

5.5 AIR QUALITY

This section presents an assessment of the potential for significant adverse air quality impacts resulting from construction and implementation of Marin County's Proposed Project and its alternatives. The potential air quality impacts were assessed based on an emission inventory prepared for each of the alternatives considered in this Environmental Impact Statement (EIS). The assessment was prepared according to guidelines established under Federal Aviation Administration (FAA) Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, and FAA *Air Quality Procedures for Civilian Airports & Air Force Bases*.¹

5.5.1 REGULATORY SETTING

An airport air quality assessment requires consideration under both the Clean Air Act, including the 1990 Amendments (CAA), and the National Environmental Policy Act (NEPA). These two unique legislative acts require distinct analyses and may be separately applicable to an airport project. The CAA provides for the establishment of standards and programs to evaluate, achieve, and maintain acceptable air quality in the U.S. Under the CAA, the U.S. Environmental Protection Agency (USEPA) established a set of standards, or criteria, for six² pollutants determined to be potentially harmful to human health and welfare.³ A description of the criteria pollutants and the standards for the criteria pollutants intended to protect public health, known as the National Ambient Air Quality Standards (NAAQS), are provided in Appendix F, *Air Quality*. Areas of the country where air pollution levels consistently exceed these standards may be designated nonattainment by the USEPA. A discussion of the California Environmental Quality Act (CEQA) and the California air quality standards are also provided in Appendix F.

According to FAA guidelines⁴ that establish procedures to meet NEPA requirements, an air quality assessment prepared pursuant to NEPA regulations should include an analysis by evaluating the impact of the Proposed Action on the NAAQS. The Proposed Action's "build" and "no-build" emissions are inventoried for each reasonable alternative. The net emissions derived from the comparison of the two inventories indicate the relative impact to air quality.

¹ FAA, *Order 1050.1E Environmental Impacts: Policies and Procedures*, March 20, 2006, FAA; and *Air Quality Procedures for Civilian Airports & Air Force Bases*, April 1997, and the Addendum dated September 2004.

² The Clean Air Act required EPA to set National Ambient Air Quality Standards for six pollutants. The EPA still considers there to be six not seven criteria pollutants. Particulate Matter is still considered one pollutant even though PM₁₀ and PM_{2.5} are analyzed. See EPA website. <http://www.epa.gov/air/urbanair/>

³ Code of Federal Regulations, Title 40, Part 50 (40 CFR Part 50) *National Primary and Secondary Ambient Air Quality Standards* (NAAQS), July 2011.

⁴ FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, Appendix A, Section 2 *Air Quality*, June 8, 2004.

The General Conformity regulations under the CAA establishes minimum values, referred to as the *de minimis* thresholds, for the criteria and precursor pollutants⁵ that would have potential for significant air quality impacts. The Federal *de minimis* thresholds established under the CAA are provided in Appendix F.

When a Federal action would not cause annual net emissions that equal or exceed the relevant *de minimis* thresholds for the pollutants of concern, the action would not apply under the General Conformity Rule and further analysis to prepare a General Conformity Determination would not be required. Further, when an action with *de minimis* annual net emissions would not cause an exceedance of the NAAQS, a dispersion analysis to show compliance to the NAAQS would not be required.⁶ Under these circumstances, no further analysis under the CAA or NEPA would be required.

The results of the emissions inventory prepared for each alternative were compared to the emissions for Alternative A (No Action) of the same year to disclose the potential increase in emissions caused by each alternative. The comparison of the emission inventories, which included an inventory of construction emissions, was used for the evaluation of General Conformity as required under the CAA.

A regionally significant Federal action under the CAA is one where the total direct and indirect emissions (net emissions) represent greater than ten percent of the total emissions of any pollutant in the nonattainment or maintenance area, as provided in the State Implementation Plan (SIP) emissions budget. The EPA has recently removed the requirement for the regionally significant test in the most recent change to the General Conformity Regulations effective on July 6, 2010.⁷ Therefore, the regionally significant test does not apply to the alternatives under consideration at DVO.

All input data, assumptions, and methodologies used to develop this air quality assessment are provided in Appendix F. The Air Quality Technical Report provides an overview of the requirements under NEPA and the CAA, and documents FAA's coordination with Federal, state, and local air quality agencies. The existing air quality conditions at DVO are described in Chapter Four, *Affected Environment*.

⁵ Precursor pollutants are pollutants that are involved in the chemical reactions that form the resultant pollutant. Ozone precursor pollutants are NO_x, VOC, and SO₂, whereas PM_{2.5} precursor pollutants include NO_x, VOC, SO_x, and ammonia (NH₃).

⁶ FAA, *Air Quality Procedures for Civilian Airports and Air Force Bases*, April 1997; and Addendum, September 2004. quoted from Section 2.1.5, *National Ambient Air Quality Standards (NAAQS) Assessment*, "If the action is in a nonattainment or maintenance area and exempt or presumed to conform under conformity requirements, it is assumed that a NAAQS assessment is not required for an airport or air base action since it is unlikely the action's pollutant concentrations would exceed the NAAQS."

⁷ (USEPA. 6560-50-P [EPA-HQ-OAR-2006-0669; FRL-9131-7] RIN 2060-AH93 Revisions to the General Conformity regulations. 40 CFR Parts 51 and 93 pgs 52 and 53.

5.5.2 FUTURE CONDITIONS: 2018

**Alternative A:
No Action**

Airfield Configuration: Alternative A is the No Action alternative for 2018. Airport physical conditions such as the airfield configuration are assumed to be unchanged and therefore consistent with Existing Conditions (2008).

Aircraft Activity Levels and Fleet Mix Characteristics: With or without the development of a runway alternative, air traffic is projected to increase each year and by 2018 the number of annual aircraft operations is expected to be 100,500, which is higher than Existing Conditions (2008) by 15,000 operations.

Mobile Sources: Future mobile sources were projected assuming the increase in the number of vehicles at the Airport would be directly related to projected increases in aircraft annual operations.

Stationary Sources: Energy consumption for stationary sources for the 2018 Alternative A analysis year was projected using the growth in aircraft operations.

Emissions Inventory: The emission inventory for this alternative provided in **Table 5.5-1** shows the greatest overall emission contribution comes from aircraft operations. Emissions of Lead (Pb), Course particulate matter (PM₁₀) and Fine particulate matter (PM_{2.5}) are also produced primarily by aircraft engines.

**Table 5.5-1
ALTERNATIVE A (2018) EMISSIONS INVENTORY
Gross Field Airport**

EMISSION SOURCES	ANNUAL EMISSIONS (tons per year)						
	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	Pb
Aircraft	173.36	12.57	1.22	0.49	11.21	11.21	0.13
GSE	0.52	0.08	0.19	0.01	0.01	0.01	NA
GAV in Parking Facilities	0.25	0.03	0.02	0.00	0.00	0.00	NA
GAV on Roadways	0.21	0.01	0.02	0.00	0.00	0.00	NA
Stationary Sources	0.52	17.13	1.22	0.00	0.05	0.05	NA
TOTAL	174.87	29.82	2.67	0.50	11.27	11.27	0.13

CO: Carbon Monoxide
VOC: Volatile Organic Compounds
NO_x: Nitrogen Oxides
SO_x: Sulfur Oxides
PM₁₀: Course particulate matter
PM_{2.5}: Fine particulate matter
Pb: Lead
GSE: Ground Service Equipment
GAV: Ground Access Vehicles
Total emissions may not sum exactly due to rounding.
Source: EDMS ver. 5.1 L&B Analysis, 2009

**Alternative B:
Extend Runway to the Northwest by 1,100 Feet (Sponsor's Proposed Project)**

Airfield Configuration: 2018 Alternative B includes a 1,100 foot extension of Runway 13/31 to the northwest.

Aircraft Activity Levels and Fleet Mix Characteristics: With or without the implementation of this alternative the number of annual aircraft operations for 2018 would be the same as discussed for 2018 Alternative A. However, emissions due to aircraft would change as compared to the 2018 Alternative A because the extension of the runway would cause a change in taxi time. This alternative would result in an increase in average aircraft taxi time as compared to the 2018 Alternative A. Longer taxi times increase annual aircraft emissions. It is expected that Alternative B would have an increased taxi time and therefore increased annual emissions over Alternative D because the extension of Alternative B increases the distance from the central aircraft parking area to the runway ends as compared to Alternative D.

In addition to the increase in taxi time, the aircraft in this alternative would be able to take off with 100 percent of their Maximum Take Off Weight (MTOW) as compared to a reduced MTOW with the aircraft in the 2018 Alternative A. The ability to take off with 100 percent of MTOW as compared to a reduced MTOW would result in an increase in annual aircraft emissions. It is anticipated that under Alternative B, a small number of aircraft would no longer be required to make stops at alternate airports to refuel to reach their final destination and thus reduce emissions. However, given the variability of this activity in terms of which aircraft and airports, and to present the greatest potential emissions, the potential reduction in air emissions at DVO or other area airports was not quantified in this analysis.

Mobile Sources: Alternative B would not increase the number of ground access vehicles using DVO beyond the 2018 Alternative A condition, because there would be no new buildings, hangars, or additional annual aircraft operations.

Stationary Sources: No new buildings or hangars are proposed for 2018 Alternative B, therefore emissions from stationary sources would be the same as 2018 Alternative A.

Emissions Inventory: The emission inventory for 2018 Alternative B provided in **Table 5.5-2**, shows the greatest overall emission contribution comes from aircraft operations. Emissions of Pb, PM₁₀ and PM_{2.5} are also produced primarily by aircraft engines. See Table 5.5-8 at the end of this section for a comparison of the increase in emissions of each alternative against Alternative A for each year.

**Table 5.5-2
ALTERNATIVE B (2018) EMISSIONS INVENTORY
Gross Field Airport**

EMISSION SOURCES	ANNUAL EMISSIONS (tons per year)						
	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	Pb
Aircraft	179.54	14.40	1.32	0.53	11.24	11.24	0.13
GSE	0.52	0.08	0.19	0.01	0.01	0.01	NA
GAV in Parking Facilities	0.25	0.03	0.02	0.00	0.00	0.00	NA
GAV on Roadways	0.21	0.01	0.02	0.00	0.00	0.00	NA
Stationary Sources	0.52	17.14	1.22	0.00	0.05	0.05	NA
TOTAL	181.05	31.66	2.77	0.54	11.30	11.30	0.13

CO: Carbon Monoxide
VOC: Volatile Organic Compounds
NO_x: Nitrogen Oxides
SO_x: Sulfur Oxides
PM₁₀: Course particulate matter
PM_{2.5}: Fine particulate matter
Pb: Lead
GSE: Ground Service Equipment
GAV: Ground Access Vehicles
Total emissions may not sum exactly due to rounding.
NA = Not applicable/Not available
Source: EDMS ver. 5.1, L&B Analysis, 2009.

**Alternative D:
Extend Runway to the Southeast by 240 Feet and to the Northwest by 860 Feet**

Airfield Configuration: 2018 Alternative D includes an extension of Runway 13/31 to the southeast by 240 feet and to the northwest by 860 feet.

Aircraft Activity Levels and Fleet Mix Characteristics: With or without the implementation of this alternative the number of annual aircraft operations for 2018 would be the same as discussed for 2018 Alternative A. However, emissions due to aircraft would change as compared to the 2018 Alternative A because the extension of the runway would cause a change in taxi time. This alternative would result in an increase in average aircraft taxi time as compared to the 2018 Alternative A. Longer taxi times increase annual aircraft emissions. It is expected that Alternative D would have a decreased taxi time compared to Alternative B. Alternative B increases the distance from the central aircraft parking area to the runway ends as compared to Alternative D. Therefore, Alternative D would have decreased annual emissions compared to Alternative B.

In addition to the increase in taxi time, the aircraft in this alternative would be able to take off with 100 percent of their MTOW as compared to a reduced MTOW with the aircraft in the 2018 Alternative A. The ability to take off with 100 percent of MTOW as compared to a reduced MTOW would result in an increase in annual aircraft emissions. It is anticipated that under Alternative D, a small number of

aircraft would no longer be required to make stops at alternate airports to refuel to reach their final destination and thus reduce emissions. However, given the variability of this activity in terms of which aircraft and airports, and to present the greatest potential emissions, the potential reduction in air emissions at DVO or other area airports was not quantified in this analysis.

Mobile Sources: Alternative D would not increase the number of ground access vehicles using DVO beyond the 2018 Alternative A condition or Alternative B, because there would be no new buildings, hangars, or additional annual aircraft operations.

Stationary Sources: No new buildings or hangars are proposed for 2018 Alternative D, therefore emissions from stationary sources would be the same as 2018 Alternative A.

Emissions Inventory: The emission inventory for 2018 Alternative D provided in **Table 5.5-3**, shows the greatest overall emission contribution comes from aircraft operations. Emissions of Pb, PM₁₀ and PM_{2.5} are also produced primarily by aircraft engines. See Table 5.5-8 at the end of this section for a comparison of the increase in emissions of each alternative against Alternative A for each year.

**Table 5.5-3
ALTERNATIVE D (2018) EMISSIONS INVENTORY
Gross Field Airport**

EMISSION SOURCES	ANNUAL EMISSIONS (tons per year)						
	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	Pb
Aircraft	179.28	14.32	1.31	0.53	11.24	11.24	0.13
GSE	0.52	0.08	0.19	0.01	0.01	0.01	NA
GAV in Parking Facilities	0.25	0.03	0.02	0.00	0.00	0.00	NA
GAV on Roadways	0.21	0.01	0.02	0.00	0.00	0.00	NA
Stationary Sources	0.52	17.14	1.22	0.00	0.05	0.05	NA
TOTAL	180.79	31.58	2.77	0.54	11.30	11.30	0.13

CO: Carbon Monoxide
VOC: Volatile Organic Compounds
NO_x: Nitrogen Oxides
SO_x: Sulfur Oxides
PM10: Course particulate matter
PM2.5: Fine particulate matter
Pb: Lead
GSE: Ground Service Equipment
GAV: Ground Access Vehicles
Total emissions may not sum exactly due to rounding.
NA = Not applicable/Not available
Source: EDMS ver. 5.1, L&B Analysis, 2009.

5.5.3 CONSTRUCTION

Although a final construction schedule has not been determined, construction is assumed to be complete before 2018. During the years prior to 2018, a multi-year construction program is proposed. A total inventory of construction emissions was prepared to reflect the use of construction equipment and vehicles. The type and number of construction vehicles and equipment required is based on other similar airport construction projects that have been previously reviewed and approved in NEPA documentation. Modeling assumptions and details of construction tasks are provided in Appendix F, *Air Quality*.

The inventory of construction emissions is summarized in **Table 5.5-4**. While Alternative B proposes to extend the northwest segment of the runway (runway end 13), Alternative D extends both runway ends. However, both Alternative B and Alternative D would have the same overall extension of 1,100 feet and would be expected to involve similar construction equipment, methods, quantities, and materials. Therefore construction emissions of Alternative B would be the same as for Alternative D on an annual basis.

**Table 5.5-4
CONSTRUCTION EMISSIONS INVENTORY
Gross Field Airport**

CONSTRUCTION YEARS	ANNUAL CONSTRUCTION EMISSIONS (tons per year)					
	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}
Year 1	2.64	NA	4.69	0.00	0.22	0.20
Year 2	0.83	NA	1.23	0.00	0.07	0.07

CO: Carbon Monoxide
 VOC: Volatile Organic Compounds
 NOx: Nitrogen Oxides
 SOx: Sulfur Oxides
 PM10: Course particulate matter
 PM2.5: Fine particulate matter
 NA = Not applicable/Not available
 Note: PM10 and PM2.5 values are for construction exhaust emissions only.
 Source: URBEMIS ver. 9.2.4, L&B Analysis, 2009.

Airport construction activities would have a short-term adverse impact on air quality. Air pollution during the construction period would be a consequence of direct emissions from construction equipment. The evaluation of construction emissions showed the annual net emissions would be below the *de minimis* thresholds established under the CAA conformity rules. Construction would not cause a significant adverse air quality impact. In addition, these emissions would be temporary and would be mitigated to the extent possible by Marin County through the construction contractor as they comply with the guidelines in AC 150/5370-10E. Additional mitigation measures to reduce the amount of fugitive dust from construction are provided in Appendix F, *Air Quality*.

5.5.4 FUTURE CONDITIONS: 2023

For air quality impacts, a second timeframe was analyzed that represents five years beyond the opening of the project. The following provides an overview of the potential air quality impacts from operation of the Airport in 2023 under each alternative condition.

**Alternative A:
No Action**

Airfield Configuration: Alternative A is the No Action alternative for 2023. Airport physical conditions are assumed to be consistent with Existing Conditions (2008).

Aircraft Activity Levels and Fleet Mix Characteristics: With or without the development of a runway alternative, air traffic is projected to increase each year and by 2023 the number of annual aircraft operations is expected to be 112,200, which is higher than 2018 conditions by 11,700 operations.

Mobile Sources: Future mobile sources were projected assuming the increase in the number of vehicles at the Airport would be directly related to projected increases in aircraft annual operations.

Stationary Sources: Energy consumption for stationary sources for the 2023 Alternative A analysis year was projected using the growth in aircraft operations.

Emissions Inventory: The emission inventory for this alternative provided in **Table 5.5-5** shows the greatest overall emission contribution comes from aircraft operations.

**Table 5.5-5
ALTERNATIVE A (2023) EMISSIONS INVENTORY
Gross Field Airport**

EMISSION SOURCES	ANNUAL EMISSIONS (tons per year)						
	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	Pb
Aircraft	193.57	14.04	1.36	0.54	12.52	12.52	0.14
GSE	0.56	0.07	0.11	0.01	0.01	0.01	NA
GAV in Parking Facilities	0.27	0.02	0.01	0.00	0.00	0.00	NA
GAV on Roadways	0.23	0.01	0.01	0.00	0.00	0.00	NA
Stationary Sources	0.52	17.18	1.22	0.00	0.05	0.05	NA
TOTAL	195.14	31.33	2.72	0.56	12.58	12.58	0.14

Total emissions may not sum exactly due to rounding.
Source: EDMS ver. 5.1 L&B Analysis, 2010

**Alternative B:
Extend Runway to the Northwest by 1,100 Feet (Sponsor's Proposed Project)**

Airfield Configuration: 2023 Alternative B would include no additional development, so the airfield layout would be the same as 2018 Alternative B.

Aircraft Activity Levels and Fleet Mix Characteristics: With or without the implementation of this alternative the number of annual aircraft operations for 2023 would be the same as discussed for 2023 Alternative A. However, emissions due to aircraft would change as compared to the 2023 Alternative A because the extension of the runway would cause a change in taxi time. This alternative would result in an increase in average aircraft taxi time as compared to the 2023 Alternative A. Longer taxi times increase annual aircraft emissions. It is expected that Alternative B would have an increased taxi time and therefore increased annual emissions over Alternative D because the extension of Alternative B increases the distance from the central aircraft parking area to the runway ends as compared to Alternative D.

In addition to the increase in taxi time, the aircraft in this alternative would be able to take off with 100 percent of their MTOW as compared to a reduced MTOW with the aircraft in the 2023 Alternative A. The ability to take off with 100 percent of MTOW as compared to a reduced MTOW would result in an increase in annual aircraft emissions. It is anticipated that under Alternative B, a small number of aircraft would no longer be required to make stops at alternate airports to refuel to reach their final destination and thus reduce emissions. However, given the variability of this activity in terms of which aircraft and airports, and to present an estimate of the greatest potential emissions, the potential reduction in air emissions at DVO or other area airports was not quantified in this analysis.

Mobile Sources: Alternative B would not increase the number of ground access vehicles using DVO beyond the 2023 Alternative A condition, because there would be no new buildings, hangars, or additional annual aircraft operations.

Stationary Sources: No new buildings or hangars are proposed for 2023 Alternative B, therefore emissions from stationary sources would be the same as 2023 Alternative A.

Emissions Inventory: The emission inventory for 2023 Alternative B provided in **Table 5.5-6**, shows the greatest overall emission contribution comes from aircraft operations. See Table 5.5-8 at the end of this section for a comparison of the increase in emissions of each alternative against Alternative A for each year.

**Table 5.5-6
ALTERNATIVE B (2023) EMISSIONS INVENTORY
Gross Field Airport**

EMISSION SOURCES	ANNUAL EMISSIONS (tons per year)						
	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	Pb
Aircraft	200.46	16.08	1.47	0.59	12.55	12.55	0.15
GSE	0.56	0.07	0.11	0.01	0.01	0.01	NA
GAV in Parking Facilities	0.27	0.02	0.01	0.00	0.00	0.00	NA
GAV on Roadways	0.23	0.01	0.01	0.00	0.00	0.00	NA
Stationary Sources	0.52	17.18	1.22	0.00	0.05	0.05	NA
TOTAL	202.03	33.37	2.83	0.61	12.61	12.61	0.15

Total emissions may not sum exactly due to rounding.

NA = Not applicable/Not available

Source: EDMS ver. 5.1, L&B Analysis, 2010.

Alternative D:

Extend Runway to the Southeast by 240 Feet and to the Northwest by 860 Feet

Airfield Configuration: 2023 Alternative D would include no additional development, so the airfield layout would be the same as 2018 Alternative D.

Aircraft Activity Levels and Fleet Mix Characteristics: With or without the implementation of this alternative the number of annual aircraft operations for 2023 would be the same as discussed for 2023 Alternative A. However, emissions due to aircraft would change as compared to the 2023 Alternative A because the extension of the runway would cause a change in taxi time. This alternative would result in an increase in average aircraft taxi time as compared to the 2023 Alternative A. Longer taxi times increase annual aircraft emissions. It is expected that Alternative D would have a decreased taxi time compared to Alternative B. Alternative B increases the distance from the central aircraft parking area to the runway ends as compared to Alternative D. Therefore Alternative D would have decreased annual emissions compared to Alternative B.

In addition to the increase in taxi time, the aircraft in this alternative would be able to take off with 100 percent of their MTOW as compared to a reduced MTOW with the aircraft in the 2023 Alternative A. The ability to take off with 100 percent of MTOW as compared to a reduced MTOW would result in an increase in annual aircraft emissions. It is anticipated that under Alternative D, a small number of aircraft would no longer be required to make stops at alternate airports to refuel to reach their final destination and thus reduce emissions. However, given the variability of this activity in terms of which aircraft and airports, and to present a worst case scenario for estimated emissions, the potential reduction in air emissions at DVO or other area airports was not quantified in this analysis.

Mobile Sources: Alternative D would not increase the number of ground access vehicles using DVO beyond the 2023 Alternative A condition or Alternative B, because there would be no new buildings, hangars, or additional annual aircraft operations.

Stationary Sources: No new buildings or hangars are proposed for 2023 Alternative D, therefore emissions from stationary sources would be the same as 2023 Alternative A.

Emissions Inventory: The emission inventory for 2023 Alternative D provided in **Table 5.5-7**, shows the greatest overall emission contribution comes from aircraft operations. See Table 5.5-8 at the end of this section for a comparison of the increase in emissions of each alternative against the No Action condition for each year.

**Table 5.5-7
ALTERNATIVE D (2023) EMISSIONS INVENTORY
Gross Field Airport**

EMISSION SOURCES	ANNUAL EMISSIONS (tons per year)						
	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	Pb
Aircraft	200.17	16.00	1.47	0.59	12.55	12.55	0.15
GSE	0.56	0.07	0.11	0.01	0.01	0.01	NA
GAV in Parking Facilities	0.27	0.02	0.01	0.00	0.00	0.00	NA
GAV on Roadways	0.23	0.01	0.01	0.00	0.00	0.00	NA
Stationary Sources	0.52	17.18	1.22	0.00	0.05	0.05	NA
TOTAL	201.75	33.29	2.83	0.60	12.61	12.61	0.15

Total emissions may not sum exactly due to rounding.

NA = Not applicable/Not available

Source: EDMS ver. 5.1, L&B Analysis, 2010.

5.5.5 DETERMINATIONS

5.5.5.1 NEPA Analysis

For a Federal action, an air quality NEPA analysis is needed to determine the proposed action's potential impact on air quality. Therefore, emission inventories were prepared for each reasonable alternative being considered in this EIS. The inventories were then compared to Alternative A emissions of the same year to discern the net emissions (the difference between the total emissions from each of the development alternatives and Alternative A). **Table 5.5-8**, summarizes the net difference in emissions and compares that to the CAA conformity threshold for each pollutant. If an alternative's net emissions exceed the conformity threshold then a significant impact would occur. Conversely, if an alternative's net emissions do not exceed the conformity threshold then a significant impact would not occur.

**Table 5.5-8
ANNUAL NET EMISSIONS OF CRITERIA AND PRECURSOR AIR POLLUTANTS
AND CONFORMITY THRESHOLD (BUILD ALTERNATIVES COMPARED TO NO
ACTION OF THE SAME YEAR)
Gross Field Airport**

ALTERNATIVES	IMPACT OF CRITERIA AND PRECURSOR						
	POLLUTANT EMISSIONS						
	(in tons per year)						
	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	Pb
CLEAN AIR ACT Conformity Threshold	100	100	100	100	NA	100	NA
BAAQMD Threshold	NA	NA	10	NA	15	10	NA
Construction Year 1							
Alternative B	2.64	NA	4.69	0.00	0.22	0.20	NA
Alternative D	2.64	NA	4.69	0.00	0.22	0.20	NA
Construction Year 2							
Alternative B	0.83	NA	1.23	0.00	0.07	0.07	NA
Alternative D	0.83	NA	1.23	0.00	0.07	0.07	NA
2018							
Alternative B	6.18	1.83	0.10	0.04	0.03	0.03	0.00
Alternative D	5.92	1.76	0.10	0.04	0.03	0.03	0.00
2023							
Alternative B	6.89	2.05	0.11	0.05	0.03	0.03	0.01
Alternative D	6.61	1.96	0.11	0.04	0.03	0.03	0.01

CO: Carbon Monoxide
VOC: Volatile Organic Compounds
NO_x: Nitrogen Oxides
SO_x: Sulfur Oxides
PM₁₀: Course particulate matter
PM_{2.5}: Fine particulate matter
Pb: Lead
NA = Not applicable/Not available
Total emissions may not sum exactly due to rounding.
Source: EDMS ver. 5.1, L&B, 2009.

Alternative B and Alternative D were compared to Alternative A of the same year. Annual net emissions of CO for Alternative B and D for 2018, are well below the threshold of 100 tons per year. Annual net emissions of CO for Alternative B and D for 2023, are also well below the threshold of 100 tons per year. Annual net emissions of PM_{2.5} for Alternative B and D for 2018, as compared to Alternative A are well below the Federal threshold of 100 tons per year and the California threshold of 10 tons per year. Annual net emissions of VOC and NO_x for Alternative B and D are also well below the de minimis thresholds established under the CAA.

The evaluation showed that the net emissions for each project alternative in 2018 and 2023 and from construction activities would be below the CAA thresholds, would not exceed any NEPA significance criteria, and therefore would have not have the potential for significant air quality impacts.

5.5.5.2 State Implementation Plan (SIP) Compliance

According to the CAA, each state must provide the USEPA with a SIP. The SIP must include a strategy for air quality improvement in local areas for each criteria pollutant that exceeds the NAAQS. The SIP must also include a plan to maintain acceptable air quality in areas that do not exceed the NAAQS.

The California SIP is made up of a series of plans for each of the major air basins in the state. The Final Bay Area 2010 Clean Air Plan⁸ was adopted on September 15, 2010.

The air quality evaluation showed that annual net emissions caused by operation and construction of the alternatives, would not equal or exceed the relevant *de minimis* thresholds for the pollutants of concern. Therefore the alternatives would be assumed to comply with the Final Bay Area 2010 Clean Air Plan/SIP because the alternatives would not cause or contribute to new violations of any NAAQS; increase the frequency or severity of existing violations of any NAAQS; or, delay the timely attainment of any NAAQS or any required interim emission reductions or milestones. A more detailed discussion of the Final Bay Area 2010 Clean Air Plan is provided in Appendix F.

5.5.5.3 General Conformity Evaluation

The evaluation of General Conformity showed that annual net emissions caused by operation and construction of Alternative B or Alternative D, would not equal or exceed the relevant *de minimis* thresholds for the pollutants of concern and therefore, would not have a potential for significant air quality impacts in Marin County. A CAA General Conformity Determination is not necessary for Alternative B or Alternative D.

Further, because the emissions caused by Alternative B and the other alternatives are *de minimis*, in accordance with FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, and FAA *Air Quality Procedures for Civilian Airports & Air Force Bases* the project is determined not to cause an exceedance of the NAAQS⁹, and there is no requirement to conduct dispersion analysis to compare project-related emissions to the NAAQS. Consequently, Alternative B and Alternative D comply with CAA Section 176(c) (1). No further analysis or reporting is required under the provisions of the CAA or NEPA guidelines.

⁸ Bay Area Air Quality Management District. Final Bay Area Clean Air Plan. September 15, 2010.

⁹ FAA, *Air Quality Procedures for Civilian Airports and Air Force Bases*, April 1997; and Addendum, September 2004 quoted from Section 2.1.5, NAAQS Assessment, "If the action is in a nonattainment or maintenance area and exempt or presumed to conform under conformity requirements, it is assumed that a NAAQS assessment is not required for an airport or air base action since it is unlikely the action's pollutant concentrations would exceed the NAAQS."

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