U.S. Department
Of Transportation
Federal Aviation
Administration
Office of Regional Counsel

Northwest Mountain Region
Colorado, Idaho, Montana
Oregon, Utah, Washington
Wyoming

1601 Lind Avenue, SW
Renton, WA 98055-4099
Tel: (425) 227-2161
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Internet Address: Karl.Lewis@faa.dot.gov

July 3, 1997

Debi L. DesMarais
CASE President
31500 1st Ave S #14-103
Federal Way, WA 98003

Dear Ms. DesMarais:

This is in response to your January 4, 1997, letter to U.S. Attorney General Janet Reno, which has been referred to me for a response. Your letter asks whether it is legal under Section 509 of the Airport and Airway Improvement Act [now recodified at 49 U.S.C. § 47106(c)(1)(B)], for the Governor to "defer" the air and water quality certification requirement to another state agency for certification.

Today, the FAA issued its Record of Decision {ROD] for the Master Plan Update Actions at Sea-Tac International Airport. Section V.C. of that ROD addresses the issues raised by your letter. That section states as follows:

> The determination prescribed by this statutory provision is a precondition to agency approval of airport development project funding applications involving a major runway extension or new runway location.
>
> By letter dated December 20, 1996 [see Appendix B to this ROD], the Washington State Department of Ecology, acting under delegated authority from the Governor of the State of Washington, provided this certification, conditioned upon a number of mitigation measures to be undertaken by the Port of Seattle. Pursuant to general principles of agency and administrative law, and absent evidence that delegation is unauthorized or unlawful as a matter of state law, the FAA has interpreted this statute to permit state chief executive officers to delegate this certification responsibility to lower state officials with appropriate subject matter jurisdiction over state air and water quality [see FAA Order 5050.4A, paragraph 47e.(5)(e)]. As described at FSEIS

Appendix F, page F-79, the delegation to the Department of Ecology which occurred in this case was appropriate under Washington State law.

However, given the public controversy which has arisen over this delegation, by letter dated June 30, 1997, (see Appendix C to this ROD], the Governor of the State of Washington further certified that the airport project evaluated in the FEIS and FSEIS will be located, designed, constructed and operated so as to comply with applicable air and water quality standards.

In accordance with established FAA policy and practice, this certification is acceptable notwithstanding the fact that the certification is conditioned upon the completion of specified mitigation measures.

Sincerely,

Karl B. Lewis
FAA Attorney

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

August 23, 1996

Reply To
Attn Of: OAQ-107

Mr. Lowell H. Johnson, Manager
Airports Division
Northwest Mountain Region
Federal Aviation Administration
1601 Lind Avenue, S.W.
Renton, Washington 98055-4056

Dear Mr. Johnson:

Thank you for your letter of July 15, 1996 to our Regional Administrator, Chuck Clarke. In your letter, you requested clarification of a number of issues related to our June 6, 1996 letter commenting on the Federal Aviation Administration (FAA)'s draft conformity analysis prepared for the proposed Master Plan Update improvements at the Seattle-Tacoma International Airport. Your letter also raised larger issues related to how a project should be evaluated under the general conformity provisions of the Federal Clean Air Act. We view this response letter as supplementing our June 6, 1996 comment letter.

In the July 15, 1996 letter, you requested our concurrence on the conditional approval approach that FAA is considering. From discussions with your agency, we understand the following. The FAA is intending to modify the scope of its approval of the Airport Layout Plan (ALP). The FAA considers certain activities in the ALP, such as the development of an additional runway, to be separate and independent of other activities that may be undertaken to expand airport facilities. The FAA is planning to fully approve some of those activities in the Record of Decision for this Environmental Impact Statement. The FAA will conditionally approve other projects, such as the North Unit Terminal in this action. Before the FAA would grant a full approval, the other projects would have to demonstrate compliance with all applicable environmental laws, including the National Environmental Policy Act (NEPA), the State Environmental Policy Act (SEPA) and the Federal Clean Air Act.

NEPA, SEPA and the conformity rules prohibit the piece-mealing or segmentation of projects to obfuscate environmental impacts. During discussions with the FAA, your agency has stated that the activities to be fully approved have independent utility from the activities that would be conditionally approved. In past discussions, the FAA and Port of Seattle have noted that the main reason for presenting a 25-year vision of future airport facilities in the Master Plan, including those items that would be only conditionally approved, was the desire to fully inform the public of possible planning options, and not because these activities are dependent on one another. Your agency has stated that the activities that will be fully approved in the Airport Layout Plan will not prejudice the decision to build or fund other activities that have been conditionally approved. Further, the FAA has stated that a conditional approval is not a Federal action for the purposes of triggering a conformity review. In the past, EPA has said that the approval of an Airport Layout Plan in and of itself does not necessarily constitute an action that

must meet conformity. If a conditional approval is not a Federal action for the purpose oconformity, and if the activities to be fully approved are separate and independent from the conditionally approved activities, then a conformity finding is not needed for the conditional approval. Irrespective of this, a conformity finding must be made for the unconditionally approved project. Thus, based on available information, it appears that the FAA proposed approach will satisfy our concerns regarding the limits on segmentation in the conformity regulations. Further, as we stated in our prior letter, we expect that as air quality issues are discovered through modeling or monitoring, appropriate mitigation actions will be pursued in conjunction with the state.

Regarding the question of construction emissions and de minimis levels established by the conformity regulations, non-road construction emissions are reasonably foreseeable. We understand FAA's reluctance to calculate emissions without the certainty of a contract being let. However, as with other portions of the Environmental Impact Statement, we believe it is possible to create a likely or even conservative scenario of non-road carbon monoxide (CO) emissions. Reasonably foreseeable emissions are broadly defined in the General Conformity rule. Further, while the rule does not require an agency to conduct a conformity determination for all emission scenarios, it does require that the conformity determination be based on a reasonable expectation of future activity resulting from a Federal action. Yet it should also be noted that in the case of this Master Plan, the environmental impact of non-road CO emissions on the intersections analyzed for the activity that would be approved is not likely to be significant. Due to the rapid dispersion rate of carbon monoxide and the location of most of the non-road emissions sources, we understand and agree with FAA's assertion that it is unlikely that non-road emissions will significantly affect the CO concentrations at the intersections evaluated in the hot spot analyses. As we have discussed in past meetings, emissions from cars and other mobile sources have the largest impact on CO concentrations at these intersections. Further, it should be noted that the FEIS did address the more important transportation emissions associated with construction. Thus with the additional modeling that the Port has committed to, our concerns on construction have been addressed.

Whether to use non-oxygenated or oxygenated gasoline in the analysis is less certain. The current State Implementation Plan does mandate the use of oxygenated fuel, while the recently submitted maintenance plan presumes a switch back to non-oxygenated gasoline. On June 11, 1996, EPA proposed to approve the maintenance plan (61 FR 29515-29518). However, our proposed approval came several months after the publication of the FEIS. However, because during the development of the FEIS, the regulatory agencies had discussed this proposed change with FAA, it would have been a more conservative analysis to assume the use of non-oxygenated gasoline in analyzing air quality impacts. Yet due to the circumstances surrounding the timing of EPA's proposed approval, the use of oxygenated fuel does not appear to be a violation of the conformity provisions. Nonetheless, as discussed in our letter to you dated June 6, 1996, it is still requisite upon the FAA to demonstrate to the public that the use of reformulated gas in its analysis results in equivalent or comparable impacts to the use of oxygenated fuel. The Record of Decision should include an analysis and discussion of both fuels.

Your letter asked for confirmation on the adequacy of evaluating four intersections using the CAL3QHC model to determine CO concentrations. In discussions with your agency, EPA did raise concerns that additional intersections should have been evaluated with a switch to non-oxygenated gasoline and its concomitant higher CO emissions. Again, we believe that a

Table II-1-3. TYPICAL DURATION FOR CIVIL LTO CYCLES AT LARGE CONGESTED METROPOLITAN AIRPORTS[a]

Aircraft	Mode					
	Taxi/ Idle out	Takeoff	Climbout	Approach	Taxi/ Idle in	Total
Commercial carrier						
Jumbo, long and medium range jet[b]	19.0	0.7	2.2	4.0	7.0	32.9
Turboprop[c]	19.0	0.5	2.5	4.5	7.0	33.5
Transport-piston	6.5	0.6	5.0	4.6	6.5	23.2
General aviation						
Business jet	6.5	0.4	0.5	1.6	6.5	15.5
Turboprop[c]	19.0	0.5	2.5	4.5	7.0	33.5
Piston[d]	12.0	0.3	5.0	6.0	4.0	27.3
Helicopter	3.5	-	6.5	6.5	3.5	20.0

[a] Reference 3. Data given in minutes.
[b] Same times as EPA Classes T2, T3 and T4 (Note b, Table II-1-5).
[c] Same times as EPA Classes T1 and P2 (Note b, Table II-1-5).
[d] Same times as EPA Class P1 (Note b, Table II-1-5).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

NOV 15 1995

Reply To
Attn Of: AT-082

D. L. DesMarais
24322 22nd Avenue South
DesMoines, WA 98198

Dear Ms. DesMarais:

Thank you for your letter concerning air quality issues for the draft Environmental Impact Statement (EIS) for the Proposed Master Plan Update Development Actions at Seattle-Tacoma International Airport prepared by the Federal Aviation Administration (FAA). This EIS includes the analysis of options for a revised master plan including possible development of a third runway.

As you know we have raised several questions regarding the air quality analysis in our July 24, 1995 comments on the draft EIS. Outstanding issues left to resolve in the draft EIS include: accuracy of CO and NO_x models, potential exceedance of criteria pollutants at present and in the future, and effects of air toxics to the community surrounding the airport.

We are currently studying the air quality issues at Seattle-Tacoma International Airport. We will review these air quality issues further together with conformity issues in the final EIS when it is completed by the FAA. Any future actions by EPA will depend on the outcome of our study and any new information provided by the FAA.

In the meantime, if you have any questions please contact John Bregar in the Office of Ecosystems at (206) 553-1984 or Wayne Elson at (206) 553-1463 in the Office of Air.

Sincerely,

Chuck Clarke

Chuck Clarke
Regional Administrator

RANDY TATE
9TH DISTRICT, WASHINGTON

DEPUTY MAJORITY WHIP

COMMITTEES:
GOVERNMENT REFORM AND OVERSIGHT
TRANSPORTATION AND INFRASTRUCTURE
AVIATION SUBCOMMITTEE
SURFACE TRANSPORTATION SUBCOMMITTEE

Congress of the United States
House of Representatives
Washington, DC 20515
June 27, 1995

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10925 CANYON ROAD EAST #C1
PUYALLUP, WA 98373
(206) 539-1322
FAX (206) 539-2628

Lynne Ross
Director, Congressional Liaison Division
Environmental Protection Agency
8th Floor, West Tower
401 M ST SW
WASHINGTON DC 20460

Dear Ms. Ross

I am writing on behalf of my constituent, Arun Jhaveri, mayor of Burien, Washington.

The City of Burien is near Seattle-Tacoma International Airport in south King County, Washington. The mayor is concerned about the impact of the airport on his city's air quality. Mayor Jhaveri has asked me to inquire as to which federal and/or state agency or agencies have the responsibility for monitoring air quality at and near the airport, and who is responsible for enforcing federal air quality regulations?

Your expeditious response to my inquiry will be appreciated. If you need additional information, please contact my district director, Phil Watkins, at my Federal Way office.

Sincerely,

Randy Tate

RANDY TATE
Member of Congress

STATE CONFORMITY

Chapter 173-420 WAC

CONFORMITY OF TRANSPORTATION ACTIVITIES TO AIR QUALITY IMPLEMENTATION PLANS

NEW SECTION

WAC 173-420-010 Title. This chapter shall be known as the "Washington State Clean Air Conformity Act" hereinafter as "this chapter."

NEW SECTION

WAC 173-420-020 Purpose and intent. This chapter implements RCW 70.94.037 of the Washington Clean Air Act (chapter 70.94 RCW). The law requires the departments of ecology and transportation to develop criteria and guidance for demonstrating and assuring conformity of transportation plans, programs, and projects to the purpose of the state implementation plan for attaining and maintaining the national ambient air quality standards and meeting the requirements of the federal Clean Air Act (42 U.S.C. 7401) as amended. This chapter is jointly adopted by the departments of ecology and transportation and can be amended only by agreement between the departments. This chapter sets forth minimum requirements for evaluating transportation plans, programs, and projects for conformity with the purpose and intent of state implementation plans for air quality. This chapter clarifies state policy and procedures to achieve national ambient air quality standards, foster long-range planning for attainment and maintenance of those standards, provide a basis for evaluating conformity determinations, and guide state, regional, and local agencies in making conformity determinations.

NEW SECTION

WAC 173-420-030 Scope. (1) Conformity determinations shall be made for all transportation plans, improvement programs, and

Attachment #3

U.S. Department of Transportation
Federal Aviation Administration

Seattle Airports District Office
[illegible] Lake Avenue S.W.
Renton, WA 98055-4056

April 24, 1992

Ms. Minnie O. Brasher
846 South 136th
Seattle, Washington 98168

Dear Ms. Brasher:

This responds to your letter dated April 2 regarding the capacity of Seattle-Tacoma International Airport if a dependent third runway is built. The hourly airport capacity of the existing airport during clear weather conditions is 56 to 60 arrivals, as you have stated. I am assuming that this number is based on actual operation of the airport.

The theoretical maximum hourly capacity of the existing airport is 100 operations (takeoffs and landings) during clear weather conditions. In Phase II of the Puget Sound Air Transportation Committee report, the theoretical hourly capacity of Sea-Tac with a dependent runway during clear weather is 141 operations. At this time, we believe that this is a reasonable estimate.

40% increase in capacity

Sincerely,

Sarah P. Dalton

Sarah P. Dalton
Planner, Puget Sound

35

U.S. Department of Transportation
Federal Aviation Administration

Seattle Airports District Office
[illegible] Lind Avenue S.W.
Renton, WA 98055-4056

April 24, 1992

Ms. Monroe O. Brasher
846 South 136th
Seattle, Washington, 98168

Dear Ms. Brasher:

This responds to your letter dated April 2 regarding the capacity of Seattle Tacoma International Airport if a dependent third runway is built. The hourly airport capacity of the existing airport during clear weather conditions is 56 to 60 arrivals, as you have stated. You are correct that this number is based on actual operation of the airport.

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Sincerely,

Sarah P. Dalton

Sarah P. Dalton
Planner, Puget Sound

352

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United States
Environmental Protection
Agency

Office of Air Quality
Planning and Standards
Research Triangle Park NC 27711

EPA-450/4-81-026d
September 1981

Air

EPA

Procedures for Emission Inventory Preparation

Volume IV: Mobile Sources

Table II-1-3. TYPICAL DURATION FOR CIVIL LTO CYCLES AT LARGE CONGESTED METROPOLITAN AIRPORTS[a]

Aircraft	Mode					
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[a] Reference 3. Data given in minutes.
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[d] Same times as EPA Class P1 (Note b, Table II-1-5).

TABLE II-1-7 (CONTINUED)

Model-Series Mfg.[b] Type[b]	Mode	Fuel Rate		CO		NO_x[c]		Total HC[d]		SO_x[e]		Particulates[f]	
		lb/hr	kg/hr	lb/hr	kg/hr	lb/hr	kg/hr	lb/hr	kg/hr	lb/hr	kg/hr	lb/hr	kg/hr
JT3D-7	Idle	1013	459.5	140.8	63.87	2.23	1.01	124.6	56.52	1.01	0.46	0.45[g]	0.20[g]
P&W TF	Takeoff	9956	4516	8.96	4.06	126.4	57.34	4.98	2.26	9.96	4.52	8.25	3.7
DC-8-63F	Climbout	8188	3714	15.56	7.06	78.6	35.65	3.28	1.49	8.19	3.71	8.5	3.9
	Approach	3084	1399	60.14	27.28	16.35	7.42	6.48	2.94	3.08	1.40	8.0	3.6
JT8D-17	Idle	1150	521.6	39.10	17.74	3.91	1.77	10.10	4.58	1.15	0.52	0.36[g,h]	0.16[g,h]
P&W TF	Takeoff	9980	4527	6.99	3.17	202.6	91.90	.50	0.227	9.98	4.53	3.7	1.7
DC9-30	Climbout	7910	3588	7.91	3.59	123.4	55.97	.40	0.181	7.91	3.59	2.6	1.2
727-100, 727-200	Approach	2810	1275	20.23	9.18	19.39	8.80	1.41	0.640	2.81	1.28	1.5	0.68
JT9D-7	Idle	1849	838.7	142.4	64.59	5.73	2.60	55.10	24.99	1.85	0.84	2.2[f]	1.0
P&W TF	Takeoff	16142	7322	3.23	1.47	474.6	215.3	0.81	0.367	16.14	7.32	3.75	1.7
747-100, 200	Climbout	13193	5984	6.60	2.99	282.3	128.0	1.32	0.599	13.19	5.98	4.0	1.8
	Approach	4648	2108	44.62	20.24	36.25	16.44	4.65	2.11	4.65	2.11	2.3	1.0
JT9D-70	Idle	1800	816.5	61.20	27.76	5.76	2.61	12.24	0.55	1.80	0.82		
P&W TF	Takeoff	19380	8791	3.88	1.76	600.8	272.5	2.91	1.32	19.38	8.79	(assume JT9D-7 data)	
747	Climbout	15980	7248	4.79	2.17	386.7	175.4	2.40	1.09	15.98	7.25		
	Approach	5850	2654	7.61	3.45	47.39	21.50	2.63	1.19	5.85	2.65		
JT15D-1	Idle	215	97.52	19.46	8.83	0.54	0.245	7.48	3.39	0.22	0.10		
PWC TF	Takeoff	1405	637.3	1.41	0.640	14.19	6.44	0	0	1.41	0.64		
	Climbout	1247	565.6	1.25	0.567	11.35	5.15	0	0	1.25	0.57		
	Approach	481	218.2	11.45	5.19	2.45	1.11	1.59	0.721	0.48	0.22		
PT6A-27	Idle	115	52.16	7.36	3.34	0.28	0.127	5.77	2.62	0.12	0.05		
PWC TP	Takeoff	425	192.8	0.43	0.195	3.32	1.51	0	0	0.43	0.19		
	Climbout	400	181.4	0.48	0.218	2.80	1.27	0	0	0.40	0.18		
	Approach	215	97.52	4.95	2.24	1.80	0.816	0.47	0.213	0.22	0.10		
PT6A-41	Idle	147	66.63	16.95	7.69	0.29	0.132	14.94	6.78	0.15	0.07		
PWC TP	Takeoff	510	231.3	2.60	1.18	4.07	1.85	0.89	0.404	0.51	0.23		
	Climbout	473	214.6	3.07	1.39	3.58	1.62	0.96	0.435	0.47	0.21		
	Approach	273	123.8	9.50	4.31	1.27	0.576	6.20	2.81	0.27	0.12		
Spey 555-15[i]	Idle	915	415	83.2	37.7	1.6	0.7	86.0	43.5	0.92	0.42		
RR TF	Takeoff	5734	2600	6.5	3.0	109.2	49.5	29.5	13.4	5.73	2.60		
	Climbout	4677	2121	0.0	0.0	68.7	31.2	2.5	1.1	4.68	2.12		
	Approach	1744	791	34.8	15.8	10.2	4.6	14.3	6.5	1.74	0.79		
Spey MK511[g,i]	Idle	946	429.1	104.4	47.36	0.785	0.356	80.03	36.30	0.95	0.43	0.17	0.077
RR TF	Takeoff	7057	3201	16.16	7.33	156.7	71.08	13.97	6.34	7.06	3.20	16.0	7.3
1-11-400	Climbout	5752	2609	0.0	0.0	116.8	52.98	0.0	0.0	5.75	2.61	10.0	4.5
	Approach	2204	999.7	48.71	22.09	16.00	7.26	20.56	9.33	2.20	1.00	1.5	0.68
M45H-01[i]	Idle	366	166.0	55.63	25.23	0.622	0.282	11.53	5.23	0.37	0.17		
RR (Bristol)	Takeoff	3590	1628	7.18	3.26	32.31	14.66	0.718	0.326	3.59	1.62		
TF	Climbout	3160	1433	9.48	4.30	25.28	11.47	0.632	0.287	3.16	1.43		
	Approach	1067	484.0	53.56	24.29	3.57	1.62	6.61	3.00	1.07	0.48		

g, h: smokeless engine

Bonnie
cc clarke

U.S. Department of Transportation
Federal Aviation Administration

Northwest Mountain Region
Colorado, Idaho, Montana
Oregon, Utah, Washington
Wyoming

1601 Lind Avenue, S. W.
Renton, Washington 98055-4056

JUL 15 1996

Mr. Chuck Clark, Regional Administrator
U. S. Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

JUL 18 1996
OFFICE OF AIR

Dear Mr. Clark:

Thank you for your June 6, 1996, letter concerning the draft air quality general conformity determination prepared by the Federal Aviation Administration (FAA) for the proposed Master Plan Update improvements at Seattle-Tacoma International Airport. The purpose of this letter is to request clarification of several of the issues identified in your letter.

The FAA has several options available to demonstrate general conformity for the proposed 25-year improvement program:

a. an emissions inventory showing that the emissions from the project are below de minimis levels established by the conformity rule;

b. a hot spot evaluation (using the dispersion models) showing that the proposed projects do not create new exceedances of the ambient air quality standards or do not worsen existing exceedances; and

c. a hot spot evaluation with any associated mitigation to address any new exceedances or worsening of exceedances for all projects.

Subsequent to your letter, it is our understanding that the FAA and Environmental Protection Agency (EPA) have agreed that the spirit and intent of the conformity rules can be met through the FAA's exercise of its conditional approval process on an Airport Layout Plan. In rough translation, the FAA can unconditionally approve all projects that successfully meet the conformity requirements. Conditional approval could then be granted for those elements of the long range plan that do not meet the conformity test, subject to certain conditions. The primary condition being that the projects receiving approval do not trigger the need for or unfairly prejudice the outcome of the projects being conditionally approved. The FAA conditional approval is limited to approval of the layout plan (an illustration) which is prepared only for planning purposes. It would mean that the conditionally approved projects could not be funded or implemented until all requisite environmental approvals, including air quality conformity, have been completed. Your confirmation of this understanding is requested.

We have discussed the possibility of demonstrating de minimis levels for the proposed project. As our analysis has shown, the operational emissions from the proposed project are well below the de minimis threshold established by the rules. Depending upon how the proposed runway embankment is constructed, the construction emissions could exceed the de minimis levels. However, as we have indicated, until wetland permitting and a contractor is selected for the proposed project (which can not occur until after the project has been approved), construction emissions are not reasonably foreseeable, as defined by the conformity rules. While it might be possible to tailor the construction process to meet the de minimis levels, at this time we believe that the uncertainty of total construction emissions makes this approach undesirable.

In demonstrating conformity using the hot spot evaluation, several questions arise from your June letter. You indicate that the analysis must reflect the pollution concentrations associated with construction. As we indicated above, the Environmental Impact Statement (EIS) does not include an emissions inventory for construction, because of the uncertainty associated with the amount of on-site versus off-site fill but did include an evaluation of pollutant concentrations that could occur along the airport area haul routes. Chapter IV, Section 23 "Construction Impacts" (beginning on page IV.23-8) presented the dispersion evaluation at intersections likely to be affected by hauling associated with the maximum use of off-site material. Although the emissions inventory would exceed the conformity de minimis levels, the concentrations at intersections where hauling would occur are well below the NAAQS (all 8-hour CO levels are under 3 ppm with or without the proposed Master Plan Update). We request confirmation of our presumption that the EPA comments concerning construction apply only if we are seeking to use the de minimis approach to conformity.

You also request that the analysis present mobile emissions resulting from the use of "regular gasoline". The analysis presented in the Final EIS reflects the use of reformulated gas. As you know there are basically three types of fuel 1) the cleanest burning gas currently in use in the Puget Sound Region between November and February - Oxygenated Fuel; 2) Reformulated fuel - a form of oxy fuel, but insignificantly less clean burning; and 3) regular gas - does not contain the higher oxygen content. While the EIS analysis incorrectly used the reformulated fuel assumption, we have shown that the difference between oxy fuel and reform fuel have no effect on the concentrations produced. We understand that Oxy fuel was assumed in the 1995 inventory presented in the approved Statewide Implementation Plan (SIP), but that the region is not assuming oxy fuel in the maintenance plan which is currently under development/review. The conformity rules mandate that conformance be demonstrated against the current approved SIP, which presume the use of Oxy fuel. However, conformity also requires the use of reasonably foreseeable emissions, which assuming the approval of the maintenance plan, will result in a return to regular gas related emissions. We request your guidance in interpreting the conformity rules relative to the applicable SIP versus a pending maintenance plan and the issue of the reasonably foreseeable emissions.

In light of possibly higher pollutant levels due to regional use of regular gas, we have evaluated all of the intersections modeled with reformulated fuel with both Oxy fuel and with regular gas. No changes over the data presented in the EIS would occur with Oxy fuel. With Regular gas, all intersections (with or without the proposed Master Plan Update improvements) would

produce 2-3 ppm more CO during an 8-hour period. Thus, the same relationship presented in the Final EIS would exist at all intersections, but with higher pollutant levels.

You have also questioned if other intersections, not evaluated using CAL3QHC would result in any new exceedances or worsening of the exceedances with the regular gas assumption. We have reviewed all of the surface transportation data presented in Appendix O-B and the EPA's modeling guidelines for Carbon Monoxide and determined that the proposed Master Plan Update improvements would not create new exceedances of the NAAQS and that these improvements would not increase the severity of any existing exceedances. We request that you confirm the validity that this approach will meet the issues raised in your letter.

Your letter indicates that the EIS was not clear concerning the inclusion of a cumulative impact analysis reflecting all of the other surface transportation and major planned projects in the airport area. As we discussed in recent meetings, the Final EIS contains a detailed analysis reflecting the cumulative impact of an extensive number of known projects. Chapter II and applicable locations in Chapter IV, as well as Appendix O-B of the Final EIS detail these projects. Projects that were included in the cumulative analysis are: the Regional Justice Facility, the Des Moines Creek Technology Campus, the On- Airport Hotel, the City of SeaTac Airport Business Center, the SR 509 Extension/South Access and all other improvements included in the PSRC's Metropolitan Transportation Plan and Transportation Improvement Plan. Our Record of Decision will include a summary of the projects included in the cumulative impact analysis. We would appreciate being advised if there are other projects which you are concerned be included in the cumulative impact analysis.

Pending your response, we will proceed with the final conformity determination for the proposed improvements at Seattle-Tacoma International Airport.

Sincerely,

Lowell H. Johnson
Manager, Airports Division
Northwest Mountain Region

by 2020 will there be a substitute for fossil fuel ??!!

where did the particulates go

TABLE II.3-1
Page 2 of 2

Environmental Impact Statement
Master Plan Update

PRELIMINARY AIRSIDE SCREENING ANALYSIS

	Master Plan Update Airside Options						
	1A	1B	3	4A	4C	5	6
Air Inventory (tons per day in year 2020)							
Carbon Monoxide	13.86	13.86	10.18	6.82	6.82	5.86	4.86
Nitrogen Oxides	6.82	6.82	6.49	6.19	6.19	6.11	6.02
Particulate Matter (PM_{10})	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfur Oxides	0.33	0.33	0.28	0.23	0.23	0.22	0.20
Wetland Impacts (acres)	0	0	4.2	5.4	5.0	5.4	27.7
100-Year Floodplain Impacts (acres)	0	0	1	7	2	7	30
Stream Relocation (linear feet)	0	0	2,760	2,970	2,760	2,970	12,240
Earth Impacts (million cubic yards)	0	0	12	17	13	17	28
Construction Impact (units displaced):							
Properties	0	0	330	410	400	420	700
Homes	0	0	260	330	300	320	500
Parks	0	0	0	0	0	0	1
Historic/Cultural sites	0	0	1	1	1	1	3
Schools	0	0	0	0	0	0	1

Impacts presented in this table were prepared as a part of a preliminary screening, based on initial data collection. As was noted in presenting this data in July 1994, the base information was later updated by this Environmental Impact Statement.

Source: Landrum & Brown, Shapiro & Associates, and Gambrell Urban - Population and dwelling units using 1990 census.

- Option 1A/B – Do-Nothing
- Option 2 - Commuter Close Spaced - this option was not evaluated due to its similarity to Option 3.
- Option 3 – Commuter Dependent
- Option 4A - Programmatic Baseline
- Option 4B - Programmatic Staggered - this option was not evaluated due to its similarity to Options 4A, 4C and 5.
- Option 4C - 7,500 Foot – Staggered
- Option 5 - Dependent–Maximum Length
- Option 6 - Independent – Maximum Length

As indicated on page D-38, a separate analysis also confirmed that even if the average annual fleet (i.e., all aircraft types in use) and the highest peak hour level of departures, maximized peak hour departure queue time could occur at the same time, the change in pollutant levels would be minimal. This analysis was also conducted for the future annual aircraft fleet. Except at South 154th Street, all pollutant concentrations would still be below the AAQS.

The test case analysis indicated that increased departure queue time would result in increased CO levels, while increased aircraft departures would result in increased NO_2 levels. However, as observed by historic FAA data, peak hour departures and peak hour queuing are mutually exclusive and do not occur at the same time. Nonetheless, the analysis indicates that all concentrations except at South 154th Street would be below the AAQS.

Comment 14: Commentor questioned the time-in-mode/taxi and requested a clarification of these assumptions.

Response: Appendix D, page D-5 discusses the determination of taxi-in and taxi-out times. Actual field observations were used to estimate the amount of time an aircraft spends in different modes, such as apron idling, taxiing, and idling at the end of the runway. Taxi-in and taxi-out times were based on a determination of existing airfield taxi distances and aircraft speed for seven different points on the airfield. The addition of the South Aviation Support Area (SASA) and the proposed terminal improvements were modeled in combination with the proposed third parallel runway. The average taxi distance was then calculated by applying the existing or future runway end use based on a constant aircraft taxi speed of 15 knots.

The use of the proposed new parallel runway for departures is expected to be limited for the reasons discussed in the Final EIS. Accordingly, taxi times are not expected to be substantially different over existing conditions (i.e., taxi times take into consideration runway use). For the existing conditions, each aircraft operation is expected to experience approximately 8.11 minutes of taxi-time (for both arrival and departure operations).

Comment 15: Commentor stated that the EDMS write-up in the EIS should have noted that all particulate data for jet aircraft had been removed.

Response: As stated in the EIS in Appendix R, response to comment R-10-2, the aircraft emission rates included in the EDMS for particulates was revised by the FAA to include only that data for which reliable particulate information is known. Accordingly, the most current EPA approved version of the EDMS model (which was used in preparing the analysis for the Final EIS) includes little information on particulates in comparison to older versions of the model. The FAA has not updated the particulate data because no reliable data on aircraft particulate emissions is available.

Comment 16: Requested an explanation of why the aircraft emissions in the Final EIS are less than those presented in the Draft EIS.

Response: As noted in Appendix D, page D-34, in re-evaluating the air quality analysis, all input assumptions used in preparation of the Draft EIS were re-examined. As part of that review, the hourly aircraft temporal factors used in the Final EIS analysis for the existing condition were revised to reflect hourly departure activity based on the FAA's Capacity Enhancement Study. The revised

AIRCRAFT EMISSIONS RATES OR TOTAL GSE EMISSION PER LANDING/TAKEOFF CYCLE

			Geomode 1 - Takeoff	(kg/hr/eng)
Aircraft	AIRCFT	747	Geomode 2 - Runway Queue	(kg/hr/eng)
Geographic mode	GEOMODE	2	Geomode 3 - Touch & Go	(kg/hr/eng)
			Geomode 4 - Taxi in/out	(kg/hr/eng)
Fuel	FUEL.CD	13	Geomode 5 - Grnd supp equip	(kg/LTO)
Number of engines	ENG.NUM	4	Geomode 6 - Test	(kg/hr/eng)
			Geomode 7 - Climb	(kg/hr/eng)
			Geomode 8 - Approach	(kg/hr/eng)

Time in mode TIMEMOD 2.89 minutes

Sum of GSE costs per LTO GSE .00 dollars/hours

Aircraft engine emissions per unit time (kg/hr/eng) or
emissions from all ground support equipment per aircraft LTO (kg/LTO)

CO	42.575443	64.59
HC	20.499287	24.99
NOx	2.444146	2.6
SOx	.425754	.84
Part	.000000	1.0

AIRCRAFT EMISSIONS RATES OR TOTAL GSE EMISSION PER LANDING/TAKEOFF CYCLE

			Geomode 1 - Takeoff	(kg/hr/eng)
Aircraft	AIRCFT	747	Geomode 2 - Runway Queue	(kg/hr/eng)
Geographic mode	GEOMODE	4	Geomode 3 - Touch & Go	(kg/hr/eng)
			Geomode 4 - Taxi in/out	(kg/hr/eng)
Fuel	FUEL.CD	13	Geomode 5 - Grnd supp equip	(kg/LTO)
Number of engines	ENG.NUM	4	Geomode 6 - Test	(kg/hr/eng)
			Geomode 7 - Climb	(kg/hr/eng)
			Geomode 8 - Approach	(kg/hr/eng)

Time in mode TIMEMOD 8.11 minutes

Sum of GSE costs per LTO GSE .00 dollars/hours

Aircraft engine emissions per unit time (kg/hr/eng) or
emissions from all ground support equipment per aircraft LTO (kg/LTO)

CO	42.575443
HC	20.499287
NOx	2.444146
SOx	.425754
Part	.000000

AIRCRAFT EMISSIONS RATES OR TOTAL GSE EMISSION PER LANDING/TAKEOFF CYCLE

			Geomode 1 - Takeoff	(kg/hr/eng)
Aircraft	AIRCFT	757	Geomode 2 - Runway Queue	(kg/hr/eng)
Geographic mode	GEOMODE	2	Geomode 3 - Touch & Go	(kg/hr/eng)
			Geomode 4 - Taxi in/out	(kg/hr/eng)
Fuel	FUEL.CD	13	Geomode 5 - Grnd supp equip	(kg/LTO)
Number of engines	ENG.NUM	2	Geomode 6 - Test	(kg/hr/eng)
			Geomode 7 - Climb	(kg/hr/eng)
			Geomode 8 - Approach	(kg/hr/eng)

Time in mode TIMEMOD 2.89 minutes

Sum of GSE costs per LTO GSE .00 dollars/hours

Bof # 3

SEATTLE - TACOMA INTERNATIONAL AIRPORT:

AIR POLLUTANT CONTRIBUTION

May 1991

Air Quality Program

Department of Ecology

Olympia, Washington

This is the report Greg Fisher worked for.

1991 EDMS
D.O.E. STUDY

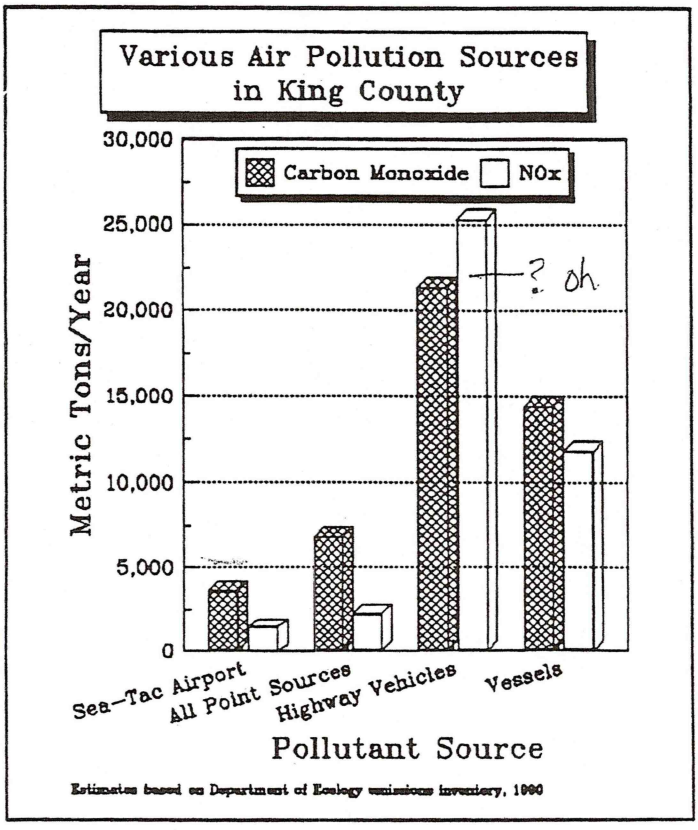

FIGURE 2

constitute a small source compared to motor vehicle and aircraft emissions. The boiler, which is powered with natural gas, is also a minor source. The rest of the figures pertaining to emissions will include only the major sources: aircraft and motor vehicles.

TABLE 1. AIR POLLUTION SOURCES AT SEA-TAC AIRPORT

Source	CO	HC	NOx	SOx	TSP
Tank Farms	0	0.006	0	0	0
Motor Vehicles	502	37.2	23.03	0.018	0.118
Aircraft	3121	1277	1874	162	61.44
Boiler	3.36	2.77	0.012	0.003	0.371
Total	3628	1315	1897	163	62

Units = metric tons per year

Seattle - Tacoma International Airport
Environmental Impact Statement

EMISSION INVENTORY
1994 EXISTING CONDITIONS
TONS/YEAR

1994 Do-Nothing

SOURCES	CO	VOC'S	NOx	SOx	PM10	TOTAL
Roadways	16,676.00	1,402.50	2,163.70	1.37	9.12	20,252.69
Parking Lots	175.78	14.07	12.30	0.01	0.05	202.21
Heating Plants	3.25	0.53	13.00	0.06	0.28	17.12
Training Fires	42.72	24.48	0.32	9.79	0.08	77.38
Surf. Coating	0.00	3.58	0.00	0.00	0.00	3.58
Tank Farms	0.00	27.51	0.00	0.00	0.00	27.51
Grnd. Sup. Equip.	548.35	120.78	105.85	2.30	6.67	783.95
Aircraft	1,365.10	406.89	1,378.30	54.67	0.23	3,205.19
TOTALS	18,811.20	2,000.34	3,673.47	68.20	16.42	24,569.63

Source: Emission Dispersion Modeling System (EDMS) Version 944
Landrum & Brown Inc., March, 1995

U.S. Department
of Transportation

**Federal Aviation
Administration**

Northwest Mountain Region
Colorado, Idaho, Montana
Oregon, Utah, Washington
Wyoming

1601 Lind Avenue, S. W.
Renton, Washington 98055-4056

December 13, 1995

Mrs. Debi L. DesMarais
24322 22nd Ave. S.
Des Moines, WA 98198

Dear Mrs. DesMarais:

This is in response to your letter of November 13, 1995. I will address your questions in the order asked.

1. This is the type of question that should have been asked as part of your comments on the draft EIS. I believe it would be improper to answer this question since the draft EIS comment period has long since closed. Addressing this type of question, at this time, would be viewed by many as preferential treatment or selectively re-opening the comment period.

2. through 5: Are general technical questions about EDMS. The following answers have been provided by the Office of Environment and Energy in our Washington, D. C. Headquarters office:

Have the emission rates contained within the model been approved by EPA? If not, were previous rates approved? When? Is the EDMS model approved by EPA?

On July 20, 1993, the Environmental Protection Agency (EPA) formally accepted EDMS as a "Preferred Guideline" model for use at civil airports and military air bases. The emission rates contained within EDMS come from EPA's AP-42 Compilation of Air Pollutant Emission Factors and the FAA Engine Emission Database (FAEED).

If the emission rates come from manufacturers specifications, who exempted aircraft engine manufacturers from estimating particulate matter (smoke number)? If FAA exempted, do manufacturers estimates exist? Are they available for viewing?

The particulate matter (PM-10) come from EPA's AP-42 database. The aircraft engine manufacturers are required to estimate smoke number for certification purposes. For further information, please contact Richard Wilcox at EPA, Ann Arbor, Michigan.

Does FAA update emission data periodically with newer aircraft engine emission rates? If so, can those rates be substantiated with appropriate documentation?

The FAA updates aircraft emission data as information becomes available. The EDMS model is flexible in allowing users to add new aircraft emission data into the database and to override defaults for more detailed or site specific values.

Since there is such disparity between the 1985 EPA AP-42 engine emission rates and today FAA EDMS rates, can the reduction in CO and HC by approximately 2/3 be substantiated?

The emission rate in EPA's AP-42 and EDMS are very close. We are in the process of updating the EDMS database to incorporate data from the recent update of the AP-42 database. If Ms DeMarais can specify how she used the EDMS model to calculate the emission rate, then we would be willing to look at the cause of any disparities.

A further contact for EDMS questions is Ms Diana Liang at 202-267-3494.

Sincerely,

Dennis Ossenkop

Dennis Ossenkop
Environmental Protection Specialist