APPENDIX J

AIR QUALITY TECHNICAL MEMORANDUM

SYNERGY
CONSULTANTS, INC

Memo

To: Sarah Lucas, WH Pacific

From: Mary Vigilante

Date: March 25, 2010

Re: Grove Field – Camas Washington Air Quality Analysis

Attached is a revised Draft Air Quality Technical Memo reflecting the clarification concerning the tunnel versus the realigned roadway.

Note that the changes were made on Page 4 (2nd full para) and 8 (1st para following the table). Let me know if you think anything else is needed.

Note that to avoid splitting tables across pages, I have done some very minor formatting,

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AIR QUALITY AND GREENHOUSE GASES

The following sections discuss the air quality implications of the proposed projects at Grove Field in terms of air emissions, including a general conformity evaluation, per the requirements of the Clean Air Act.

1. Background

The U.S. Environmental Protection Agency (USEPA) has adopted air quality standards that specify the maximum permissible short-term and long-term concentrations of air contaminants. The National Ambient Air Quality Standards (NAAQS) consist of a primary and secondary standard for each pollutant as presented in **Table 1**. Air quality standards are the levels established to protect the public health and welfare from harm within a margin of safety. All areas of the country are required to demonstrate attainment with the NAAQS.

The Washington State Department of Ecology (Ecology) has established State ambient air quality standards that are at least as stringent as the national standards. The Southwest Clean Air Agency (SWCAA) administers these standards.

The air quality standards focus on limiting the quantity of six criteria pollutants:

- Ozone (O_3)
- Carbon Monoxide (CO)
- Nitrogen Dioxides (NO_2)
- Particulate Matter (PM_{10} and $PM_{2.5}$)
- Sulfur Dioxide (SO_2)
- Lead (Pb)

Volatile Organic Compounds (VOCs) are not a criteria pollutant and therefore no ambient air standards have been established for this pollutant. Since VOCs, however, react with nitrogen oxides (NOx) in sunlight to form ozone, VOCs, and NOx emissions are included in this analysis.

The Clean Air Act requires states with areas that exceed the NAAQS to develop plans for each area that, when implemented, would reduce emissions and attain the standards. These attainment plans must be adopted by the state and submitted to the USEPA in the form of a State Implementation Plan (SIP). Compliance with the NAAQS (i.e., establishing the area as attainment or non-attainment) is determined by long-term monitoring throughout the Region.

Grove Field Airfield is located in Camas, Washington in the hilly portion of Clark County, east of Vancouver along the Columbia River. The population of Camas is just under 17,000 people. The pollutants of concern in this airshed are carbon monoxide (CO) and ozone (O_3). The two largest sources of wintertime CO in this area are residential wood combustion and on-road mobile sources.[1]

[1] http://www.swcleanair.org/pdf/co_plan/VancouverCO_Plan.pdf

TABLE 1
AMBIENT AIR QUALITY STANDARDS

Pollutant	National		State of Washington
	Primary	Secondary	
Carbon Monoxide			
8-Hour Average[a]	9 ppm	N/A	9 ppm
1-Hour Average[a]	35 ppm	N/A	35 ppm
Particulate Matter(PM_{10})			
24-Hour Average[c]	150 $\mu g/m^3$	150 $\mu g/m^3$	150 $\mu g/m^3$
Particulate Matter($PM_{2.5}$)			
Annual Arithmetic Ave.[g]	15 $\mu g/m^3$	15 $\mu g/m^3$	15 $\mu g/m^3$
24-Hour Average[c]	35 $\mu g/m^3$	35 $\mu g/m^3$	35 $\mu g/m^3$
Total Suspended Particulate Matter(TSP)			
Annual Geometric Mean	NA	NA	60 $\mu g/m^3$
24-hour	NA	NA	150 $\mu g/m^3$
Ozone			
8- Hour Average[d]	0.075ppm	0.075ppm	0.075ppm
1-Hour Average	NA	NA	0.12 ppm
Sulfur Dioxide			
Annual Average[e]	0.03 ppm	N/A	0.02 ppm
24-Hour Average[e]	0.14 ppm[a]	N/A	0.10 ppm[a]
3-Hour Average	N/A	0.50 ppm	N/A
1-Hour Average[f]	N/A	N/A	0.25 ppm
1-Hour Average[e]	N/A	N/A	0.40 ppm[a]
Lead			
Calendar Quarter Average[e]	1.5 $\mu g/m^3$	1.5 $\mu g/m^3$	N/A
Nitrogen Dioxide			
Annual 1-Hour Mean[e]	0.053 ppm	0.053 ppm	0.05 ppm

Notes:

ppm = parts per million

$\mu g/m^3$ = micrograms per cubic meter

Annual, Quarter, and 30-day standards never to be exceeded; shorter-term standards not to be exceeded more than once per year unless noted.

N/A - Not Applicable

a. Not to be exceeded more than once a year.

b. Standard attained when the expected annual arithmetic mean concentrations is less than or equal to 50$\mu g/m^3$

c. Three year average of the 98th percentile of daily concentrations must not exceed standard.

d. To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations must not exceed.

e. Never to be exceeded.

f. Not to be exceeded more than twice in seven consecutive days.

g. The three-year average of the concentrations must not exceed the standard.

Source: EPA & Washington Department of Ecology

The Portland/Vancouver AQMA fell out of compliance with CO standards in 1990 with the passage of the Clean Air Act Amendments, which included a new national standard for CO. The NAAQS for CO is 9 ppm for an 8-hour average and 35 ppm for a 1-hour average, not to be exceeded more than once per year. The current 8-hour CO design value for the Vancouver area is 4.8 ppm based on 2004-2005 data, far below the NAAQS listed in **Table 1**. Since 1992, the area has complied with the CO standard. In

1995, the Portland/Vancouver AQMA divided into two maintenance areas (one for Portland and the other for Vancouver, which includes Camas) and in 1996 the Vancouver area was formally designated by USEPA a CO maintenance area, and is thus subject to a Maintenance Plan/State Implementation Plan. [2]

The Vancouver Air Quality Maintenance Area has met the required standards due to national and local controls. The carbon monoxide control strategy for the area includes an auto Inspection and Maintenance (I&M) Program operated by the Washington Department of Ecology. This program began in June of 1993 and requires automobiles registered within the area to be inspected by the State bi-annually prior to license renewal. The I&M testing has been expanded into the Ridgefield, Battle Ground, Brush Prairie, and La Center areas.

SWCAA data shows a gradual reduction in ambient levels of CO in the Vancouver/Portland area. Subsequently, the monitoring station for CO at the Atlas and Cox location, approximately 16 miles from Camas, was discontinued in October of 2006.

The SWCAA and the Oregon Department of Environmental Quality (DEQ) established an ozone maintenance plan in 1996 that contains strategies to reduce ozone precursors and ensure compliance with the 1-hour standard. On June 15, 2004, the USEPA designated the Portland/Vancouver AQMA in attainment with the ozone 8-hour maintenance standards. The USEPA revoked the 1-hour ozone standard in 2005. Although the area is subject to a maintenance plan for the 1-hour ozone standard, a general conformity analysis is not required, as the 1-hour ozone standard was revoked by USEPA.

2. Methodology

FAA Order 1050.1E (change 1) *Environmental Impacts: Policies and Procedures* identifies the analysis requirements for air quality. That approach relies on the FAA's *Air Quality Procedures for Civilian Airports and Air Force* to provide guidance concerning the breadth of air quality review required under NEPA. That document indicates:

> … not all of the steps are required for every action. Many projects at airports and air bases are too small to require detailed air quality analysis and only a few projects are both broad enough in scope and located in nonattainment or maintenance areas such that the full complement of analyses described in this handbook would be required. Screening techniques that streamline the process for many air quality assessment actions are available… (page 7)

Actions that would not increase airport capacity, lead to increased congestion of roadways or airfields, or relocate aircraft or vehicular activity closer to sensitive receptors are not likely to exceed the NAAQS for CO. For deciding whether or not a NAAQS assessment should be considered, the total number of airport passengers and general aviation/air taxi operations should be evaluated. If the level of annual enplanements exceeds 1,300,000 (or 2.6 MAP), the level of general aviation and air taxi activity exceeds 180,000 operations per year or a combination thereof, a NAAQS assessment should be considered. (page 19-20)

[2] http://www.swcleanair.org/pdf/co_plan/VancouverCO_Plan.pdf

Current (2004) activity levels at Grove Field are approximately 7,500 annual total aircraft operations and no scheduled passenger enplanements. Through the planning horizon considered for this EA, activity levels are not expected to exceed 10,742 operations and no scheduled passengers are expected.

FAA guidance also indicates that an air quality analysis may be needed if an indirect source permit is required. Washington does not have an indirect source permit requirement. However, as is noted, the Clark County is part of the Vancouver-Portland airshed and is subject to a carbon monoxide (CO) maintenance plan/SIP. Therefore, an air quality emissions inventory analysis was prepared for all criteria pollutants, as well as a General Conformity Applicability Analysis for carbon monoxide.

For this analysis, an inventory was prepared for those sources that would be affected by the proposed actions. Construction activity would be necessary to complete the runway extension, which will produce construction vehicle exhaust emission, as well as construction employee commute-related emissions. As noted in the Purpose and Need Chapter and Alternatives Chapter of the EA, the proposed actions would not alter the number of aircraft operations serving Grove Field, as the airfield revision will enable the Airport to meet current runway safety area standards. As a result, aircraft taxi patterns would be altered with the proposed project. The airfield change will also require some alteration to Delp Road in the immediate airport vicinity. At this time, there are three build alternatives under consideration for Delp Road: a tunnel under the extended runway, or two realignment options that would relocate the roadway around the extended runway. For purposes of this air quality evaluation, the emissions associated with the realigned Delp Road were used to demonstrate conformity with the State Implementation Plan. While short-term construction emissions might be greater with the tunnel option during the one year construction period, ongoing operational emissions would be greater for each year subsequent to construction with the realigned roadway due to a slight increase in Vehicle Miles Traveled (VMT).

This air quality analysis focused on quantifying the emissions associated with these activities. The emissions inventory was prepared, as applicable to each source, for existing conditions (2004), and future conditions (2012, 2016, and 2020) for the No Action and With Project alternatives. These years represent:

- 2012: First Full Operational Year
- 2016: Last Year of Carbon Monoxide Maintenance Plan
- 2020: Future Operational Year

The aircraft, ground support equipment (GSE), and surface travel emissions inventory was performed using the FAA's Emissions and Dispersion Modeling System (EDMS) Version 5.1. FAA requires the use of this model in airport environmental studies, and EDMS is approved by the USEPA. Default aircraft time-in-mode from EDMS was used for all scenarios and all aircraft based on the anticipated levels of activity. Similarly, default GSE equipment and their use were assumed, as the proposed project would not alter GSE use.

Included in this evaluation was a review of air emissions associated with ground vehicle use, using vehicle miles traveled over the roadway link that would be affected by the proposed project. This air quality evaluation identifies the changes in emissions associated with the vehicle miles traveled (VMT), based on the emissions factors noted in EDMS (which reflects EPA's MOBILE6 factors). VMT was

determined based on the length of Delp Road that would be altered by the proposed project, and the number of vehicles traversing that roadway based on actual vehicle counts during 2009. Activity levels of vehicle using the roadway were increased one percent per year to represent regional background growth in the area over the planning years noted above.

The evaluation of construction emissions was conducted using the EPA's NONROAD2008 model using construction equipment emission factors specific to Clark County. Construction equipment mix and use was estimated based on the cost estimates prepared for the proposed project, translated into estimates of construction vehicle use. These estimates included: material delivery, construction employee work commute, and site preparation/pavement.

3. Existing Conditions (2004)

Based on current activity levels and aircraft fleet mix, an emissions inventory was prepared for the criteria pollutants as listed in **Table 4** to quantify the yearly emissions by aircraft and ground support equipment. The existing inventory does not include construction or passenger VMT-related emissions, as the proposed project/actions were not in place during 2004. Emissions of Carbon Monoxide (CO), Volatile Organic Compounds (VOC), Nitrogen Oxides (NOx), Sulfur Oxides (SOx), and Particulate Matter (PM_{10} and $PM_{2.5}$) were quantified.

TABLE 4

CURRENT EMISSIONS (2004) OF SOURCES THAT MAY BE AFFECTED BY THE PROPOSED PROJECT
(Tons/Year)

Pollutant	Aircraft	Ground Support Equipment	Surface Travel	Construction	Total
Carbon Monoxide	25.72	0.03	N/A	N/A	25.75
Volatile Organic Compounds	0.54	0.01	N/A	N/A	0.56
Nitrogen Oxides	0.01	0.13	N/A	N/A	0.15
Sulfur Oxides	0.03	0.02	N/A	N/A	0.05
Particulate Matter (PM_{10})	N/A	<0.01	N/A	N/A	<0.01
Particulate Matter ($PM_{2.5}$)	N/A	<0.01	N/A	N/A	<0.01

N/A – Not available
Source: Synergy Consultants, July 2009 Using EDMS 5.1

4. Future Conditions

General conformity also requires the consideration of peak year of project-related emissions. For airport projects, the peak year of emissions is often during construction. Current plans for the project indicated that Delp Road would be altered (relocated or tunneled) during a six-month period in one year, and the runway extended/realigned in a six-month period in the following year. To present a worst-case construction emissions, all construction was assumed to occur in one year. This assumption is reflected

in **Table 5,** which summarizes these construction-related emissions.

TABLE 5
CONSTRUCTION EMISSIONS – WITH PROJECT
(tons during construction year)

Pollutant	Project-Related Emissions
Carbon Monoxide (CO)	12.97
Volatile Organic Compounds(VOC)	1.57
Nitrogen Oxides (NOx)	9.76
Sulfur Oxides (SOx)	0.23
Particulate Matter (PM_{10})	45.14
Particulate Matter ($PM_{2.5}$)	45.14

Note PM10 and PM2.5 includes fugitive dust related emissions. All fugitive dust is assumed to be PM10 and PM2.5

Note: Reflects worse case emissions with all construction occurring in one year.
Source: Synergy Consultants, Inc. August 2009

TABLE 6
Summary of Operational Emissions (tons per year)

	Operational Emissions		
Pollutant	No Action	With Project	Project Related Emissions
Year 2012			
Carbon Monoxide	32.16	33.05	0.89
Volatile Organic Compounds	0.74	0.77	0.03
Nitrogen Oxides	0.16	0.20	0.04
Sulfur Oxides	0.03	0.04	0.01
Particulate Matter (PM_{10})	<0.01	<0.01	<0.01
Particulate Matter ($PM_{2.5}$)	<0.01	<0.01	<0.01
Year 2016			
Carbon Monoxide	35.84	36.76	0.92
Volatile Organic Compounds	0.81	0.83	0.02
Nitrogen Oxides	0.09	0.16	0.07
Sulfur Oxides	0.04	0.04	0.00
Particulate Matter (PM_{10})	<0.01	<0.01	<0.01
Particulate Matter ($PM_{2.5}$)	<0.01	<0.01	<0.01
Year 2020			
Carbon Monoxide	39.52	40.48	0.96
Volatile Organic Compounds	0.86	0.90	0.04
Nitrogen Oxides	0.07	0.09	0.02
Sulfur Oxides	0.04	0.04	0.00
Particulate Matter (PM_{10})	<0.01	<0.01	<0.01
Particulate Matter ($PM_{2.5}$)	<0.01	<0.01	<0.01

Note: With Project emissions include the worst case alternative for Delp Road.
Source: Synergy Consultants, Inc. August 2009

To evaluate the effect of the proposed actions on air quality, emissions inventories for the No Action and With Project alternatives were prepared**.** **Table 6** summarizes the operational emissions of the proposed project represented by the years 2012, 2016, and 2020. Note that this table reflects the worst case emissions associated with Delp Road. The first full operational year with the proposed action would be 2012. In accordance with the General Conformity requirements, the end year of the Maintenance Plan (2016) was evaluated.

4.1. No Action

With the No Action, the proposed project would not be undertaken. Therefore, no project-related construction would occur and no construction emissions.

As is shown by comparing **Table 7** and **Table 4**, emissions of almost all pollutants are anticipated to increase regardless of whether or not the proposed projects are undertaken, as activity levels at the Airport are expected to increase. Without the proposed projects, CO emissions would be expected to increase 11.4% between 2012 and 2016 with an expected increase of 22.9% between 2012 and 2020 (from 32.16 tons in 2012 to 39.52 tons per year by 2020), VOC emissions are expected to increase 17.7% from 2012 to 2020 (from 0.73 tons to 0.86 tons per year). Due to the turnover of the U.S. automobile fleet with higher fuel efficiency and lower emissions, NOx emissions would be expected to decrease by 56.3% between 2012 and 2020 (from 0.16 tons to 0.07 tons per year). SOx levels would be expected to increase 33.3% between 2012 and 2020 (from 0.03 tons to 0.04 tons per year). PM (both PM_{10} and $PM_{2.5}$) would be expected to show no material change over time regardless of whether or not the proposed projects are undertaken.

4.2 With Project

With the proposed projects, short-term construction emissions would arise , and once completed, the proposed projects would alter aircraft taxi patterns and may alter traffic distances on Delp Road. As noted earlier, three build alternatives have been identified to address the need to relocate Delp Road:

- Relocation of the roadway around the extended runway:
    - Alternative 5: Would build a replacement segment of Delp Road that is approximately 1,700 feet long. This new segment would increase travel distance by about 900 feet;
    - Alternative 6: Would build a replacement segment of Delp Road that is approximately 1,300 feet long. This new segment would increase travel distance by about 600 feet.
- Tunnel under the runway at the present location (Alternative 7) would not alter travel distances on Delp Road.

Because of the amount replacement roadway that would be built and the increase in vehicle mile traveled, Delp Road Alternative 5 was carried forward as the worst case from an emissions perspective for the review of construction emissions as well as operational emissions.

TABLE 7
NO ACTION EMISSIONS – 2012, 2016 AND 2020
(Tons/Year)

		Operational Emissions		
Pollutant	**Aircraft**	**Ground Support Equip**	**Surface Travel**	**Total**
2012				
Carbon Monoxide	31.36	0.02	0.78	32.16
Volatile Organic Compounds	0.68	0.01	0.05	0.74
Nitrogen Oxides	0.02	0.06	0.08	0.16
Sulfur Oxides	0.03	<0.01	<0.01	0.03
Particulate Matter (PM_{10})	N/A	<0.01	<0.01	<0.01
Particulate Matter ($PM_{2.5}$)	N/A	<0.01	<0.01	<0.01
2016				
Carbon Monoxide	35.10	0.01	0.73	35.84
Volatile Organic Compounds	0.75	<0.01	0.05	0.81
Nitrogen Oxides	0.02	0.02	0.05	0.09
Sulfur Oxides	0.04	<0.01	<0.01	<0.04
Particulate Matter (PM_{10})	N/A	<0.01	<0.01	<0.01
Particulate Matter ($PM_{2.5}$)	N/A	<0.01	<0.01	<0.01
2020				
Carbon Monoxide	38.84	0.01	0.67	39.52
Volatile Organic Compounds	0.83	<0.01	0.03	0.86
Nitrogen Oxides	0.02	0.01	0.04	0.07
Sulfur Oxides	0.04	<0.01	<0.01	0.04
Particulate Matter (PM_{10})	N/A	<0.01	<0.01	<0.01
Particulate Matter ($PM_{2.5}$)	N/A	<0.01	<0.01	<0.01

Totals may not add due to rounding
Source: Synergy Consultants, Inc. July 2009 Using EDMS 5.1

Once the analysis was completed, a review was conducted to ensure that the Delp Road Alternative 5 would reflect a more conservative emissions evaluation relative to the tunnel option. As noted in a prior section of this memo, construction emissions might be greater with the tunnel option due to the amount of equipment necessary to complete the tunnel. The additional amount of construction equipment, and their associated emissions could be double that of Alternative 5. Relative to carbon monoxide emissions, for which the project must be shown to conform, tunnel-related emissions would still enable the project to conform to the State Implementation Plan, as total project-related emissions would not exceed 100 tons (Alternative 5 CO emissions would be nearly 19 tons, and if doubled would be 38 tons, well below the 100 ton threshold). The emissions associated with alignment Alternative 5 were carried forward in the analysis, as the increase in VMT would result in a permanent increase in emissions due to the project.

Construction: It is anticipated that material delivery would involve Heavy Duty Diesel vehicles traveling an average of 30 miles round trip in the Portland-Vancouver CO maintenance area. Construction employee travel, in light duty trucks, would be expected to travel an average of 40 miles round trip. Construction is expected to occur over a 180-day period and be complete by year-end 2011. **Table 6** lists the emissions associated with construction.

Operational Emissions: The same number of aircraft operations as is forecast for the No Action would occur with the proposed projects. However, because the airfield would be realigned, aircraft taxi distances would change relative to the No Action. In addition, the relocation of Delp Road due to the extension of the runway would change the total vehicle miles traveled by the vehicles using Delp Road, thus increasing emissions relative to the No Action.[3]

Table 8 shows the With Project operational emissions for With Project in 2012, 2016 and 2020. Project-related emissions, those emissions that would occur beyond the No Action, are identified in **Table 5**.

A comparison of the With Project emissions to those of the No Action, shows that less than 1 ton of emissions from any individual pollutant would occur due to the proposed projects in any single year. With the proposed projects, CO emissions would be expected to increase over the No Action by 0.89 tons in 2012; 57.3% of the project-related increase would be due to changes in aircraft movement, while and 42.7% would be due to the rerouting of Delp Rd and the associated increase in distance that vehicles would travel. In 2016, the project-related difference in CO emissions would be 0.92 tons; the majority of the project-related increase in 2016 (63% of this increase) would be due to the changes in aircraft taxi distance while 37% would be due to auto movement on the relocated Delp Road. This similar relationship would occur for all other pollutants and for year 2020 project-related changes.

5. Greenhouse Gases

Greenhouse gases (GHG) are those that trap heat in the earth's atmosphere. GHG are produced both naturally and through anthropogenic sources and they include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Research indicates that there is a direct link between GHG emissions and the combustion of fuel. Aircraft emit the same type of air pollutants as automobiles. The International Panel on Climate Change (IPCC) estimates that global aircraft emissions account for about 3.5% of the GHG from human sources. The scientific community is developing ways to further examine the effects aviation has on the global atmosphere.

Subsequently, the FAA is taking an active role in these efforts. The most comprehensive and multi-year program geared towards quantifying climate change effects of aviation is the Aviation Climate Change Research Initiative (ACCRI) funded by FAA and NASA. The ACCRI will help to reduce the scientific uncertainties of aviation-related climate impacts in order to facilitate informed policy-making decisions. In April 2009, the Transportation Research Board's Airport Cooperative Research Program (ACRP) issued the ACRP Report 11 *Guidebook on Preparing Airport Greenhouse Gas Inventories.* It is anticipated that the FAA will issue guidance in the fall of 2009 concerning appropriate approaches to GHG inventories in NEPA documents.

[3] Completion of Delp Road Alternative 7 (tunnel) would not materially alter vehicle miles traveled or associated emissions.

6. Mitigation

No mitigation is required, as the proposed projects would not result in an exceedance of the general conformity de minimis threshold (100 tons of project-related emissions) and thus, no significant adverse impact would be expected to occur with the proposed project.

TABLE 8

WITH PROJECT OPERATIONAL EMISSIONS – 2012, 2016 AND 2020
(Tons/Year)

	Operational Emissions			
Pollutant	**Aircraft**	**Ground Support Equip**	**Surface Travel**	**Total**
2012				
Carbon Monoxide	31.87	0.02	1.16	33.05
Volatile Organic Compounds	0.69	0.01	0.07	0.77
Nitrogen Oxides	0.02	0.06	0.12	0.20
Sulfur Oxides	0.03	<0.01	<0.01	<0.04
Particulate Matter (PM_{10})	N/A	<0.01	<0.01	<0.01
Particulate Matter ($PM_{2.5}$)	N/A	<0.01	<0.01	<0.01
2016				
Carbon Monoxide	35.68	0.01	1.07	36.76
Volatile Organic Compounds	0.77	<0.01	0.06	0.83
Nitrogen Oxides	0.02	0.02	0.09	0.13
Sulfur Oxides	0.04	<0.01	<0.01	0.04
Particulate Matter (PM_{10})	N/A	<0.01	<0.01	<0.01
Particulate Matter ($PM_{2.5}$)	N/A	<0.01	<0.01	<0.01
2020				
Carbon Monoxide	39.48	0.01	0.99	40.48
Volatile Organic Compounds	0.84	<0.01	0.047	0.90
Nitrogen Oxides	0.02	0.01	0.06	0.09
Sulfur Oxides	0.04	<0.01	<0.01	0.04
Particulate Matter (PM_{10})	N/A	<0.01	<0.01	<0.01
Particulate Matter ($PM_{2.5}$)	N/A	<0.01	<0.01	<0.01

Source: Synergy Consultants, Inc, August 2009 Using EDMS 5.1

7. General Conformity

Because a Federal approval is required for the proposed actions, the approval must be preceded by a Clean Air Act general conformity evaluation. To identify potential air emissions from the proposed actions, an emissions inventory previously described was contrasted with the de-minimis levels for a maintenance area for carbon monoxide. The summary in **Table 9** shows that the project-related emissions would be below the Clean Air Act defined de-minimis threshold, and thus the planned actions do not require a conformity determination.

TABLE 9
TOTAL PROJECT-RELATED IMPACTS
(tons per year emissions)

Year	Carbon Monoxide (tons/year)	Are Project-Related Emissions De-Minimis?
Year 2010 (construction year)	18.55	Yes
Year 2012 (operational emissions)	32.87	Yes
Year 2016 (operational emissions/final maintenance plan)	37.21	Yes
De-minimis (maintenance area)	**100**	

Note: the construction analysis assumes that all construction activity emissions was compressed into a single year.
Source: Synergy Consultants, August 2009. Sources reflect direct and indirect emissions.