitlements for development including the completion of all necessary environmental review requirements (e.g., CEQA). The local or State land use agency or governing body must follow all applicable environmental regulations as part of approval of a project for development.

- Based on the results of the environmental review, proponents would implement all feasible mitigation to reduce or substantially lessen the potentially significant transportation impacts of the project. Actions required to mitigate potentially significant traffic impacts may include the following; however, any mitigation specifically required for a new or modified facility would be determined by the lead agency.

    - Minimize the number and length of access, internal, service, and maintenance roads and use existing roads when feasible.

    - Provide for safe ingress and egress to/from the proposed project site. Identify road design requirements for any proposed roads, and related road improvements.

    - If new roads are necessary, prepare a road siting plan and consult standards contained in federal, State, or local requirements. The plans should include design and construction protocols to meet the appropriate roadway standards and be no larger than necessary to accommodate their intended functions (e.g., traffic volume and weight of vehicles). Access roads should be located to avoid or minimize impacts to washes and stream crossings, follow natural contours and minimize side-hill cuts. Roads internal to a project site should be designed to minimize ground disturbance. Excessive grades on roads, road embankments, ditches, and drainages should be avoided, especially in areas with erodible soils.

    - Prepare a Construction Traffic Control Plan and a Traffic Management Plan.

Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if it approves these potential projects.

Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation conditions imposed by land use and/or permitting agency acting as lead agencies under CEQA, if and when a project applicant seeks a permit for compliance-response related project, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that the short-term construction-related transportation impacts associated with the Proposed Project would be **potentially significant and unavoidable** as identified in the State SIP Strategy.

Impact 17-2: Long-Term Operation-Related Effects to Transportation

Reasonably foreseeable compliance responses to the Proposed Project include operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA included increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

As discussed under Impact 17-2 in the State SIP Strategy EA, transportation patterns may change in relation to the location and operational shipping needs of new facilities. Depending on the number of trips generated and the location of fuel-related deliveries, implementation could conflict with applicable programs, plans, ordinances, or policies (e.g., performance standards, congestion management); and/or result in hazardous design features and emergency access issues from road closures, detours, and obstruction of emergency vehicle movement, especially due to project-generated heavy-duty truck trips. In addition, new facilities may result in additional egress/ingress points or increased traffic that would result in hazardous conditions on local roadways. Inadequate access may impede emergency vehicle access to new facilities.

As discussed above under Impact 17-1, the CEQA Guidelines have been modified to include consideration of VMT as part of the Appendix G thresholds. Implementation of the Proposed Project would result in increased deployment of zero-emission TRUs as well as infrastructure to support their use (i.e., electric charging and fueling stations). Improved accessibility to infrastructure to support these zero-emission TRUs could introduce new levels of zero-emission VMT, which, as discussed under Impact 8-1, "Short-Term Construction-Related and Long-Term Operation-Related Effects to Greenhouse Gas Emissions and Climate Change," would be supported by regulatory pressure to increase the electrical grid's portion of renewable energy. It is conceivable that new VMT could affect LOS at roadway segments across the State and create potentially hazardous roadway conditions.

These compliance responses could include construction and operation of new or modified manufacturing plants to support zero-emissions TRU technology, recycling centers for disposal or repurposing of high-emission equipment and spent batteries, and new or expanded mining operations in the State, the United States, and globally. With respect to operational activities, it would not be anticipated that a substantial

amount of new personnel would be needed to operate new facilities. It is likely that locations of these facilities would be selected such that an appropriate employment base existed to support operations or where local jurisdictions have already planning for increased population and employment growth and that these facilities would be located in appropriately zoned areas that are meant to serve as employment centers. In addition, deliveries associated with long-term operation-related activities would not be anticipated to result in a substantial number of new trips, such that roadway service levels would not be substantially affected; therefore, no hazardous roadway conditions are expected from these trips. However, construction of new manufacturing and recycling facilities may increase VMT. It is conceivable that the operation of new or modified manufacturing facilities could result in expanded supply and transport of zero-emissions technologies beyond existing baseline levels. For instance, workers and businesses associated with expanded or new recycling centers and battery manufacturing facilities could increase VMT levels on nearby roadways. In addition, new or expanded mining operations, both within the U.S. and internationally, could generate additional VMT, or increase cargo ship activity, as lithium ore is traded and distributed on a global scale. However, it is conceivable that such operations would displace existing levels of VMT associated with oil and gas extraction, production, and transportation.

New facilities would require staff during operations, which would add trips to the new facilities. Pursuant to SB 375, CARB established GHG reduction targets for metropolitan planning organizations that range from 13 to 16 percent by 2035. These reduction targets are based on land use patterns and transportation systems specified in Regional Transportation Plans and Sustainable Community Strategies. Locations of facilities cannot currently be known; therefore, the total change in VMT cannot be assessed. Therefore, it is possible that a compliance response may maintain, increase, or insufficiently reduce VMT considering the general goal of reducing VMT over the long-term. Thus, recognizing uncertainty in future predictions, to meet CEQA's mandate of good-faith disclosure and to not risk understating potential future impacts in light of the uncertainties, there could be a substantial increase to VMT. As a result, long-term operation-related transportation impacts associated with the Proposed Project could be potentially significant.

Once an applicant actually develops the proposed plans for the development, the lead agency will have adequate information from which it can determine project-specific, long-term operation-related impacts on transportation associated with these potential compliance-response development projects. Once the lead agency identifies these project impacts, it can likely reduce them to a less-than-significant level by adopting feasible mitigation at the time of project approval. Notwithstanding this uncertainty of the impacts due to the equally uncertain nature and scope of potential compliance-response development projects, for the sake of full transparency, CARB identified mitigation in the State SIP Strategy EA, noted below, that lead agencies can and should consider for mitigation of any agriculture and forestry impacts from these future projects. Since implementation and enforcement of this mitigation measure is

beyond the authority of CARB, however, CARB finds it legally infeasible to adopt and implement this measure on its own.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 17-2: Implement State SIP Strategy EA Mitigation Measure 17-1

Full text of measure previously provided.

VMT associated with implementation of the Proposed Project is related to the location of new facilities developed to meet the demands of the Proposed Project. The distance required to accommodate new trips is generally related to site-specific conditions, such as the location of facilities in relation to workers' homes and end use of the manufactured product (e.g., transport of newly-manufactured batteries from battery factories to zero-emission vehicle factories). According to the SB 743 Technical Advisory, potential mitigation measure that can reduce VMT include actions such as improved alternate transportation facilities, land use planning, and disincentives to driving (e.g., roadway pricing, limited parking availability). Land use decisions, including those related to the siting of organic waste recovery facilities, are subject to local jurisdictions (PRC Section 40059). The locations of new facilities are contingent on various influences outside of CARB's control, including local land uses and economics. Other mitigation measures described in the SB 743 Technical Advisory, such as providing improved alternative transportation facilities and establishing disincentives to driving, would not have sufficient nexus with the impact or offer rough proportionality to the impact to be considered feasible mitigation (*Dolan v. City of Tigard, 512 U.S. 374 [1994]; Nollan v. California Coastal Commission, 483 U.S. 8825 [1987]*). Therefore, no feasible mitigation is available for VMT.

Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if it approves these potential projects.

Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation conditions imposed by land use and/or permitting agency acting as lead agencies under CEQA, if and when a project applicant seeks a permit for compliance-response related project, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that long-term operation-related impacts to transportation associated with the Proposed Project would be **potentially significant and unavoidable**.

18. Utilities and Service Systems

Impact 18-1: Short-Term Construction-Related and Long-Term Operational Impacts on Utilities and Service Systems

Reasonably foreseeable compliance responses associated with the Proposed Project include construction and operation of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); construction and operation of supporting infrastructure, such as electric chargers and fueling stations; increased demand for electricity, requiring more electricity generation; the displacement of fossil fuel extraction, refinement, manufacture, distribution, and combustion; operation of new or modified recycling or refurbishment facilities to accommodate battery disposal; and increased demand for the extraction of raw minerals used in the production of batteries, such as lithium from source countries and states.

The reasonably foreseeable compliance responses discussed in the State SIP Strategy EA included increased infrastructure for zero and near-zero emission technologies, fueling and electric charging stations, increased demand for lithium battery manufacturing and associated increases in lithium mining and exports; new or modified facilities to accommodate increased recycling or refurbishment of lithium batteries and zero-emissions technologies; and increases to lithium mining and exports.

Impact 18-1 of the State SIP Strategy EA describes the short-term construction-related and long-term operational impacts on utilities and service systems. The analysis states that the need for new or expanded manufacturing facilities could result in new demand for water, wastewater, electricity, and gas services for new or modified facilities. Generally, new facilities would be sited in areas with existing utility infrastructure or areas where existing utility infrastructure is easily assessable. New or modified utility installation, connections, and expansion would be subject to the requirements of the applicable utility providers.

As further described under Impact 18-1, any new or modified facilities, regardless of size and location, would be required to seek local or State land use approvals prior to their development. In addition, part of the land use entitlement process for facilities proposed in California requires that each of these projects undergo environmental review consistent with the requirements of CEQA and the CEQA Guidelines. It is assumed that facilities proposed in other states would be subject to comparable federal, State, and/or local environmental review requirements (e.g., CEQA) and that the environmental review process would assess whether adequate utilities and services (i.e., wastewater services, water supply services, solid waste facilities) would be available and whether the project would result in the need to expand or construct new facilities to serve the project. Through the environmental review process, utility and service demands would be calculated; agencies would provide input on available service capacity and the potential need for service-related infrastructure including expansions to waste water treatment plants, new water supply entitlements and infrastructure,

storm water infrastructure, and solid waste handling capacity (e.g., landfills). Resulting environmental impacts would also be determined through this process.

The reasonably foreseeable compliance responses associated with the Proposed Project that were not discussed in the State SIP Strategy EA include an increased demand and generation of electricity associated with electric-standby and hybrid-electric TRUs and cold plate technology. Energy suppliers (e.g., Pacific Gas & Electric, Southern California Edison, and Southern California Gas Company) periodically prepare load forecasts to ensure the reliability of electricity distribution systems. As electricity demand would occur over a multi-year period, the projected energy demands would be factored into load forecasts now and in the future. Further, as required by law, all utility connections would be constructed in accordance with all applicable building codes and applicable standards to ensure an adequately sized and properly constructed energy transmission and conveyance system. Any necessary connections would be constructed prior to occupancy and in a manner that would minimize the potential for utility service disruption of existing uses. Thus, increased demands on electricity associated with the Proposed Project would be met, and impacts on electricity demand would not be of substantially greater severity than described in the State SIP Strategy EA.

As discussed in the State SIP Strategy EA, the specific location and type of construction needs are not known and would be dependent upon a variety of market factors that are not within the control of CARB including: economic costs, product demands, environmental constraints, and other market constraints. Thus, the specific impacts from construction on utility and service systems cannot be identified with any certainty, and individual compliance responses could potentially result in significant environmental impacts, for which it is unknown whether mitigation would be available to reduce the impacts.

The types and severity of impacts associated with the reasonably foreseeable compliance responses related to the Proposed Project would be similar to those identified and evaluated in the State SIP Strategy EA. Since certification of the State SIP Strategy EA, additional details related to the Proposed Amendments have been developed, such as cold plates as a compliance response, and the potential increased electricity consumption related to the use of cold plate technology. However, it is merely one means of achieving compliance with the Proposed Amendments, and therefore accounted for in the increase in energy consumption contemplated in the State SIP Strategy EA. Thus, short-term construction-related and long-term operational impacts on utilities and services systems would be potentially significant as identified in the State SIP Strategy EA.

Once an applicant actually develops the proposed plans for the development, the lead agency will have adequate information from which it can determine project-specific, short-term construction-related and long-term operational impacts on utilities and services systems associated with these potential compliance-response development projects. Once the lead agency identifies these project impacts, it can likely reduce them to a less-than-significant level by adopting feasible mitigation at the time of project

approval. Notwithstanding this uncertainty of the impacts due to the equally uncertain nature and scope of potential compliance-response development projects, for the sake of full transparency, CARB identified mitigation in the State SIP Strategy EA, noted below, that lead agencies can and should consider for mitigation of any agriculture and forestry impacts from these future projects. Since implementation and enforcement of this mitigation measure is beyond the authority of CARB, however, CARB finds it legally infeasible to adopt and implement this measure on its own.

TRU ~~Draft~~Final Supplemental EA Mitigation Measure 18-1: Implement State SIP Strategy EA Mitigation Measure 18-1

The Regulatory Setting in Attachment A includes applicable laws and regulations that relate to utilities and service systems. CARB does not have the authority to require implementation of mitigation related to new or modified facilities that would be approved by local jurisdictions. The ability to require such measures is under the purview of jurisdictions with local or State land use approval and/or permitting authority. New or modified facilities in California would most likely qualify as a "project" under CEQA. The jurisdiction with primary approval authority over a proposed action is the Lead Agency, which is required to review the proposed action for compliance with CEQA statutes. Project-specific impacts and mitigation would be identified during the environmental review by agencies with project-approval authority. Recognized practices that are routinely required to avoid and/or minimize utility and service-related impacts include:

- Proponents of new or modified facilities or infrastructure constructed as a result of reasonably foreseeable compliance responses would coordinate with State or local land use agencies to seek entitlements for development including the completion of all necessary environmental review requirements (e.g., CEQA). The local or State land use agency or governing body must follow all applicable environmental regulations as part of approval of a project for development.

- Based on the results of the environmental review, proponents would implement all feasible mitigation to reduce or substantially lessen the potentially significant scenic or aesthetic impacts of the project. Actions required to mitigate potentially significant utility or service-related impacts may include the following; however, any mitigation specifically required for a new or modified facility would be determined by the lead agency.

    - Comply with local plans and policies regarding the provision of water supply, wastewater treatment, and storm water drainage utilities, and solid waste services.

    - Where an on-site wastewater system is proposed, submit a permit application to the appropriate local jurisdiction.

    - Where appropriate, prepare a Water Supply Assessment consistent with the requirements of Section 21151.9 of the PRC/ Section 10910 et seq. of

the Water Code. The water supply assessment would be approved by the local water agency/purveyor prior to construction of the project.

- Comply with local plans and policies regarding the provision of wastewater treatment services.

Because the authority to determine project-level impacts and require project-level mitigation lies with local land use and/or permitting agencies for individual projects, CARB finds it legally infeasible to implement and enforce this measure. Moreover, due to the programmatic analysis of this EA, which does not allow project-specific details of potential impacts and associated mitigation, there is inherent uncertainty in the degree of mitigation that lead agencies may ultimately implement to reduce the potentially significant impacts if it approves these potential projects.

Consequently, while impacts could likely be reduced to a less-than-significant level with mitigation conditions imposed by land use and/or permitting agency acting as lead agencies under CEQA, if and when a project applicant seeks a permit for compliance-response related project, this ~~Draft~~Final Supplemental EA takes the conservative approach in its post-mitigation significance conclusion and discloses, for CEQA compliance purposes, that short-term construction-related and long-term operational impacts to utilities and service systems associated with the Proposed Project would remain **potentially significant and unavoidable** as identified in the State SIP Strategy EA.

19.Wildfire

Impact 19-1: Short-Term Construction-Related and Long-Term Operation-Related Effects on Wildfire

Reasonably foreseeable compliance responses to the Proposed Project include construction of new or expanded manufacturing facilities for zero-emissions technologies (e.g., lithium-ion batteries, cryogenic fuels, cold plates, solar photovoltaics); the construction of supporting infrastructure, such as electric chargers and fueling stations; and construction of new or modified recycling or refurbishment facilities to accommodate battery disposal.

Appendix G of the State CEQA Guidelines was amended in 2018, after certification of the State SIP Strategy EA, to include several questions related to wildfire. The CEQA Guidelines Appendix G questions address: impairment of an adopted emergency response plan or emergency evaluation plan; the potential to exacerbate wildfire risks and associated pollutants and uncontrolled spread of wildfire; the requirement to install or maintain infrastructure that could exacerbate fire risk; and the exposure of people or structure to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

In the event of an emergency, such as a wildfire, evacuation coordination is dealt with at various levels of government through State, federal, or local agencies as appropriate. The California Department of Forestry and Fire Protection (CAL FIRE) is responsible for

coordinating wildfire response and protection within State Responsibility Areas. CAL FIRE does not have responsibility for fire response in Local Responsibility Areas or Federal Responsibility Areas, which are defined based on land ownership, population density, and land use. These areas include densely populated areas, such as cities and towns; agricultural lands; and lands administered by the federal government. In densely populated areas, local fire departments respond to fires and emergencies. Fire response on federal lands is coordinated by the appropriate federal agency. For example, on National Forest System lands, the U.S. Forest Service coordinates fire response; on lands administered by the BLM, the BLM coordinates fire response.

Individual facilities and associated infrastructure would be placed within response areas for various jurisdictions and would be dealt with in the same manner as existing infrastructure. Facilities would be developed in areas that are zoned for industrial or other appropriate uses; therefore, changes or modifications to existing fire response and evacuation plans would not be necessary. Projects implemented under the Proposed Project would not create growth substantial enough to impede emergency response or affect evacuation route capacity, as discussed under Impact 14-1, above.

Overhead powerlines associated with new infrastructure could increase the risk of wildfire ignition; however, new safety initiatives, development standards, and regulatory oversight for electric utilities have been implemented in response to numerous devastating wildfires in California in recent years. These efforts aim to reduce the risk of wildfire ignition associated with such facilities and include implementation of wildfire mitigation plans, collaboration between utilities and CAL FIRE, and retention by California Public Utilities Commission (CPUC) of independent evaluators that can assess the safety of electrical infrastructure. Additionally, new facilities would be subject to the applicable chapters of the California Fire Code and any additional local provisions identified in local fire safety codes. These factors—adherence to local plans, policies, codes, and ordinances; adherence to the California Fire Code and the provisions of wildfire prevention plans; and oversight by CPUC—would substantially reduce the risk of wildfire ignitions caused by infrastructure development.

As discussed above in Impact 9-2, lithium batteries have caused large explosions due to vehicular accident. These explosions could be a source of ignition for wildland fires. While safety issues occurred early on, those issues have been corrected through improved battery management systems, protection features built into the modules, and methods of communicating battery condition to the system controller (CARB 2015). Thus, the increased use of lithium-based batteries in vehicles would not substantially increase the risk of wildland fire.

Thus, implementation of the Proposed Project would have a **less-than-significant** long-term operational impact on wildfire.

5.0 Cumulative and Growth-Inducing Impacts

A. Approach to Cumulative Analysis

This section satisfies requirements of CEQA to discuss how the project being analyzed would contribute to cumulative impacts. CARB's certified regulatory program (Title 17 CCR Sections 60000–60008) does not provide specific direction on a cumulative impacts analysis, and while CARB is exempt from Chapters 3 and 4 of CEQA and corresponding sections of the CEQA Guidelines by virtue of its certified program, the Guidelines nevertheless contain useful guidance for preparation of a thorough and meaningful cumulative analysis. The CEQA Guidelines require a lead agency to discuss a cumulative impact if the project's incremental effect combined with the effects of other projects is "cumulatively considerable" (CEQA Guidelines Section 15130(a)). The discussion of cumulative impacts need not provide as much detail as the discussion of effects attributable to the project alone (CEQA Guidelines Section 15130). Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant but must briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

In considering cumulative impacts, an agency may choose from two approaches: it can prepare a list of past, present, and probable future projects that will produce related or cumulative impacts; or it can rely on a summary of projections contained in an adopted planning document or an adopted or certified environmental document for the planning document (CEQA Guidelines Section 15130(b)). Further, the CEQA Guidelines state that the pertinent discussion of cumulative impacts contained in one or more previously certified EIRs may be incorporated by reference pursuant to provisions for tiering and program EIRs, and that no future cumulative analysis is required when the lead agency determines the regional and area wide impacts have already been addressed in the prior certified EIR for that plan (CEQA Guidelines Section 15130).

The CEQA Guidelines state that a previously approved plan for the reduction of criteria and other air pollutant emissions may be used in cumulative impacts analysis; that the pertinent discussion of cumulative impacts contained in one or more previously certified EIRs may be incorporated by reference (Title 14 CCR Section 15130(d)). Furthermore, no further cumulative impacts analysis is required when a project is consistent with a general, specific, master or comparable programmatic plan where the lead agency determines that the regional or area wide cumulative impacts of the proposed project have already been adequately addressed, as defined in section 15152(f), in a certified EIR for that plan (14 CCR Section 15130(d)). CEQA further directs that a tiered EIR focus on significant environmental effects that were not already analyzed in the previous environmental analysis. (PRC Sections 21068.5; 21093; see also 21094(c).)

For the purposes of this analysis, CARB is relying on the summary of projections contained in the State SIP Strategy (CARB 2017b).

The State SIP Strategy includes a combination of regulatory and programmatic actions that will reduce emissions of ozone precursors and $PM_{2.5}$, pursuant to the federal Clean Air Act. The State SIP Strategy EA provided a program-level review of significant adverse impacts associated with the reasonably foreseeable compliance responses that appeared most likely to occur because of implementing the recommended measures. The impact discussion includes, where relevant, construction-related effects, operational effects of new or modified facilities, and influences of the recommended actions on GHG and air pollutant emissions. The State SIP Strategy EA considered cumulative impacts of a full range of reasonably foreseeable compliance responses to all the recommendations, including the Proposed Amendments and considered the cumulative effect of other "closely related" past, present, and future reasonably foreseeable activities undertaken to address air quality at the State level, as well as other activities with "related impacts" (CEQA Guidelines 15355(b); 15130(a)(1)). CARB has determined that the cumulative effects of the Proposed Amendments have been examined at a sufficient level of detail in the State SIP Strategy. Therefore, CARB has determined that for a cumulative analysis of the Proposed Amendments, it is appropriate to rely on the cumulative analysis contained in the State SIP Strategy EA. The analysis of the State SIP Strategy EA is hereby incorporated by reference. The portions of the State SIP Strategy EA relevant to this discussion are also summarized below.

The analysis of cumulative impacts includes the following:

- A summary of the cumulative impacts found for each resource area in the SIP Strategy EA (certified by the Board in March 2017).

- A discussion of the types of compliance responses associated with the Proposed Amendments, pertinent to each resource area.

- A significance conclusion that determines if the Proposed Amendments could result in a significant cumulative effect or a considerable contribution to an existing significant cumulative impact.

This approach to cumulative impacts analysis is "guided by the standards of practicality and reasonableness" (Title 14 CCR Section 15130(b)) and serves the purpose of providing "a context for considering whether the incremental effects of the project at issue are considerable" when judged "against the backdrop of the environmental effects of other projects." (CBE v. Cal. Res. Agency (2002) 103 Cal.App.4th 98, 119).

1. Summary of the Statewide State Implementation Plan Strategy Compliance Responses

The objectives of the State SIP Strategy are to:

1. Provide the necessary emission reductions for all of California's nonattainment areas to meet federal ambient air quality standards by the attainment dates specified by the U.S. EPA;

2. Support the development and submittal of an approvable SIP to the U.S. EPA. To meet U.S. EPA requirements for approvable SIPs, the measures must include commitments to achieve emission reductions that are real, permanent, quantifiable, verifiable, and enforceable;

3. Complement existing programs and plans – to ensure, to the extent feasible, that activities undertaken pursuant to the measures complement, and do not interfere with, existing planning efforts to reduce GHG emissions, use of petroleum-based transportation fuels, and TAC emissions;

4. Incentivize and support emerging technology that will be needed to achieve CARB's SIP goals;

5. Establish requirements for cleaner technologies (both zero and near-zero emission technologies), coupled with cleaner renewable fuels to achieve CARB's SIP goals;

6. Introduce zero-emission technology in targeted applications to achieve CARB's SIP goals;

7. Ensure the in-use vehicle and engine fleets remain durable, and that in-use vehicles continue to operate at their cleanest possible level to achieve CARB's SIP goals; and

8. Incentivize early introduction of advanced clean technologies to achieve CARB's SIP goals.

The State SIP Strategy includes measures to reduce emissions from six source categories: on-road light-duty vehicles, on-road heavy-duty vehicles, off-road federal and international sources, off-road equipment, fuels, and consumer products. A summary of the measures and their associated reasonably foreseeable compliance responses is provided below.

i. On-Road Light-Duty Vehicles

The on-road light-duty transportation sector consists of light-duty vehicles such as passenger cars, minivans, most sport utility vehicles and pickup trucks, and motorcycles. Measures include the Advanced Clean Cars 2, Lower In-Use Emission Performance Assessment, and Further Deployment of Cleaner Technologies: On-Road Light Duty Vehicles. Reasonably foreseeable compliance responses could include:

- An increase in the demand for lithium-ion batteries and an associated increase in manufacturing facilities, lithium mining and exports, and battery disposal and recycling activities;

- Development of new hydrogen refueling stations and electric vehicle charging stations; technical studies, new testing procedures, and minor facility modifications and new equipment for roadside testing; and

- Recycling or scrapping of old vehicles, or selling vehicles to areas outside of California.

ii. On-Road Heavy-Duty Vehicles

The on-road heavy-duty vehicle (HDV) sector consists of heavy-duty gas and diesel trucks, urban and school buses, and motorhomes. Measures include the Lower In-Use Emission Performance Level, Low-NOx Engine Standard, Medium and Heavy-Duty GHG Phase 2, Innovative Clean Transit, Last Mile Delivery, Innovative Technology Certification Flexibility, Zero-Emission Airport Shuttle Buses, Incentive Funding to Achieve Further Emission Reductions from On-Road HDV, and Further Deployment of Cleaner Technologies: On-Road Heavy-Duty.

Reasonably foreseeable compliance responses could include:

- New or modified testing centers to facilitate a new "smog check" program for heavy-duty trucks;

- Changes in engine manufacturing to include near-zero emission technology;

- Changes in design and manufacturing of heavy-duty trucks and tractor-trailers to improve engine and vehicle efficiency and aerodynamic performance;

- Recycling or scrapping of old vehicles, or selling vehicles to areas outside of California;

- An increase in manufacturing and associated facilities to supply zero-emission vehicles (i.e., buses, last mile delivery trucks, airport shuttle buses) along with construction of new hydrogen fueling stations, natural gas fueling stations, and electric vehicle charging stations;

- An increase in the demand for lithium-ion batteries and an associated increase in manufacturing facilities, lithium mining and exports, and battery disposal and recycling activities;

- Increased advanced technology research as well as increased development and deployment of lower emitting medium and HDVs and engines;

- An increase in the rate of heavy-duty fleet or vehicle component turnover, which may result in recycling or scrapping of old vehicles; and

- Increased use of optionally certified low-NOx engines.

iii. Off-Road Federal and International Sources

The off-road federal and international sources category consists of emissions associated with ships, locomotives, and aircraft. Measures include the More Stringent National Locomotive Emission Standards, Tier 4 Vessel Standards, Incentivize Low-Emission Efficient Ship Visits, amendments to the At-Berth Regulation, and Further Deployment of Cleaner Technologies: Off-Road Federal and International Sources.

Reasonably foreseeable compliance responses could include:

- New locomotive production facilities;
- Transportation and storage of renewable natural gas and hydrogen;
- An increase in the demand for lithium-ion batteries and an associated increase in manufacturing facilities, lithium mining and exports, and battery disposal and recycling activities;
- Adoption of more stringent emissions standards for new vessels and vessel efficiency upgrades;
- The docking of cleaner, more efficient large ships (capacity greater than 14,000 twenty-foot equivalent units) in California's ports; and
- Use of bonnet capture devices at ports, electric system upgrades to ships and terminals.

iv. Off-Road Equipment

The off-road equipment category encompasses lawn and garden equipment, TRUs, vehicles and equipment used in construction and mining, forklifts, cargo handling equipment, commercial harbor craft, and other industrial equipment. Measures include the Zero-Emission Off-Road Forklift Regulation Phase 1, Zero-Emission Off-Road Emission Reduction Assessment, Zero-Emission Off-Road Worksite Emission Reduction Assessment, Zero-Emission Airport Ground Support Equipment, Small Off-Road Engines, Transport Refrigeration Units Used for Cold Storage, and Further Deployment of Cleaner Technologies: Off-Road Equipment.

Reasonably foreseeable compliance responses could include:

- Increase in manufacturing, production, and use of zero-emission technology in forklifts, airport ground support equipment, small off-road engines, TRUs;
- Construction or modification of manufacturing facilities, new hydrogen fueling stations, and electric vehicle and equipment charging stations;

- An increase in the demand for lithium-ion batteries and an associated increase in manufacturing facilities, lithium mining and exports, and battery disposal and recycling activities; and

- An increase in the turnover rate of engines and/or components for off-road equipment, which may result in recycling or scrapping of old engines or components.

v. Fuels

Measures include the Low-Emissions Diesel Requirement, which would reduce emissions from the portion of the heavy-duty fleet that will continue to operate on internal combustion engines, in order to reduce emissions as quickly as possible.

Reasonably foreseeable compliance responses could include:

- Increased demand for renewable diesel, biodiesel, or other Low-Emission Diesel fuel feedstocks, such as oil seeds or forest residues, and/or increased imports of tallow and used cooking oil into California for processing;

- Additional infrastructure to support the collection, processing, and distribution of biomethane may be required; and

- Changes to fuel processing and transport.

vi. Consumer Products

Chemically formulated consumer products such as automotive care products, household care products, and personal care products are the largest source category of ROG emissions in the South Coast, and the fourth largest category statewide. Measures include the Consumer Products Program, which would maintain the success of current consumer products regulations in light of population growth. Reasonably foreseeable compliance responses would include continuing CARB's commitment to reduce ROG emissions from consumer products.

2. Summary of the State SIP Strategy Environmental Impacts

The State SIP Strategy EA evaluated the environmental impacts related to the reasonably foreseeable compliance responses described above. Table 5.~~2~~A-1 provides a summary of the conclusions of these impacts.

Table 5.A-1: Summary of the State SIP Strategy Environmental Analysis Impacts by Sector

Resource Areas and Impact Categories	Significance Determination
Aesthetics	
Construction-Related and Operational Impacts	PSU
Agriculture and Forest Resources	
Construction-Related and Operational Impacts	PSU
Air Quality	
Construction-Related Impacts	PSU
Operational Impacts	B
Biological Resources	
Construction-Related Impacts	PSU
Operational Impacts	PSU
Cultural Resources	
Construction-Related and Operational Impacts	PSU
Energy Demand	
Construction-Related Impacts	LTS
Operational Impacts	B
Geology, Soils, and Minerals	
Construction-Related and Operational Impacts	PSU
Greenhouse Gas	
Construction-Related and Operational Impacts	B
Hazards and Hazardous Materials	
Construction-Related Impacts	PSU
Operational Impacts	LTS
Hydrology and Water Quality	
Construction-Related Impacts	PSU
Operational Impacts	PSU
Land Use and Planning	
Construction-Related and Operational Impacts	LTS
Mineral Resources	
Construction-Related Impacts	LTS
Operational Impacts	LTS

Resource Areas and Impact Categories	Significance Determination
Noise	
Construction-Related Impacts	PSU
Operational Impacts	PSU
Population and Housing	
Construction-Related and Operational Impacts	LTS
Public Services	
Construction-Related and Operational Impacts	LTS
Recreation	
Construction-Related and Operational Impacts	LTS
Transportation	
Construction-Related Impacts	PSU
Operational Impacts	PSU
Utilities and Service Systems	
Operational Impacts	PSU

B. Significance Determinations and Mitigation

Implementation of the Proposed Amendments was determined to potentially result in cumulatively considerable contributions to significant cumulative impacts to certain resource areas, as discussed below. While suggested mitigation is provided for each potentially cumulatively considerable impact, the mitigation needs to be implemented by lead agencies responsible for permitting compliance-response projects. Where impacts cannot be feasibly mitigated, the ~~Draft~~Final Supplemental EA recognizes the impact as significant and unavoidable. The Board will need to adopt Findings and a Statement of Overriding Considerations for any significant and unavoidable environmental effects of the project as part of the approval process.

C. Cumulative Impacts by Resource Area

1. Aesthetics

The State SIP Strategy EA found that implementation of the recommended actions, which included the recommendation for the Proposed Amendments, could result in impacts to aesthetic resources. As discussed in the State SIP Strategy EA, there is uncertainty as to the exact location of these new facilities or the modification of existing facilities. Construction and operation of these facilities (although likely to occur in areas zoned or used for manufacturing or industrial purposes that could contain visually similar facilities), could conceivably introduce or increase the presence of artificial elements (e.g., heavy-duty equipment, removal of existing vegetation, buildings) in areas of scenic

importance, such as areas visible from State scenic highways. The visual impact of such development would depend on several variables, including the type and size of facilities, distance and angle of view, visual absorption, and facility placement in the landscape. In addition, facility operation may introduce substantial sources of glare, exhaust plumes, and nighttime glare from lighting for safety and security. Implementation of mitigation measures would not necessarily reduce these impacts to a less-than-significant level because the ability to determine project-level impacts and impose project-level mitigation lies with land use and/or permitting agencies for individual projects. Thus, implementation of the recommended actions in the SIP Strategy could result in a significant cumulative aesthetics-related impact.

The Proposed Amendments' impacts to aesthetics would be significant and unavoidable on their own, as concluded in Chapter 4. These impacts would be significant because of changes to the visual environment from new permanent structures, introduction of nighttime lighting, increased mining, and ground disturbance and vegetation removal. Because the Proposed Amendments on its own would result in a significant and unavoidable impact, the project's contribution to the significant cumulative impact would also be cumulatively considerable. Implementation of the project-level mitigation identified in Chapter 4 could likely effectively reduce the incremental contribution from the Proposed Project to a less-than-considerable level, but authority to require that mitigation will rest with other agencies that will be authorizing site-specific projects, and not with CARB. Thus, as noted in Chapter 4, CARB's implementation and enforcement of project-level mitigation is legally infeasible. Therefore, the Proposed Amendments **could result in a cumulatively considerable contribution to a significant cumulative impact** on aesthetics.

2. Agriculture and Forestry Resources

The State SIP Strategy EA found that implementation of the recommended actions, which included the recommendation for the Proposed Amendments, could result in impacts to agriculture and forestry resources. As discussed in the State SIP Strategy EA, there is uncertainty as to the exact location of these new facilities or the modification of existing facilities. Construction of new facilities could result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, Williamson Act conservation contracts, or forest land or timberland, resulting in the loss of these resources. Compliance with existing land use policies, ordinances, and regulations could minimize this impact. Land use impacts would be further addressed for individual projects through the local development review process. Mitigation measures were identified that could likely reduce these impacts. However, because the authority to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and because of the programmatic nature of this ~~Draft~~Final Supplemental EA, impacts were determined to be potentially significant and unavoidable. Thus, the SIP Strategy, which includes the Proposed Amendments, could result in a significant cumulative impact to agriculture and forestry resources.

The Proposed Amendments' impacts to agriculture and forestry resources would be significant and unavoidable on their own, as concluded in Chapter 4. These impacts would be significant because of the potential for land conversion to non-agricultural and non-forest uses. Because the Proposed Amendments on its own would result in a significant and unavoidable impact, the project's contribution to the significant cumulative impact would also be cumulatively considerable. Implementation of the project-level mitigation identified in Chapter 4 could likely effectively reduce the incremental contribution from the Proposed Project to a less-than-considerable level, but authority to require that mitigation will rest with other agencies that will be authorizing site-specific projects, and not with CARB. Thus, as noted in Chapter 4, CARB's implementation and enforcement of project-level mitigation is legally infeasible. Therefore, the Proposed Amendments **could result in a cumulatively considerable contribution to a significant cumulative impact** on agriculture and forestry resources.

3. Air Quality

The State SIP Strategy EA found that implementation of the recommended actions, which included the recommendation for the Proposed Amendments, could result in a short-term increase in criteria air pollutants and TACs in proximity to where fuel production or handling facilities are constructed or modified, as well as generate unpleasant odors that could affect sensitive receptors. The short-term emissions would result from the use of heavy- duty construction equipment on a short-term basis. Therefore, the SIP strategy including the Proposed Amendments could generate emission levels that conflict with applicable air quality plans, violate or contribute substantially to an existing or projected ambient air quality standard violation, result in a cumulatively considerable net increase in non-attainment areas, or expose sensitive receptors to substantial pollutant concentrations or odors. Implementation of mitigation measures would not necessarily reduce construction-related air quality impacts to a less-than-significant level because the ability to determine project-level impacts and impose project-level mitigation lies with land use and/or permitting agencies for individual projects. Thus, implementation of the recommended actions in the SIP Strategy could result in a significant cumulative air quality impact related to these short-term emissions.

The Proposed Amendments' short-term impacts to air quality would be significant and unavoidable on their own, as concluded in Chapter 4. These impacts would be significant because of the potential for emissions from off-road construction equipment, material delivery trips, and construction worker-commute trips as well as fugitive dust emissions. Implementation of the project-level mitigation identified in Chapter 4 could likely effectively reduce the incremental contribution from the Proposed Project to a less-than-considerable level, but authority to require that mitigation will rest with other agencies that will be authorizing site-specific projects, and not with CARB. Thus, as noted in Chapter 4, CARB's implementation and enforcement of project-level mitigation is legally infeasible. Therefore, the Proposed Amendments **could result in a cumulatively considerable contribution to a significant cumulative impact** on air quality in the short term.

Overall, as discussed in the State SIP Strategy EA, the State SIP Strategy would result in substantial long-term reductions in criteria and toxic air pollutants, which is a beneficial long-term operational impact related to air quality. Statewide, implementation of the State SIP Strategy is anticipated to result in emission reductions of 206 tons per day of NOx, 67 tons per day ROG and 2 tons per day of PM2.5. Thus, in the long term, the State SIP Strategy **would not contribute to a cumulative impact**.

4. Biological Resources

The State SIP Strategy EA found that implementation of the recommended measures within the various source categories, which includes the Proposed Amendments, could result in a significant cumulative impact to biological resources from construction and operational activities associated with new or modified facilities or infrastructure. The exact location of these new facilities or the modification of existing facilities is uncertain. Construction could require disturbance of undeveloped area, such as clearing of vegetation, earth movement and grading, trenching for utility lines, erection of new buildings, and paving of parking lots, delivery areas, and roadways. These activities would have the potential to adversely affect biological resources (e.g., species, habitat) that may reside or be present in those areas. Because there are biological species that occur, or even thrive, in developed settings, resources could also be adversely affected by construction and operations within disturbed areas at existing manufacturing facilities or at other sites in areas with zoning that would permit the development of manufacturing or industrial uses. Additionally, increased demand for biofuel feedstock production could result in expansion of agricultural lands into undeveloped areas, or areas that otherwise support biological resources. Implementation of mitigation measures would not reduce these impacts to a less-than-significant level because the authority to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects. Thus, implementation of the State SIP Strategy EA, which includes the Proposed Amendments, could result in a significant cumulative impact.

The Proposed Amendments' impacts to biological resources would be significant and unavoidable on their own, as concluded in Chapter 4. These impacts would be significant because of effects on habitat, special-status species, wildlife movement, and other aspects. Because the Proposed Amendments on its own would result in a significant and unavoidable impact, the project's contribution to the significant cumulative impact would also be cumulatively considerable. Implementation of the project-level mitigation identified in Chapter 4 could likely effectively reduce the incremental contribution from the Proposed Project to a less-than-considerable level, but authority to require that mitigation will rest with other agencies that will be authorizing site-specific projects, and not with CARB. Thus, as noted in Chapter 4, CARB's implementation and enforcement of project-level mitigation is legally infeasible. Therefore, the Proposed Amendments **could result in a cumulatively considerable contribution to a significant cumulative impact** on biological resources.

5. Cultural Resources

The State SIP Strategy EA found that implementation of the recommended actions, which included the recommendation for the Proposed Amendments, could require construction activities associated with new or modified facilities or infrastructure. There is uncertainty as to the exact location of these new facilities or the modification of existing facilities. Construction activities could require disturbance of undeveloped area, such as clearing of vegetation, earth movement and grading, trenching for utility lines, erection of new buildings, and paving of parking lots, delivery areas, and roadways. Demolition of existing structures may also occur before the construction of new buildings and structures. The cultural resources that could potentially be affected by ground disturbance activities could include, but are not limited to, prehistoric and historical archaeological sites, paleontological resources, historic buildings, structures, or archaeological sites associated with agriculture and mining, and heritage landscapes. Properties important to Native American communities and other ethnic groups, including tangible properties possessing intangible traditional cultural values, also may exist. Historic buildings and structures may also be adversely affected by demolition-related activities. Such resources may occur individually, in groupings of modest size, or in districts. Because culturally sensitive resources can also be found in developed settings, historic, archaeological, and paleontological resources, and places important to Native American communities could also be adversely affected by construction of new facilities. Implementation of mitigation measures would not necessarily reduce construction-related cultural resources impacts to a less-than-significant level because the ability to determine project-level impacts and impose project-level mitigation lies with land use and/or permitting agencies for individual projects. Thus, the SIP Strategy, which includes the Proposed Amendments, could result in a significant cumulative impact on cultural resources.

The Proposed Amendments' impacts to cultural resources would be significant and unavoidable on their own, as concluded in Chapter 4. These impacts would be significant because of the potential to damage and destroy cultural, prehistoric, historic, tribal cultural, and paleontological resources. Because the Proposed Amendments on its own would result in a significant and unavoidable impact, the project's contribution to the significant cumulative impact would also be cumulatively considerable. Implementation of the project-level mitigation identified in Chapter 4 could likely effectively reduce the incremental contribution from the Proposed Project to a less-than-considerable level, but authority to require that mitigation will rest with other agencies that will be authorizing site-specific projects, and not with CARB. Thus, as noted in Chapter 4, CARB's implementation and enforcement of project-level mitigation is legally infeasible. Therefore, the Proposed Amendments **could result in a cumulatively considerable contribution to a significant cumulative impact** on cultural resources.

6. Energy Demand

The State SIP Strategy EA found that implementation of the recommended actions, which included the recommendation for the Proposed Amendments, could require

construction and operational activities associated with new or modified facilities or infrastructure. Temporary increases in energy demand associated with new facilities would include fuels used during construction, and gas and electric operational demands. Typical earth-moving equipment that may be necessary for construction includes graders, scrapers, backhoes, jackhammers, front-end loaders, generators, water trucks, and dump trucks. While energy would be required to complete construction for any new or modified facilities or infrastructure projects, it would be temporary and limited in magnitude and would not result in sustained increases in demand that would adversely affect energy supplies. Therefore, the SIP Strategy, which includes the Proposed Amendments, would result in a **less-than-significant cumulative impact** related to construction-related energy demand.

7. Geology and Soils

The State SIP Strategy EA found that implementation of the recommended actions, which included the recommendation for the Proposed Amendments, could require construction and operational activities associated with new or modified facilities or infrastructure. Construction and operation could be located in a variety of relatively high-risk geologic and soil conditions that are considered to be potentially hazardous. For instance, the seismic conditions at the site of a new facility may have high to extremely high seismic-related fault rupture and ground shaking potential associated with earthquake activity. New facilities could also be subject to seismic-related ground failure, including liquefaction and landslides. Construction and operational activities could be located in a variety of geologic, soil, and slope conditions with varying amounts of vegetation that would be susceptible to soil erosion. Strong ground shaking could also trigger landslides in areas where the natural slope is naturally unstable or is over-steepened by the construction of access roads and structures. Construction and operation could also occur in locations that would expose facilities and structures to expansive soil conditions. Development of new facilities could be susceptible to the presence of expansive soils particularly in areas of fine-grained sediment accumulation typically associated with playas, valley bottoms, and local low-lying areas. The specific design details, siting locations, seismic hazards, and geologic, slope, and soil conditions for any particular facilities that could occur as a result of reasonably foreseeable compliance responses are not known at this time and would be analyzed on a site-specific basis at the project level. Therefore, for purposes of this analysis, development of these facilities could expose people and structures to relatively high levels of risk associated with strong seismic ground shaking, including liquefaction and landslides, and instability. These geologic, seismic, and soil-related conditions could result in damage to structures, related utility lines, and access roads, blocking access and posing safety hazards to people. Thus, implementation of the recommended actions in the SIP Strategy could result in a significant cumulative impact related to geology and soils.

The Proposed Amendments' impacts to geology and soils would be significant and unavoidable on their own, as concluded in Chapter 4. These impacts would be significant because of the potential for erosion, unstable slope conditions, and seismic

activity. Because the Proposed Amendments on its own would result in a significant and unavoidable impact, the project's contribution to the significant cumulative impact would also be cumulatively considerable. Implementation of the project-level mitigation identified in Chapter 4 could likely effectively reduce the incremental contribution from the Proposed Project to a less-than-considerable level, but authority to require that mitigation will rest with other agencies that will be authorizing site-specific projects, and not with CARB. Thus, as noted in Chapter 4, CARB's implementation and enforcement of project-level mitigation is legally infeasible. Therefore, the Proposed Amendments **could result in a cumulatively considerable contribution to a significant cumulative impact** on geology and soils.

8. Greenhouse Gases

The State SIP Strategy EA found that implementation of the recommended actions, which included the recommendation for the Proposed Amendments, could require construction activities associated with new or modified facilities or infrastructure. Specific, project-related construction activities could result in increased generation of short-term GHG emissions in limited amounts associated with the use of heavy-duty off-road equipment, materials transport, and worker commutes. A majority of local agencies (e.g., air pollution control districts) do not recommend or require the quantification of short-term construction-generated GHGs for typical construction projects because these only occur for a finite period of time (e.g., during periods of construction) that is typically much shorter than the operational phase, and agencies generally recommended that GHG analyses focus on operational phase emissions, unless the project is of a unique nature requiring atypical (e.g., large scale, long-term) activity levels (e.g., construction of a new dam or levee) for which quantification and consideration (e.g., amortization of construction emissions over the lifetime of the project) may be recommended. Thus, short-term construction-related GHG emissions impacts associated with reasonably-foreseeable compliance responses for the recommended actions in the SIP Strategy are considered less than significant when considered in comparison to the overall GHG reduction associated with implementation of the SIP Strategy. Cumulative impacts would therefore be **less than significant**.

9. Hazards and Hazardous Materials

The State SIP Strategy EA found that implementation of the recommended actions, which included the recommendation for the Proposed Amendments, could include construction and operation of new or modified facilities or infrastructure. Construction activities may require the transport, use, and disposal of hazardous materials. Construction activities generally use heavy-duty equipment requiring periodic refueling and lubricating. Large pieces of construction equipment (e.g., backhoes, graders) are typically fueled and maintained at the construction site. However, the transport, use, and disposal of hazardous materials would be required to comply with all applicable federal, State and local laws (see Attachment A of this ~~Draft~~Final Supplemental EA). In addition, although there is uncertainty as to the exact locations where new facilities could be constructed or where existing facilities could be reconstructed, these would likely occur within footprints of existing manufacturing facilities, or in areas with zoning

that would permit the development of manufacturing or industrial uses. Implementation of the recommended actions in the SIP Strategy could result in a significant cumulative impact related to hazards and hazardous materials.

The Proposed Amendments' impacts related to hazards and hazardous materials would be significant and unavoidable on their own, as concluded in Chapter 4. These impacts would be significant because of effects of disposal of hazardous materials, the potential for hazardous materials spills, and exposure and environmental effects from lithium. Because the Proposed Amendments on its own would result in a significant and unavoidable impact, the project's contribution to the significant cumulative impact would also be cumulatively considerable. Implementation of the project-level mitigation identified in Chapter 4 could likely effectively reduce the incremental contribution from the Proposed Project to a less-than-considerable level, but authority to require that mitigation will rest with other agencies that will be authorizing site-specific projects, and not with CARB. Thus, as noted in Chapter 4, CARB's implementation and enforcement of project-level mitigation is legally infeasible. Therefore, the Proposed Amendments **could result in a cumulatively considerable contribution to a significant cumulative impact** related to hazards and hazardous materials.

10. Hydrology and Water Quality

The State SIP Strategy EA found that implementation of the recommended actions, which included the recommendation for the Proposed Amendments, could include construction and operation of new or modified facilities or infrastructure. Construction activities and long-term operations of new or modified facilities could be located in a variety of conditions with regards to altering drainage patterns, flooding, and inundation by seiche, tsunami, or mudflow. The level of susceptibility varies by location. The specific design details, siting locations, and associated hydrology and water quality issues are not known at this time and would be analyzed on a site-specific basis at the project level. Therefore, for purposes of CEQA disclosure, these potential hydrology and water quality-related impacts could be significant.

Implementation of mitigation measures to reduce these impacts would not necessarily reduce these impacts to a less-than-significant level because the ability to determine project-level impacts and impose project-level mitigation lies with land use and/or permitting agencies for individual projects. Thus, implementation of the recommended actions in the SIP Strategy could result in a significant cumulative impact to hydrology and water quality.

The Proposed Amendments' impacts to hydrology and water quality would be significant and unavoidable on their own, as concluded in Chapter 4. These impacts would be significant because of effects on drainage patterns and exposure of people or structures to flood, seiche, tsunami, and mudflow. Additionally, lithium mining could result in groundwater overdraft and substantial effects on water quality. Because the Proposed Amendments on its own would result in a significant and unavoidable impact, the project's contribution to the significant cumulative impact would also be

cumulatively considerable. Implementation of the project-level mitigation identified in Chapter 4 could likely effectively reduce the incremental contribution from the Proposed Project to a less-than-considerable level, but authority to require that mitigation will rest with other agencies that will be authorizing site-specific projects, and not with CARB. Thus, as noted in Chapter 4, CARB's implementation and enforcement of project-level mitigation is legally infeasible. Therefore, the Proposed Amendments **could result in a cumulatively considerable contribution to a significant cumulative impact** on hydrology and water quality.

11. Land Use and Planning

Implementation of reasonably foreseeable compliance responses associated with the recommended actions in the SIP Strategy including the Proposed Amendments could require both construction and long-term operation of new or modified facilities or infrastructure. There is uncertainty as to the exact location of these new facilities or the modification of existing facilities. However, facilities would likely occur within the footprints of existing manufacturing facilities, or in areas with zoning that would permit the development of these facilities. Thus, implementation of the recommended actions would not be anticipated to divide an established community or conflict with a land use or conservation plan. Therefore, the SIP Strategy including the Proposed Amendments **would not result in a significant cumulative land use and planning impact**. As a result, the Proposed Amendments would not make a contribution to a significant cumulative land use and planning impact.

12. Mineral Resources

The State SIP Strategy EA found that implementation of the recommended actions, which included the recommendation for the Proposed Amendments, could require construction and operation of new or modified facilities or infrastructure. There is uncertainty as to the exact location of these new facilities or the modification of existing facilities. New facilities would likely occur within existing footprints or in areas with consistent zoning, where original permitting and analyses considered these issues; however, implementation of programs under the SIP Strategy could result in a significant cumulative effect.

In addition, some of the recommended actions and associated compliance responses could require the extraction of lithium used to manufacture battery technologies. Implementation of these measures would not substantially deplete the supply of lithium, which is also currently used in auto manufacturing processes; however, there is inherent uncertainty surrounding the level of increased lithium mining and battery production.

The State SIP Strategy EA found that implementation of the recommended measures within the various source categories, which includes the Proposed Amendments, would result in the construction and operation of new or modified facilities or infrastructure. Reasonably foreseeable compliance responses would likely occur within existing footprints or in areas with consistent zoning where original permitting and analyses considered the availability of mineral resources within specific project sites. In addition,

increased manufacturing and use of zero-emission technology and other electric-powered equipment would require increased battery production and increased lithium mining. In the case that new lithium mines are required, they would go through independent environmental review at the appropriate federal, State, or local level, and it is assumed that any new mines would be located in areas with appropriate zoning, and subject to federal, State, and/or local requirements. Worldwide demand of global lithium is estimated to be below 20 million metric tons for the period of 2010 through 2100, which is well-below the estimated worldwide reserves and resources currently known to exist. In addition, lithium battery recycling potential could supplement future increased demands. Appendix G of the CEQA Guidelines considers an impact on mineral resources to be the result in the loss of availability of a known mineral resource that would be of value to a local entity, a region, or the state. This type of impact could result from actions such as building a structure over an area that contains mineral resources, thereby prohibiting access to mining activities. While implementation of the State SIP Strategy could result in an increased demand in lithium, it would not substantially affect the availability of a mineral resource. Thus, the State SIP Strategy, which includes the Proposed Amendments, concludes that impacts to mineral resources would be less than significant. However, this analysis takes the conservative approach that increased demand for lithium could lead to increased development where mining for lithium is feasible, which could conceivably affect the availability of these mineral resources if access to resources becomes impeded. Additionally, increased lithium mining itself would contribute to the loss of availability of lithium as it is mined and consumed. This would be a significant cumulative impact.

The Proposed Amendments' impacts to mineral resources would be significant and unavoidable on their own, as concluded in Chapter 4. These impacts would be significant because of effects on lithium availability. Because the Proposed Amendments on its own would result in a significant and unavoidable impact, the project's contribution to the significant cumulative impact would also be cumulatively considerable. Implementation of the project-level mitigation identified in Chapter 4 could likely effectively reduce the incremental contribution from the Proposed Project to a less-than-considerable level, but authority to require that mitigation will rest with other agencies that will be authorizing site-specific projects, and not with CARB. Thus, as noted in Chapter 4, CARB's implementation and enforcement of project-level mitigation is legally infeasible. Therefore, the Proposed Amendments **could result in a cumulatively considerable contribution to a significant cumulative impact** on mineral resources.

13. Noise

The State SIP Strategy EA found that implementation of recommended actions, which included the recommendation for the Proposed Amendments, could require construction and operation of new or modified facilities or infrastructure. These activities could result in the generation of short-term construction noise in excess of applicable standards or that results in a substantial increase in ambient levels at nearby sensitive receptors, and exposure to excessive vibration levels, which would be potentially

cumulatively significant. Operational noise impacts would not typically be expected due to the fact that typical compliance response activities would likely occur within footprints of existing facilities, or in areas with zoning that would permit the development of these facilities. However, operational effects of equipment constructed as a result of implementation of recommended actions associated with the Energy Sector and Green Buildings could result in potentially significant impacts. Implementation of mitigation measures would not necessarily reduce these impacts to a less-than-significant level because the ability to determine project-level impacts and impose project-level mitigation lies with land use and/or permitting agencies for individual projects. Thus, implementation of the recommended actions in the SIP Strategy could result in significant cumulative construction and operational noise impacts.

The Proposed Amendments noise and vibration impacts would be significant and unavoidable on their own, as concluded in Chapter 4. These impacts would be significant because of noise and vibration during construction activities, noise from lithium mining activities, and operation of new facilities. Because the Proposed Amendments on its own would result in a significant and unavoidable impact, the project's contribution to the significant cumulative impact would also be cumulatively considerable. Implementation of the project-level mitigation identified in Chapter 4 could likely effectively reduce the incremental contribution from the Proposed Project to a less-than-considerable level, but authority to require that mitigation will rest with other agencies that will be authorizing site-specific projects, and not with CARB. Thus, as noted in Chapter 4, CARB's implementation and enforcement of project-level mitigation is legally infeasible. Therefore, the Proposed Amendments **could result in a cumulatively considerable contribution to a significant cumulative impact** related to noise and vibration.

14. Population and Housing

The State SIP Strategy EA found that implementation of the recommended actions, which included the recommendation for the Proposed Amendments, could require construction and operation of new or modified facilities or infrastructure. Activities related to the construction of these facilities would require relatively small crews, and demand for these crews would be temporary (e.g., 6 to 12 months per project). Therefore, a substantial amount of construction worker migration would not be likely to occur, and a sufficient construction employment base would likely be available. Construction activities would not require new additional housing or generate changes in land use. It would be expected that the aforementioned facilities would be located within areas of consistent zoning and have sufficient employees and housing to support their operation. Therefore, the SIP Strategy including the Proposed Amendments **would not result in a significant cumulative impact related to population and housing growth**.

15. Public Services

The State SIP Strategy EA found that implementation of the recommended actions, which included the recommendation for the Proposed Amendments, could include

construction and operation of new or modified facilities or infrastructure. There is uncertainty as to the exact location of these new facilities or the modification of existing facilities. These would likely occur within footprints of existing facilities, or in areas with zoning that would permit the development of these facilities. Construction activities would be anticipated to require relatively small crews, and demand for these crews would be temporary (e.g., 6 to 12 months per project). Therefore, it would be anticipated that the need for a substantial amount of construction worker migration would not occur and that a sufficient construction employment base would likely be available. Construction activities would not require new additional housing to accommodate or generate changes in land use and, therefore, would not affect the provision of public services. It would be expected that the aforementioned facilities would be located within areas of consistent zoning and have sufficient public services to support their operation. Therefore, activities related to the SIP Strategy, which includes the Proposed Amendments, would **not result in a significant cumulative impact related to public services**.

16.Recreation

The State SIP Strategy EA found that implementation of the recommended actions, which included the recommendation for the Proposed Amendments, could require construction and operation of new or modified facilities or infrastructure. There is uncertainty as to the exact locations of potential new or modified facilities. These activities would likely occur within footprints of existing facilities, or in areas with zoning that would permit their development. In addition, demand for construction of these crews would be temporary (e.g., 6 to 12 months per project). Therefore, it would be anticipated that the need for a substantial amount of construction worker migration would not occur. Thus, construction activities associated with reasonably foreseeable compliance responses would not be anticipated to increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration would be likely to occur. In addition, the demand for new (or expansion of existing) recreational-related facilities would not occur as a result of construction activities. It would be expected that the aforementioned facilities would be located within areas of consistent zoning and have sufficient recreational facilities to support their operation. Therefore, the SIP Strategy including the Proposed Amendments would not result in a **significant cumulative impact related to recreational facilities**.

17.Transportation

The State SIP Strategy EA found that implementation of the recommended measures within the various source categories, which includes the Proposed Amendments, could result in a significant cumulative traffic impact from construction and operational activities associated with new or modified facilities or infrastructure. Although detailed information about potential specific construction activities is not currently available, it would be anticipated to result in short-term construction traffic (primarily motorized) from worker commute- and material delivery-related trips. Implementation of the State SIP Strategy could result in increased demand for Low-Emission Diesel fuels such as

renewable diesel or biomethane, and increased demand for feedstocks and inputs used to produce Low-Emission Diesel. While the total volume of fuel demanded in California is not anticipated to be affected by the proposed Low-Emission Diesel measure, it is anticipated to change the types of fuels consumed, which could result in substantial long-term effects on local routes' traffic patterns due to differences in where feedstocks are sourced, and how the finished fuels are transported. In addition, transportation patterns may change in relation to the location and operational shipping needs of new facilities. Depending on the number of trips generated and the location of new facilities, implementation could conflict with applicable programs, plans, ordinances, or policies (e.g., performance standards, congestion management); and/or result in hazardous design features and emergency access issues from road closures, detours, and obstruction of emergency vehicle movement, especially due to project-generated heavy-duty truck trips. Additionally, as discussed above under Impact 17-1, the CEQA Guidelines have been modified to include consideration of VMT as part of the Appendix G thresholds. This document takes a conservative approach that VMT impacts may also be significant due to increases in VMT across SIP regulations. Implementation of mitigation measures would not necessarily reduce these impacts to a less-than-significant level because the ability to determine project-level impacts and impose project-level mitigation lies with land use and/or permitting agencies for individual projects. Thus, implementation of the recommended actions in the SIP Strategy could result in a significant cumulative transportation impacts.

The Proposed Amendments impacts to transportation would be significant and unavoidable on their own, as concluded in Chapter 4. These impacts would be significant because of the potential for hazardous design features, obstruction of emergency vehicle movement, and increase in VMT. Because the Proposed Amendments on its own would result in a significant and unavoidable impact, the project's contribution to the significant cumulative impact would also be cumulatively considerable. Implementation of the project-level mitigation identified in Chapter 4 could likely effectively reduce the incremental contribution from the Proposed Project to a less-than-considerable level, but authority to require that mitigation will rest with other agencies that will be authorizing site-specific projects, and not with CARB. Thus, as noted in Chapter 4, CARB's implementation and enforcement of project-level mitigation is legally infeasible. Therefore, the Proposed Amendments **could result in a cumulatively considerable contribution to a significant cumulative impact** on transportation.

18. Utilities and Service Systems

The State SIP Strategy EA found that implementation of the recommended actions, which included the recommendation for the Proposed Amendments, could require construction and operations of new or modified facilities or infrastructure. Newly constructed or modified facilities could generate substantial increases in the demand for water supply, wastewater treatment, storm water drainage, and solid waste services in their local areas. Any new or modified facilities would be required to comply with all applicable laws and regulations, including obtaining any required local or State land use

approvals, prior to their development. The specific location and type of construction needs is not known and would be dependent upon a variety of market factors that are not within the control of CARB, including: economic costs, product demands, environmental constraints, and other market constraints. Thus, the specific impacts from construction on utility and service systems cannot be identified with any certainty. Implementation of mitigation measures would not necessarily reduce these impacts to a less-than-significant level because the ability to determine project-level impacts and impose project-level mitigation lies with land use and/or permitting agencies for individual projects. Thus, implementation of the recommended actions in the SIP Strategy could result in a significant cumulative impact with respect to utilities and service systems.

The Proposed Amendments utilities and service systems impacts would be significant and unavoidable on their own, as concluded in Chapter 4. These impacts would be significant because of the possible need for new or expanded manufacturing facilities that increase the demand for utilities and service systems. Because the Proposed Amendments on its own would result in a significant and unavoidable impact, the project's contribution to the significant cumulative impact would also be cumulatively considerable. Implementation of the project-level mitigation identified in Chapter 4 could likely effectively reduce the incremental contribution from the Proposed Project to a less-than-considerable level, but authority to require that mitigation will rest with other agencies that will be authorizing site-specific projects, and not with CARB. Thus, as noted in Chapter 4, CARB's implementation and enforcement of project-level mitigation is legally infeasible. Therefore, the Proposed Amendments **could result in a cumulatively considerable contribution to a significant cumulative impact** related to utilities and service systems.

19. Wildfire

Appendix G of the State CEQA Guidelines was amended in 2018, after certification of the State SIP Strategy EA, to include several questions related to wildfire. The CEQA Guidelines Appendix G questions address: impairment of an adopted emergency response plan or emergency evaluation plan; the potential to exacerbate wildfire risks and associated pollutants and uncontrolled spread of wildfire; the requirement to install or maintain infrastructure that could exacerbate fire risk; and the exposure of people or structure to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

The State SIP Strategy EA evaluated some fire risks in its discussion of hazards. The State SIP Strategy EA discussed the potential for lithium batteries to overheat and ignite, but also concluded that the risk is increased in the case of poor packaging, damage, or exposure to fire or a heat source. When packaged and handled properly, lithium batteries pose no environmental hazard. Additionally, existing methods and recommendations exist for battery system performance to assure that a single point fault will not result in fire or explosion. The SIP Strategy including the Proposed Amendments would result in less than significant impacts related to hazards.

As discussed for Impact 19-1, individual facilities and associated infrastructure would be placed within response areas for various jurisdictions and would be dealt with in the same manner as existing infrastructure. Facilities would be developed in areas that are zoned for industrial or other appropriate uses; therefore, changes or modifications to existing fire response and evacuation plans would not be necessary. Projects implemented under the Proposed Project would not create growth substantial enough to impede emergency response or affect evacuation route capacity. Therefore, the proposed Amendments would not contribute to cumulative impacts related to these resource areas. As discussed in Impact 19-1, adherence to local plans, policies, codes, and ordinances; adherence to the California Fire Code and the provisions of wildfire prevention plans; and oversight by CPUC—would substantially reduce the risk of wildfire ignitions caused by infrastructure development such as overhead powerlines. Other entities operating and constructing power lines would be subject to similar requirements. Therefore, the SIP Strategy including the Proposed Amendments would **not result in a significant cumulative impact related to wildfire**.

D. Growth-Inducing Impacts

A project would be considered growth-inducing if it removes an obstacle to growth, includes construction of new housing, or establishes major new employment opportunities. The reasonably foreseeable compliance responses associated with the Proposed Amendments would not directly result in any growth in population or housing, as the Proposed Amendments are meant to spur changes in the existing TRU fleet and are not meant to create new TRU fleets where they do not exist. Therefore, the Proposed Amendments would not require substantial relocation of employees.

6.0 Mandatory Findings of Significance

Consistent with the requirements of the CEQA Guidelines section 15065 and section 18 of the Environmental Checklist, this ~~Draft~~Final Supplemental EA addresses the mandatory findings of significance for the Proposed Amendments.

A. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat for a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

A finding of significance is required if a project "has the potential to substantially degrade the quality of the environment" (Title 14 CCR Section 15065(a)). In practice, this is the same standard as a significant impact on the environment, which is defined as "a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance" (Title 14 CCR Section 15382). As with all of the environmental effects and issue areas, the precise nature and magnitude of impacts would depend on the types of projects authorized, their locations, their aerial extent, and a variety of site-specific factors that are not known at this time but that would be addressed by environmental reviews at the project-specific level. For projects within California, all of these issues would be addressed through project-specific environmental reviews that would be conducted by local land use agencies or other regulatory bodies at such time as the projects are proposed for implementation. Outside of California, other state and local agencies would consider the proposed projects in accordance with their laws and regulations. CARB would not be the agency responsible for conducting the project-specific environmental or approval reviews because it is not the agency with authority for making land use or project implementation decisions.

This ~~Draft~~Final Supplemental EA addresses and discloses potential environmental effects associated with implementation of the Proposed Amendments, including direct, indirect, and cumulative impacts. As described in Chapter 4, this ~~Draft~~Final Supplemental EA discloses potential environmental impacts, the level of significance prior to mitigation, mitigation measures, and the level of significance after the incorporation of mitigation measures.

B. Does the project have impacts that are individually limited, but cumulatively considerable?

A lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has potential environmental effects that are individually limited, but cumulatively considerable (Title 14 CCR Section 15065). Cumulatively considerable means "that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (Title 14 CCR Section 15065(a)(3))." Cumulative impacts are discussed in Chapter 5 in the ~~Draft~~Final Supplemental EA.

C. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

A lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to cause substantial adverse effects on human beings, either directly or indirectly (Title 14 CCR Section 15065(a)(4)). Under this standard, a change to the physical environment that might otherwise be minor must be treated as significant if people would be significantly affected. This factor relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. While changes to the environment that could indirectly affect human beings would be represented by all of the designated CEQA issue areas, those that could directly affect human beings include air quality, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, population and housing, public services, transportation, and utilities, which are all addressed in Chapter 4, "Impact Analysis" of this ~~Draft~~Final Supplemental EA.

7.0 Alternatives Analysis

This chapter of the ~~Draft~~Final Supplemental EA provides an overview of the regulatory requirements and guidance for alternatives analyses under CEQA; a description of each of the alternatives to the Proposed Amendments; a discussion of whether and how each alternative meets the objectives of the Proposed Amendments, and an analysis of each alternative's environmental impacts.

A. Approach to Alternatives Analysis

CARB's certified regulatory program (title 17 CCR Sections 60000–60008) requires that, where a contemplated action may have a significant effect on the environment, a staff report shall be prepared in a manner consistent with the environmental protection purposes of CARB's regulatory program and with the goals and policies of CEQA. Among other things, the staff reports must address feasible alternatives to the proposed action that would substantially reduce any significant adverse impact identified.

The certified regulatory program provides general guidance that any action or proposal for which significant adverse environmental impacts have been identified during the review process shall not be approved or adopted as proposed if there are feasible mitigation measures or feasible alternatives available which would substantially reduce such an adverse impact. For purposes of this section, "feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors, and consistent with CARB's legislatively mandated responsibilities and duties (Title 14 CCR Section 15364).

While CARB, by virtue of its certified program, is exempt from Chapters 3 and 4 of CEQA and corresponding sections of the State CEQA Guidelines, the Guidelines nevertheless contain useful information for preparation of a thorough and meaningful alternatives analysis. CEQA Guidelines section 15126.6(a) speaks to evaluation of "a range of reasonable alternatives to the project, or the location of the project, which would feasibly attain most of the basic project objectives but would avoid or substantially lessen any of the significant effects, and evaluate the comparative merits of the alternatives." The purpose of the alternatives analysis is to determine whether different approaches to, or variations of, the project would reduce or eliminate significant project impacts, within the basic framework of the objectives, a principle that is consistent with CARB's regulatory requirements.

Alternatives considered in an environmental document should be potentially feasible and should attain most of the basic project objectives. It is, therefore, critical that the alternatives analysis define the project's objectives. The project objectives are listed below in Section C of this Chapter.

The range of alternatives is governed by the "rule of reason," which requires evaluation of only those alternatives "necessary to permit a reasoned choice" (Title 14 CCR Section 15126.6(f)). Further, an agency "need not consider an alternative whose effect cannot

be reasonably ascertained and whose implementation is remote and speculative" (Title 14 CCR Section 15126.6(f)(3)). The analysis should focus on alternatives that are feasible and that take economic, environmental, social, and technological factors into account. Alternatives that are remote or speculative need not be discussed. Furthermore, the alternatives analyzed for a project should focus on reducing or avoiding significant environmental impacts associated with the project as proposed.

B. Selection of Range of Alternatives

This chapter evaluates a range of alternatives to the Proposed Amendments that could reduce or eliminate significant effects on the environment, while still meeting basic project objectives (Title 14 CCR Section 15126.6(a)). Pursuant to CARB's certified regulatory program, this chapter also contains an analysis of each alternative's feasibility and the likelihood that it would substantially reduce any significant adverse environmental impacts identified in the impact analysis contained in Chapter 4 of this ~~Draft~~Final Supplemental EA (Title 17 CCR section 60004.2(a)(5)).

CARB has identified three alternatives that allow the public and Board to contemplate the differences between different approaches. Additionally, CARB has identified but rejected two alternatives from further analysis. CARB has made a good faith effort to identify potentially feasible project alternatives.

For the purposes of this analysis, five alternatives are considered:

1. Alternative 1 (No-Project Alternative)
2. Alternative 2 (Diesel PM Emission Standard Applies to Truck TRUs)
3. Alternative 3 (Shorter Timeline and Reduced Zero-Emission Fleet Percentage for Truck TRUs)
4. Alternative 4 (No Zero-Emission Truck TRU Phase-in Schedule)
5. Alternative 5 (Ultra-Low NOx TRUs)

C. Project Objectives

The primary objectives of the Proposed Amendments include the following:

1. Achieve reductions of NOx, $PM_{2.5}$, GHG, diesel PM, black carbon, and HFC emissions from TRUs to provide public health benefits in communities near facilities that are heavily burdened by freight pollution.
2. Achieve the maximum emission reductions possible from TRUs to attain the NAAQS for criteria air pollutants (Health & Safety Code Sections 43000.5(b), 43018(a)).

3. Develop a regulation that is consistent with and meets the goals of the SIP, providing necessary emission reductions for all of California's nonattainment areas to meet federal ambient air quality standards (Health & Safety Code Sections 39002, 39003, 39602.5, 43018, 43000, 43000.5, 43013, 43018).

4. Reduce the State's dependence on petroleum as an energy resource and support the use of diversified fuels in the State's transportation fleet (Health & Safety Code Section 43000(e), PRC Section 25000.5). In addition, petroleum use as an energy resource contributes substantially to the following public health and environmental problems: air pollution, acid rain, global warming, and the degradation of California's marine environment and fisheries (PRC Section 25000.5(b), (c)).

5. Decrease GHG emissions in support of statewide GHG reduction goals by limiting the use of internal combustion engine-powered TRUs, as identified in the Scoping Plan, which was developed to reduce GHG emissions in California, as directed by AB 32. CARB's 2017 Climate Change Scoping Plan and 2016 Mobile Source Strategy aim to accelerate development and deployment of the cleanest feasible mobile source technologies and to improve access to clean transportation. Implementation of the Proposed Project would also provide further GHG reductions pursuant to AB 1493 (Ch. 200, Stats. of 2002, Pavley).

6. Maintain and continue reductions in emissions of GHGs beyond 2020, in accordance with AB 32 (Health & Safety Code Sections 38551(b), 38562, 38562.5, 38566); pursue measures that implement reduction strategies covering the State's GHG emissions in furtherance of California's mandate to reduce GHG emissions to the 1990 level by 2020 and 40 percent below the 1990 level by December 31, 2030.

7. Decrease HFC emissions through the use of lower-GWP refrigerants in TRUs, in accordance with SB 1383, which requires a 40 percent reduction of HFC emissions below 2013 levels by 2030.

8. Lead the transition of California's off-road sector to zero-emission technology.

9. Complement existing programs and plans to ensure, to the extent feasible, that activities undertaken pursuant to the measures complement, and do not interfere with, existing planning efforts to reduce GHG emissions, criteria pollutants, petroleum-based transportation fuels, and TAC emissions.

10. Achieve emission reductions that are real, permanent, quantifiable, verifiable, and enforceable (Health & Safety Code Sections 38560, 38562(d)(1)).

11. Improve zero-emission technologies for TRUs and fueling infrastructure to guide the acceleration of the development of environmentally superior TRUs that will continue to deliver performance, practicality, and safety demanded by the market.

12. Ensure all Californians can live, work, and play in a healthful environment free from harmful exposure to air pollution. Protect and preserve public health and well-being, and prevent irritation to the senses, interference with visibility, and damage to vegetation and property (Health & Safety Code Section 43000(b)) in recognition that the emission of air pollutants from motor vehicles is the primary cause of air pollution in many parts of the State (Health & Safety Code Section 43000(a)).

D. Description of Alternatives

Detailed descriptions of each alternative are presented below. The analysis that follows the descriptions of the alternatives includes a discussion of the degree to which each alternative meets the basic project objectives, and the degree to which each alternative avoids a potentially significant impact identified in Chapter 4, and any environmental impacts that may result from the alternative.

1. Alternative 1: No-Project Alternative

a) Alternative 1 Description

Alternative 1, the "No-Project Alternative," is included to disclose environmental information that is important for considering the Proposed Amendments. It is useful to include a "No Project Alternative" in this analysis for the same reasons that this type of alternative is called for in the State CEQA Guidelines. As noted in the State CEQA Guidelines, "the purpose of describing and analyzing a no-project alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project" (Title 14 CCR Section 15126.6(e)(1)). The No-Project Alternative also provides an important point of comparison to understand the potential environmental benefits and impacts of the other alternatives.

Under Alternative 1, the Proposed Amendments would not be implemented. There would be no requirement for truck TRUs to transition to full zero-emission technology by 2031. There would be no requirement for newly-manufactured trailer TRU, domestic shipping container TRU, railcar TRU, or TRU generator set engines to meet a more stringent PM emission standard. There would also be no requirement to use lower-GWP refrigerants.

b) Alternative 1 Discussion

i) Objectives

The No-Project Alternative would fail to meet many of the project objectives listed in Chapter 2 (and reproduced above). First, there would be no reductions in criteria air pollutants that would provide public health benefits, achieve NAAQS, and meet the goals of the SIP. The alternative also would not reduce the State's dependence on petroleum for energy or support the use of diversified fuels. Additionally, the No-Project Alternative would not decrease GHG emissions in support of AB 32 or reduce HFC emissions. The No-Project Alternative also would not result in improvements to

zero-emission technologies, nor would it lead the transition of California's off-road sector to zero-emission technology.

In summary, the No Project Alternative would not meet most of the basic project objectives.

ii) Environmental Impacts

There would be no new environmental impacts under the No Project Alternative compared to baseline because no compliance responses would occur. It is anticipated that the No Project Alternative would not result in the development of new manufacturing plants that specialize in the production of batteries, or the modification or expansion of existing production facilities. Thus, no impacts related to new or expanded facilities would occur under the No Project Alternative. Additional lithium mining activities also would not occur.

Without implementation of the Proposed Amendments, the beneficial impacts resulting from the Proposed Amendments would not occur. There would be no reductions in criteria air pollutants that would provide public health benefits, achieve NAAQS, and meet the goals of the SIP. Additionally, the No-Project Alternative would not decrease GHG emissions in support of AB 32, or reduce HFC emissions. Therefore, as described above, this alternative would fail to meet most of the basic project objectives.

2. Alternative 2: Diesel PM Emission Standard Applies to Truck TRUs

a) Alternative 2 Description

Under Alternative 2, all newly-manufactured TRU engines (in truck TRUs, trailer TRUs, domestic shipping container TRUs, railcar TRUs, and TRU generator sets) would be required to meet a more stringent PM emission standard. In contrast to the Proposed Amendments, Alternative 2 would not include a requirement for truck TRUs to transition to zero-emission technology. The refrigerant requirement would remain unchanged from the Proposed Amendments.

b) Alternative 2 Discussion

i) Objectives

The requirement to use lower-GWP refrigerants in new equipment would be the same as for the Proposed Amendments. Therefore, Alternative 2 would meet Objective 7 the same as the Proposed Amendments. Alternative 2 would meet Objective 10 because it would result in emissions reductions that are real, permanent, quantifiable, verifiable, and enforceable.

Alternative 2 would partially meet Objective 1, which is to achieve reductions of NOx, $PM_{2.5}$, GHG, diesel PM, black carbon, and HFC emissions from TRUs to provide public health benefits in communities near facilities that are heavily burdened by freight pollution. Alternative 2 would reduce $PM_{2.5}$, GHG, diesel PM, black carbon, and HFC emissions, but not NOx emissions from TRUs. Alternative 2 would also partially meet Objective 3, which is to be consistent with the goals of the SIP. The SIP TRU measure

included a goal to advance zero and near-zero emission technology for TRUs to reduce NOx, PM, and GHG emissions. Alternative 2 would not advance zero-emission technology or reduce NOx emissions, but would reduce PM and GHG emissions. Alternative 2 would meet Objective 6 because it would reduce GHG emissions. However, Alternative 2 would not meet Objective 6 to the same degree as the Proposed Amendments because truck TRUs would continue to use fossil fuels rather than transition to zero-emission technology. Alternative 2 would partially meet Objective 9 because it would reduce GHG emissions and criteria pollutants, but would still require the use of petroleum-based transportation fuels. Alternative 2 would meet Objective 12, though not to the same extent as the Proposed Amendments.

Alternative 2 would not meet Objective 2 because it would not achieve the maximum emission reductions possible from TRUs, since greater emissions reductions are possible under the Proposed Amendments. Alternative 2 would not meet Objective 4 because TRUs would continue to use petroleum-based fuels. Alternative 2 would not meet Objectives 5, 8, or 11 because it would not limit use of internal combustion engine-powered TRUs, would not lead the transition of the off-road sector to zero-emission technology, and would not improve zero-emission technology for TRUs. In total, Alternative 2 would not meet five of the twelve objectives of the Proposed Amendments. Of the seven objectives Alternative 2 would meet, Alternative 2 meets some partially or to a lesser degree than the Proposed Amendments. Therefore, Alternative 2 could meet most of the basic objectives of the Proposed Amendments.

ii) Environmental Impacts

Under Alternative 2, impacts associated with manufacturing and operating zero-emission technologies would likely not occur. As a result, environmental impacts related to zero-emission TRU manufacturing would not occur or would be substantially reduced. Some impacts would likely occur, however, due to an increased production demand in TRU engines that meet the more stringent PM emission standard, resulting in similar impacts as the Proposed Amendments. These impacts would occur through the development of new or expanded facilities to accommodate new TRU products at TRU manufacturing centers. Impacts related to lithium mining and battery recycling would decrease, given no batteries are needed for TRU engines that meet more stringent PM standards. It is expected, however, that beneficial air quality, GHG, and energy effects would be much less than those that would likely occur with implementation of the Proposed Amendments, because TRUs would not be replaced with zero-emission TRUs. Given these substantially reduced beneficial effects from zero-emission TRUs, it is possible that the construction and operation of new or expanded facilities for the TRUs that meet the more stringent PM emission standard would result in significant adverse GHG and air quality impacts. Therefore, although Alternative 2 would avoid or substantially reduce impacts related to zero-emission TRU manufacturing, it would result in a substantial decrease in beneficial effects compared to the Proposed Amendments.

3. Alternative 3: Shorter Timeline and Reduced Zero-Emission Fleet Percentage for Truck TRUs

a) Alternative 3 Description

Under Alternative 3, the truck TRU compliance timeline would be shorter; however, the ultimate requirement for transitioning to zero-emission would be less than the Proposed Amendments. Under Alternative 3, truck TRU fleets, beginning in 2024, would be required to transition 50 percent of their fleet to zero-emission by 2030. Compared to the Proposed Amendments, this is one year sooner but requires only half of the zero-emission transition. This would result in approximately half of the infrastructure installations that would be expected under the Proposed Amendments. The refrigerant and more stringent diesel PM emission standard requirements would be the same as the Proposed Amendments.

b) Alternative 3 Discussion

i) Objectives

Alternative 3 meets most of the basic project objectives, though it does so to a lesser extent than the Proposed Amendments in some cases because it would not require as many truck TRUs to transition to zero-emission. For example, Alternative 3 meets Objective 1, which is to achieve reductions of NOx, $PM_{2.5}$, GHG, diesel PM, black carbon, and HFC emissions from TRUs to provide public health benefits in communities near facilities that are heavily burdened by freight pollution. However, the emission reductions achieved by Alternative 3 would be less than those under the Proposed Amendments.

Alternative 3 would not meet Objective 2 because it would not achieve the maximum emission reductions possible from TRUs, since greater emissions reductions are possible under the Proposed Amendments.

Alternative 3 would meet Objectives 4 and 6 to reduce the State's dependence on petroleum fuels and decrease GHG emissions, but to a lesser extent than the Proposed Amendments since fewer truck TRUs would transition to zero-emission technology. Alternative 3 would also meet Objectives 5, 8, and 11 to limit use of internal combustion engine-powered TRUs, lead the transition of the off-road sector to zero-emission technology, and improve zero-emission technology for TRUs, but to a lesser extent than the Proposed Amendments.

The requirement to use lower-GWP refrigerant would be the same as for the Proposed Amendments. Therefore, Alternative 3 would meet Objective 7 the same as the Proposed Amendments. Alternative 3 would meet most of the basic project objectives in accordance with CEQA's requirement, but largely not to the same degree as the Proposed Amendments.

ii) Environmental Impacts

Alternative 3 would result in lower overall demand for zero-emission TRUs and supporting infrastructure, such as electric chargers and fueling stations. Alternative 3 would therefore have reduced environmental impacts related to manufacturing of zero-emission TRUs and construction and operation of supporting infrastructure. Decreased environmental impacts would be related to fewer manufacturing facilities and infrastructure installations needed with the smaller scope reducing construction-related activities. As a result, Alternative 3 would lessen short-term construction-related impacts to resource areas such as biological resources, geology and soils, cultural resources, and hydrology and water quality associated with facility construction. Alternative 3 would also produce fewer operational impacts compared to the Proposed Amendments because of the reduced number of manufactured zero-emission TRUs at any potential new or expanded manufacturing facility; however, it is expected that, although impacts would be reduced, potentially significant and unavoidable impacts could still occur as they would under the Proposed Amendments since many of the compliance responses remain the same, albeit at a potentially reduced scale.

It is expected that beneficial air quality, GHG, and energy effects would be less than those that would be likely to occur with implementation of the Proposed Amendments because fewer diesel-powered TRUs would be replaced with zero-emission TRUs.

E. Alternatives Considered but Rejected

Additional alternatives were considered during development of alternatives to the Proposed Project. CEQA Guidelines Section 15126.6(c) includes three factors that may be used to eliminate alternatives from detailed consideration in an EIR: (1) failure to meet most of the basic project objectives; ii. Infeasibility, or iii. Inability to avoid a significant environmental impact.

1. Alternative 4: No Zero-Emission Truck TRU Phase-in Schedule

a) Alternative 4 Description

Alternative 4 would have the same requirements as the Proposed Amendments except for the phase-in schedule for the zero-emission truck TRU element. Under Alternative 4, there would be no annual zero-emission percentage requirement for truck TRUs. Instead, there would be a requirement for all truck TRUs to be zero-emission by December 31, 2029.

b) Alternative 4 Discussion

i) Objectives

Alternative 4 would meet the objectives of the Proposed Amendments because it ultimately would result in the same results as the Proposed Amendments.

ii) Environmental Impacts

The type and character of environmental impacts under Alternative 4 would be the same as for the Proposed Amendments, but could occur at a different speed when compared to the Proposed Amendments. Under Alternative 4, only the truck TRU requirement would be different, and the sole difference is that transitioning to 100 percent zero-emission truck TRU technology can take place at any annual rate under Alternative 4. Ultimately, although the impacts could occur at a different rate, they would be the same in magnitude and type. Therefore, Alternative 4 would not avoid or substantially reduce any significant impacts of the Proposed Project and is rejected for further consideration.

iii) Feasibility

This alternative is potentially feasible taking into account legal, environmental, and technological factors. Without a defined schedule for implementation, there may be concerns about industry meeting the 2031 compliance deadline. For example, should there be procrastination in fleet replacement such that most compliance occurs close to 2031, manufacturers may not have enough capacity to produce all units needed for full compliance.

2. Alternative 5: Ultra-Low NOx Truck TRUs

a) Alternative 5 Description

Alternative 5 would have the same requirements as the Proposed Amendments except for the truck TRU element. Under Alternative 5, truck TRUs would need to use low-NOx engines instead of ultimately transitioning to zero-emission technology, transitioning on the same timeline as for the Proposed Amendments (i.e., 15 percent per year).

b) Alternative 5 Discussion

i) Objectives

This alternative would meet most of the project objectives because it would include all of the types of emissions reductions as the Proposed Amendments, but to a lesser extent because it would only require low-NOx engines instead of zero-emission technology for truck TRUs. Alternative 5 would not meet Objective 2 because it would not achieve the maximum emission reductions possible from TRUs, since greater emissions reductions are possible under the Proposed Amendments. It meets other objectives, but to a lesser extent than the Proposed Amendments. For example, Alternative 5 meets Objective 1, which is to achieve reductions of NOx, $PM_{2.5}$, GHG, diesel PM, black carbon, and HFC emissions from TRUs to provide public health benefits in communities near facilities that are heavily burdened by freight pollution.

Alternative 5 would not meet Objectives 5, 8, and 11 to limit use of internal combustion engine-powered TRUs, lead the transition of the off-road sector to zero-emission technology, and improve zero-emission technology for TRUs, since combustion engines would still be used for truck TRUs. The requirement to use lower-GWP refrigerants in new equipment would be the same as for the Proposed Amendments. Because a

transition to zero-emission technology and promoting zero-emission technology is a critical goal in addition to emissions reductions goals, Alternative 5 would not meet most of the basic project objectives.

ii) Environmental Impacts

Alternative 5 would result in lower overall demand for zero-emission TRUs and would therefore have reduced environmental impacts related to manufacturing of zero-emission truck TRUs. However, such demand may then increase for ultra-low NOx truck TRUs, resulting in similar impacts as the Proposed Amendments. Impacts related to lithium mining and battery recycling may decrease, given no batteries are needed for ultra-low NOx truck TRUs. However, it is uncertain how big of a decrease in impacts that would be. It is expected that beneficial air quality, GHG, and energy effects would be less than those that would likely occur with implementation of the Proposed Amendments, because fewer TRUs would be replaced with zero-emission TRUs. Therefore, Alternative 5 would not avoid or substantially decrease significant impacts of the Proposed Amendments and can be dismissed from further consideration.

iii) Feasibility

Ultra-low NOx TRUs are not yet available, which would make the implementation of 15 percent truck TRU per year infeasible and, should this technology not be developed at a commercial level, could make the ultimate goal of 100 percent transition infeasible. Therefore, this alternative can also be dismissed based on infeasibility.

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