March 4, 1997

Mr. Dennis Ossenkop
Northwest Mountain Region FAA
1601 Lind Avenue Southwest
Renton, WA 98055-4056

Comments Regarding the Transportation and General Conformity Determination for the Sea-Tac Airport Master Plan Update Draft, Final and Draft Supplemental Environmental Impact Statements

Dear Mr. Ossenkop:

1) I do not agree that the FAA is exempted from a General Conformity determination as the FAA asserts in the Draft Supplemental Environmental Impact Statement (SEIS).

2) I also do not concur that if FAA were subject to a general conformity analysis that they would pass the test as FAA also states in the SEIS. According to the FAA, the Clean Air Act (CAA) and Amendments of 1990 require as a prerequisite for the necessity to perform a general conformity analysis, that certain de minimus levels of pollutants be exceeded. These de-minimus levels, FAA believes, are not exceeded in the SEIS analysis and air pollution inventory tons per year.

3) I believe FAA's assertion that they are exempt and their claim of compliance if subject to such a review is based upon flawed data input into the model, a misunderstanding of the intent of the law and a possible predisposition to manipulate the data input to eliminate their responsibility to the public and the Clean Air Act.

4) I also believe that even if FAA were exempted from general conformity by being below de minimus levels, that the predicted exceedances of the NAAQS NO_2 annual standard, 8 hour carbon monoxide standard and the 24 hour and annual PM_{10} standard, (some of which is project related, [foreseeable direct and indirect emissions within the authority of the FAA/Port of Seattle's jurisdiction and/or control[1]], while others cannot be mitigated and none of which considers cumulative impacts) would not allow FAA to fund, support or approve the project.

I would appreciate a response from FAA to not just my direct questions, but also to each of my comments and include information according to the following chapter of NEPA:

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[1]See FR Vol. 58, No. 228 page 63221, particularly, see definition of reasonably foreseeable direct, indirect, exclusive and support.

§1503.4(5) "Explain why the comments do not warrant further agency response, citing the sources, authorities, or reasons which support the agency's position and, if appropriate, indicate those circumstances which would trigger agency reappraisal or further response."

NO_2

The draft Environmental Impact Statement (DEIS) aircraft operation numbers used for the EDMS screening analysis are one example of why I believe the numbers have been manipulated to obtain the predetermined results. While the forecast numbers of total number of aircraft operations for existing, 2010 and 2020 were used for the purpose and need section of the DEIS at 384,000 approximately existing condition, 440,000 for 2010 and 525,000 for 2020, the air pollution modeling analysis used 384,564, 408,040 and 443,869[2] respectively. These existing, 2010 and 2020 numbers were used to determine area impacts from future aircraft air pollution contours in the DEIS. These same numbers were also used in the final Environmental Impact Statement (FEIS) and the results were similar to those of the DEIS. The DEIS and FEIS both indicated a NAAQS annual NO_2 exceedance at South 154th Street of 0.08 ppm compared to the standard of 0.053 ppm annual. The FEIS claimed that this single exceedance was in an area restricted to public access and therefore, was not of concern. For the 2010 scenario, a new, similar exceedance appears in the FEIS at South 188th, an area of public right of way, similar to the 154th street area.

The SEIS has increased the numbers of aircraft operations considerably to 445,000 in 2005 and 474,000 in 2010 yet the impacts in the dispersion screening and refined analysis of NO_2 as well as tons per year in the SEIS are almost exactly the same or less than the DEIS and FEIS.

Date/Forecast	Annual Operations	Tons/Year	Inc./Dec. #	TPY dif.
1994 DEIS existing	384,564 annual ops.	1378.30	constant	constant
FEIS existing	384,564	1400.00	no change	+21.7
1994 DEIS 2010	408,040	1524.60	+23,476	+ 124.6
FEIS 2010	408,040	1523.50	no change	- 1.1
SEIS 2005	445,000	1441[3]	+ 36,960	-82.5
SEIS 2010	474,000	1523.60	+ 29,000	+82.6
DEIS 2020	443,869	2006.40[4]	-30,131	+482.8
SEIS 2010 Case 2+10%	521,400	1592.0	+ 77,531	-414.4
SEIS 2020 Case 2+10%	585,200	2182.0	+ 63,800	+590

[2]Draft EIS page D-3 Table D-1
[3]Page 5-2-3 (B) states: "...improvements would reduce Nox by 2%", and given amount in this text when reduced by 2% is actually 1176 tons/year.
[4]Page D-14 Alternative 3 "With Project"

1989 DOE[5]	360,000[6]	2066	- 225,200	-116
1993 Chicago O'Hare[7]	383,362 L/T/O /year	4650	+ 23,362	+2584

I would tend to believe that if you increase the number of yearly polluters, the amount of pollution would also increase. But this is not the case with these three documents. The annual tons per year of NOx has gone up and down arbitrarily regardless of the number of aircraft takeoffs/operations.

For the SEIS 2005 condition at 445,000 annual operations, there are 565 less tons per year of NOx over the DEIS 2020 case although the DEIS used only 1131 less annual operations. If the documents had shown consistency between the numbers evaluated, there would actually be an increase in NOx between the Do-Nothing condition existing and With-Project scenario of over 628.1 tons per year with the addition of 59,305 possible airplane operations if I consider the original numbers and compare to the most recent. However, the SEIS, I believe, has biased the outcome of their analysis and managed to be below de-minimus levels. I do not trust this most current analysis since it is so different from previous and independent analyses done in the past. While there is a significant increase of airplane operations, the increase of NOx in tons per year is insignificant and where the inventory is increased considerably such as the Case 2 + 10%, no dispersion analysis is conducted so we do not know what additional exceedances might occur.

Compare the increase in operations in 2010 between the DEIS 2010 scenario at 408,040 and the SEIS 2010 at 474,000 or an increase of 65,960 annual aircraft operations but one less ton per year of NOx. In the SEIS 2010 Case 2 condition at 521,400 annual operations there is 542.4 less NOx than the 1991 Ecology study even though there are 161,400 more aircraft operations.

I have used the average fleet mix, not the adjusted fleet the consultant uses for increases in peak hour takeoffs, gathered an average number from the most consistent figures in the tables above and increased the NOx incrementally based upon increases in aircraft operations. There is no other way to obtain examples from the data without re-running the model and there is not time to do this in the brief comment period. The new figures are given in the tables as below:

1994 existing [baseline]	384,564 annual operations	1378.30 tons/year NOx
FEIS 2010 [baseline add]	408,040 (23,476 more)	1523.50 + 145.2 tons/year or equal to 0.0062/plane
SEIS 2010 [example 1]	474,000 + 65,960 x .0062	1932.45 + 408.9 TPY
SEIS Case 2 + 10% [example 2]	521,400 + 47,400 x .0062	2226.33 + 293.8 TPY

[5] Department of Ecology Seattle Tacoma International Airport; Air Pollutant Contribution May 91 pg. 16
[6] 1992 Flight Plan Project Final EIS 1990 aircraft operations
[7] NRDC Flying Off Course October 1996 page 44

In each case where logic might prevail and the increases in the annual aircraft inventory would equal a constant and reliable increase in expected pollutant inventory, the levels are above de-minimus levels of 100 tons per year. An example is given below:

1378.30 tons/year NOx existing baseline	384,564 annual operations baseline	divided by total planes = .00358 tons/year/plane NOx
existing to 2005 x 60,436 increase in 2005 above existing to 445,000 = 216.36 tons/year incr.	**2005 to 2010** x 89,436 increase in 2010 above existing to 474,000 = 320.18 tons/year NOx incr.	**2010 to 2020** x 111,200 + 10% faster growth from 474,000 to 585,200 = 398.09 NOx tons/year incr.

existing to 2020	**2000 to 2010**	**2000 to 2020**	**2005 to 2020**
=710.50 tons/year incr.	232.7 tons/year incr.	630.08 tons/year incr.	501.2 tons/year incr.

Consider also the statements the DEIS makes regarding NOx:

> "According to the USEPA, many of the newer aircraft engines emit significantly lower levels of carbon monoxide (CO) and Volatile Organic Compounds (VOC), while generally producing higher emissions of nitrogen oxides (NOx)."[8]

> "Accordingly, the addition of larger jet aircraft with their higher rates of fuel flow could contribute to higher NOx levels."[9]

> "However, these same fuel-efficient aircraft also produce increased NOx emissions."[10]

In case the argument might be made that these numbers of aircraft would arrive and depart Sea-Tac with or without a new runway, the DEIS told us that 525,000 annual aircraft operations would occur with or without a runway. The SEIS tells us that no more than 460,000 aircraft per year can arrive or depart Sea-Tac without a new runway. What is the truth?

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[8]Draft EIS page D-4 column 1, 2.
[9]Ibid.
[10]Ibid. page D-5 column 1, 3.

The 1973 SeaTac Communities Plan told us that the maximum capacity of Sea-Tac Airport was 260,000 and hence, the noise remedy boundaries are based upon that figure.

It should therefore be plainly obvious that we are dealing with unreliable data, inconsistent figures and forecasts that are either biased, flawed or just plain wrong.

Please refer to the enclosed table of forecasts and the dates those forecasts were made.

Another dramatic illustration of the disparity between figures is in the peak hour screening and refined dispersion analysis for nitrogen dioxide. The tables below represent these problems which are most likely based upon the same inconsistent figures used for the annual inventory above:

1994 Draft EIS	43.9 existing hourly op.	0.08 ppm NO_2 154th St.
1995 Final EIS	63.9 hourly op.	0.051 "
1997 SEIS existing	54.1 hourly op.	0.08 "
1997 SEIS 2000 do-nothing	64 hourly op.	0.09 "
1997 SEIS 2000 with proj.	64 hourly op.	0.05 "
1997 SEIS 2005 do-nothing	64 hourly op.	0.09 "
1997 SEIS 2005 with proj.	64 hourly op.	0.06 "
1997 SEIS 2010 do-nothing	64 hourly op.	0.07 "
1997 SEIS 2010 with proj.	64 hourly op.	0.05 "

One reason the dispersion analysis shows decreased NO_2 impacts even though the airplane numbers departing in the peak hour are increased is due to the fact that the consultant insisted that larger aircraft could not take off at a rate of one per minute due to regulations regarding aircraft spacing in the preferred noise abatement corridor.[11] When a higher number was used in the peak hour, the consultant used a higher number of non-jet operations. In the 2000 scenario where approximately 408,000 annual aircraft operations are considered, the peak hour fleet mix reflects 217,000 annual non-jet aircraft operations. This scenario is untypical of Sea-Tac and will be even more untypical in the future. This number of non-jet operations represents more than half the expected 2000 Sea-Tac aircraft operations and is unrealistic and must be revised.

The consultant failed to note that even the FAA states that one aircraft departure per minute is theoretically possible at Sea-Tac with two runways and they make no qualifications about spacing or types and that the Sea-Tac tower personnel have publicly stated in the enclosed article that 75 peak departures occur beginning at 7:00 a.m. in the summer. The consultant also failed to mention that aircraft departing from the third runway 3 to 4% of the time will have to make a break-neck turn to hit the existing noise abatement corridor before reaching the 5 NM or 3000 foot turn. I must assume that the

[11]SEIS Appendix B Attachment A-11 Response to Comment 28

consultant believes that all aircraft departures in the future from the third runway will use the same old noise abatement route even though the EIS flight tracks for the third runway are independent of the old corridor.

Additionally, the spacing of the third runway is suspicious at 2500 feet from the easternmost runway. The FAA Advisory Circular 5300/13 Change #4 states that for independent departures, the standard separation distance between runways is 2500 feet and that the distance for independent landings is 4300 feet. We already know that this new runway will not allow for dual simultaneous arrivals in poor weather without the addition of advanced technology and equipment such as LDA and GPS. We learned during the DEIS process that the alleged existing 44% bad-weather landing delay figure at Sea-Tac that was used to justify the purpose and need of the third runway is false. We have seen the current FAA statistics which rank Sea-Tac as one of the least delayed airports in the country. The SEIS now gives us an admission that the third runway will increase capacity. Therefore, it is reasonable to conclude that the 2500 feet, being the exact separation needed for dual simultaneous departures, **will** accommodate dual simultaneous departures in the peak hour which will use independent flight corridors without the addition of further noise abatement procedures.

The FSEIS should re-run the model considering 75 aircraft departures and using the standard fleet mix given in the DEIS Table D-1 with an existing condition dispersion analysis that compares 75 peak departures in the do-nothing condition to a number at least 30% (to 500,000) higher for the new runway which will accommodate dual-simultaneous departures.

Another area of concern is the analysis that moved from the original screening of nitrogen oxides to the refined analysis in the DEIS[12]. The SEIS provided the short term screening rate of NO_2 at the receptor located at 154th Street which corresponds with qualifications with receptor C-7 in the DEIS.[13] The DEIS did not chose the highest receptor from the screening dispersion analysis and the approximate rates of annual refined level of higher original DEIS receptors is given below:

Max concentration NOx	Annual Average by $\mu g/m^3$	Annual Average ppm
C-7 3058.80 = 14226	0.215 = 2.6875	0.08 ppm (SEIS exceedance)
C-6 3315.09	0.23	0.086 ppm annual
M-7 3614.60	0.25[14]	0.095 ppm annual
L-6 3783.65	0.26[15]	0.099 ppm annual
B-7 4392.0	0.31	0.115 ppm annual
L-7 6208.55	0.44	0.162 ppm annual

[12]Ibid. A-4 Response to Comment 10
[13]DEIS pages D-17 - [grid] and D-86, 87 dispersion rate by grid point in micrograms per cubic meter.
[14]Ibid.
[15]This rate and the last two are above the California short-term 1 hour standard of 0.25 ppm

I realize that to obtain the refined dispersion levels of nitrogen dioxide/oxide, that five years of actual weather data was added to the modeling. However, since some of the grid points are actually closer to the pollution sources expected to produce the single exceedance rate that the South 154th Street receptor detected, it is unusual that some of these much higher, more downwind receptors did not experience annual exceedances unless they did, but were ignored in the SEIS as they were in the DEIS. Additionally, I note that the grid on page D-17, "Exhibit D-1" chose receptor A-8 in Riverton Heights neighborhood, which is not the closest receptor to 154th Street, for that refined dispersion analysis. I am assuming that the high receptor which experienced the exceedance of 0.08 ppm is the one as it is described in the final EIS and SEIS as located at South 154th Street which description corresponds more accurately with receptor C-7.

However, if A-8 is the receptor that was chosen for the refined analysis and the originally much higher receptor C-7 was ignored, the rates given in the table above, would actually be as much as three times higher considering A-8 measured a mere 1392.10 compared to L-7 at 6208.55!

All receptors listed in the tables above are in areas of public access. Some are located in Tyee Golf Course, others are near Riverton Heights neighborhood where an elementary school is located near a public park. The South 154th and South 188th Street receptors are along public streets, NOT ON PORT PROPERTY! Also, please note that the NOx dispersion contour hot spots in the FEIS Appendix D page D-17 existing condition are, for the most part, confined to the runway area with some branches reaching over a mile to the east and west and into the Normandy Park community. Page D-18 year 2000 "With Project" has similar branches but are confined to use of the west runway only, with a run-up plot on the east runway. This is unusual because the east runway is the primary takeoff runway for most of the larger aircraft utilizing Sea-Tac.

These contours indicate that the wind direction used in the worst-case condition was primarily from the east or west even though the text on page D-16 would indicate a worst-case wind angle. A worst case would consider closest neighborhoods and elementary schools and if wind angles from 90 degrees are used, the Westside single family residential neighborhood would be the area experiencing the greatest impact, from 225°, Riverton Heights neighborhood and elementary school would be most impacted, from 315°, Angle Lake community and elementary school would be most impacted, and from 135°, Sunset Park baseball field and tennis courts would experience the greates impact, etc. Ecology's 1991 study of the NOx contours summarized:

> "...the contouring routine produced artifacts because of the low point density in this particular data set; the actual shape of the contours is expected to be much narrower and symmetrical as in the two other cases. In this particular run EDMS

predicted a concentration of 19 ppm NO_2 in a receptor location right on 154th street. With the wind blowing directly from the north (1 degrees) the Tyee Golf Course can be getting as much as 12 ppm NO_2 one-hour average during worst-case conditions."[16]

These NO_2 rates above, are nearly one hundred times greater than the highest screening analysis rate detected by the SEIS dispersion modeling at 0.215 ppm South 154th Street even though there were only seven more aircraft used by Ecology in the peak departure hour in comparison to the SEIS (71 compared to 63.9). Ecology used an older version of the EDMS model, but when I reviewed the NOx rates in this 1991 study in comparison to the newer model 944 used by the consultant for the DEIS, I noticed that the NOx rates for the larger aircraft such as the DC-10 and 747, have ***increased*** in the newest version (compare 215.3 kg/hr/engine for DC-10 and 747 1991 Geomode 1 pages A1-6, 8 and referenced from EPA AP 42 Volume II Mobile Sources 1985 with EDMS 944 at 277.78 kg/hr/engine Geomode 1 DC-10 and the 747 at 358.88 kg/hr/engine) rather than decrease, which would be the logical assumption if the dispersion rates are now lower. There is no explaination for this apparent discrepancy.

I believe the SEIS documentation supports existing violations of the NO_2 annual standard. I also believe that the NO_2 exceedance at 188th in 2010 is a direct project related exceedance which would not occur without the addition of the third runway and that the South 154th Street exceedance is a new violation recently discovered and is directly related to increased aircraft operations at Sea-Tac that have recently occurred.

I also believe that there are more exceedances of the NO_2 standard in the project vicinity that have been ignored in the refined dispersion analysis. I also contend that if proper numbers of airplane operations had been used with an appropriate fleet mix throughout the study years and an inventory that more logically reflects Sea-Tac historical mostly jet-fleet mix and increases based upon capacity building, that the exceedances would be higher and more of them. I am also concerned about the number of NO_2 rates listed on page C-2-27 of the SEIS "With Project" for 2005 and 2010 at South 154th and 188th, both east and west at 0.05 ppm which cannot be compared to the standard of 0.053 ppm since the last digit is not printed.

Sea-Tac Airport is the greatest producer of ozone precursors NOx and VOC by acre than any other countywide source[17] and in this situation the following applies:

"(Note that project-specific modeling for ozone is not generally considered an option since, as a technical matter, ozone models are not sufficiently precise to show such impacts unless the project is a large portion of the total area inventory.)"[18](underlining added)

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[16]DOE page 18, 19 (see Figure 17, page A5-10 345° case with contours next to Angle Lake and Seattle Christian Schools)

[17]SEIS Appendix B Attachment A-2 Comment #5

Fulfilling the intention of the SIP to reduce emissions does not mean to report them and then ignore them. Emission reduction programs at airports have been talked about for two decades and although many strategies are affordable and relatively convenient to implement, little has been accomplished at Sea-Tac although several control measures could have made a tremendous difference to the local air quality by now. Meanwhile private citizens are paying for cleaner cars, I/M programs, public taxes for park-n-ride, light rail, etc. Private citizens are paying the way for the local airport to increase their emissions budgets by reducing ours. People are largely unaware that when our region has an air quality alert in the summer, and we are asked to curtail driving or mowing our lawns, Sea-Tac will continue to operate status-quo even though it takes the pollution levels of either thousands of cars or one million 4-stroke mowers operating at full power for one minute to equal the ozone producing emissions of just one - one minute takeoff of a 747.

Section 176(c) of the Act defines the purpose of conformity to assure that projects will not increase the severity of the number of violations of the NAAQS, contribute to any new violation of any standard in any area, increase the frequency or severity of any existing violation of any standard in any area or delay timely attainment of any standard or any required interim emission reductions or other milestones in any area. The purpose of the SIP is to "ensure emissions reduction progress targets are achieved and air quality attainment and maintenance efforts are not undermined."[19] Maintenance of the ozone standard will be undermined by the project and also by the predicted continued increases of Sea-Tac Airport operations. Some type of control of the existing condition exceedances must be implemented.

The NO_2 violations are an indication that the intent of the Clean Air Act is not being fulfilled. The addition of a new violation at South 188th should be cause for alarm, not merely because the federal standard is being exceeded, but mostly because the criteria air pollution is an immediate public health threat that can cause or contribute to irreparable injury to passers-by, people living nearby, children attending local schools, and the elderly living in nearby nursing homes, etc. The potential for additional project related and future exceedances of the federal standards is inherent to the nature of aircraft engine produced NOx and the subsequent significant impact on ambient air quality for ozone, nitrogen dioxide and HAP.

The FAA should not be allowed to fund, approve or support this project until a mitigation plan to reduce the exceedances of the NAAQS NO_2 standard can be developed that will consider all areas of public access and neighborhoods which are affected in the existing and future conditions.

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[18]FR Vol. 58, No. 228 page 63223
[19]Ibid. page 63215

In addition to the necessity for a general conformity determination, the FAA and Port of Seattle also must consider additional emission inventories that are reasonably foreseeable. Some examples are the SASA facility where engine testing/run-ups will be performed on a 24 hour per day basis. This facility is mentioned in the SEIS, but the SASA FEIS did not model air quality impacts or conduct a conformity determination for the project. The SEIS talks about SASA as though it is a relocation of existing Port routine maintenance facilities. However, there is no complete analysis of what the vacated facilities at the airport will be used for nor any analysis of how much additional aircraft activity to Sea-Tac the SASA facility might draw in the future. Other examples of cumulative impacts required by NEPA §1508.7 and 1508.25 necessary for a thorough general and transportation conformity analysis are:[20]

1) ***509/South Access Freeway (DEIS)***
2) 28th/24th Avenue South Arterial
3) *International Boulevard Phase II (Checklist?)*
4) *SeaTac Aviation Business Park*
5) *Alaska Flight Training Facility*
6) *Hotel (FEIS)*
7) ***Parking, both on airport, part of the NUT and at South 154th Street (piecemeal)***
8) ***Federal Detention Center (Nearly complete)***
9) ***FAA Tower***
10) *Enplane Drive Improvements/Asbestos Removal (DNS)*
11) *Federal Express Expansion (DNS)*
12) *IWS Upgrade (DNS)*
13) ***FAA Localizer Directional Aid Underground Tank Remediation (DNS)***
14) ***SASA (Incomplete FEIS)***
15) Haul Truck NOx

The SEIS maintains it contains a cumulative impacts analysis. However, as in the FEIS, many projects are merely mentioned and the SEIS also notes that some other projects do not have a completed environmental analysis. This is true with the 509/South Access Freeway Extension, but not so in the case of SASA, International Boulevard Phase II, the Hotel, Federal Detention Center, Runway Safety Area Improvements (RSA), Enplane Drive Improvements, and others which have a completed checklist, or a final EIS or a partially completed project such as the RSA.

CO

The intersection dispersion analysis continues to show exceedances of the NAAQS for 8 hour carbon monoxide (CO) levels and a project related increase in these emission rates predicted to occur in the future. Additionally, I note that the intersection at South 188th

[20]Bolding added to federal projects, italics to those which might be federally funded/supported or on federally acquired/controlled land.

and International Boulevard shows 1,000 less cars in the future build scenario which assumes several things which are probably inaccurate:

1) Assumes that the additional passengers and employee VMT using an expanded airport will not increase although it is inevitable. Or assumes that automobile traffic will decrease in general which is not predicted to occur in the future, in fact, just the opposite, increased SPA use and VMT is assured. Assumes that the parking facility at South 154th Street will be constructed even though it is planned for land belonging to City of Seattle used for a wellfield. Assumes that SASA and SASA Cargo facility, the Hotel, SeaTac Business Park and etc., will not draw additional traffic although the plans for these facilities indicate otherwise.

The FSEIS should also increase the CO tons per year inventory and the dispersion analysis based upon hundreds of additional planes in an 8 hour period in the future, idling and taxiing across two active runways an additional 1700 feet, all of which is uphill, which may offset any emission reduction benefits of the third runway congestion and delay relief. Additionally, it is apparent from the EDMS inventory that the same unusual problem of arbitrary and illogical increases and decreases of both dispersion modeling and tons per year of CO is also inherent in this analysis and should be revised.

PARTICULATE

NEPA § 1502.21 states:

> "When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking."

In the SEIS, the response to my question on the complete lack of particulate data in the EDMS model was "revised to include only that data for which reliable particulate information is known. "The FAA has not updated the particulate data because no reliable data on aircraft particulate emissions is available."[21] This is not an accurate statement. New aircraft engine testing certification has current particulate emissions that do not predate FAA's removal of all particulate data from the EDMS model. Additionally, the consultant did not answer the question this way when I first asked it during the DEIS process. It took two years for me to ask the right question which got the complete answer that I knew must be true in the beginning.

All particulate data for every jet aircraft operation in the L/T/O cycle has been removed from the EDMS standard airport air pollution model.

[21]SEIS Appendix B Attachment A-7 Response to Comment 15

For a proper particulate inventory and a cumulative analysis which considers the project long-term construction related haul truck particulate matter violations of the NAAQS 24 hour standard along haul-routes identified in the SEIS on page 5-4-15, current particulate measurements for jet aircraft contained in FAEED is available for the consultant. According to the enclosed letter from Dennis Ossenkop, the model is open to the user to input information such as smoke number. This much needed new analysis should include a cumulative impact analysis which then can be added together to better formulate a mitigation plan for the predicted exceedances of the PM_{10} standard along the haul routes and in the project vicinity. The future particulate inventory should also include an analysis of the new particulate standard and the $PM_{2.5}$ standard, especially in light of the previous Department of Ecology Study, which is now the only available study which included the particulate data in EDMS prior to its removal by FAA, and it states:

> "EDMS revealed localized hot-spots of particulate concentrations in the range of 800 micrograms per cubic meter, particularly in the 170 degree case...Note that 154th Street is located at the hot spot."[22]

The combination of particulates and the exceedance of the Federal NO_2 Standard at this single location should be cause for concern, especially since atmospheric particulate matter is a significant contributor to the problem of regional haze. The hauling and dirt dumping near this location at 154th Street along with significant existing NOx concentrations and VOC emissions could cause exceedances of both the PM_{10} and ozone standard. It is critical that a baseline for existing impacts be established and that FAA use the upcoming monitoring of NOx and particulate by Department of Ecology to establish this baseline for background concentrations which should then be added to the hauling phase both for haul truck particulate, dumping, re-entrained dust, digging and dirt flying off of trucks during transport as well as haul truck NOx added to existing condition of the NO_2 exceedance and publish these rates once available in the FSEIS.

The re-run of the model should also consider 18 mile backup queues of trucks during peak hour periods, since "do not use" and "avoid" as the planned mitigation for congested roadways will not work because these severely congested roads are the ONLY way to the area to be filled!

Referring to page 5-4-15, it appears that the Spokane data used for background is already in excess of the federal standard in many areas of study. I am somewhat confused as to the reason why Spokane data rather than local Duwamish and Kent monitoring data was used. It appears that along some haul routes, particulate matter with the addition of haul trucks will increase by several hundred percent over the do-nothing condition. The SEIS explains that the mitigation **might** and **could** reduce emissions by as much as 80%. I do not know if this mitigation equals 80% of the 200% increase over the federal standard, 80% of the entire 300% or whether the standard is still expected to be exceeded by 20%

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[22]May 1991 Department of Ecology Seattle Tacoma International Airport; *Air Pollutant Contribution* page 20

or not at all. "Might and could" do not sound like a commitment to reduce particulate impacts. It also sounds like an 80% reduction might be wishful thinking, especially since the hauling is not being done in a Spokane environment where burning of crop waste and the dusty atmosphere generally cause elevated particulate levels which would be controlled completely different from haul vehicle and dirt hauling mitigation.

I believe that these particulate levels indicate that the PM_{10} 24 hour and annual standard will be violated during the project. But it is difficult to know if this is a new violation of the federal standard because the arid or dry environment used for background is already too high. However, these rates of particulate represent a worsening of an existing violation (one that does or does not exist in this area) and some type of mitigation plan that uses BMP's that can be tested and approved to be effective prior to the commencement of the project, should be implemented (this may be the biggest dirt moving project in state history, and as such, a mitigation plan should be monitored since this hasn't been done before).

Sincerely,

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cc: Congressman Adam Smith
EPA
Senator Patterson
Representatives Keiser, Blalock
DOE
PSAPCA
ACC

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. 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.

Sincerely,

Sarah P. Dalton

Sarah P. Dalton
Planner, Puget Sound

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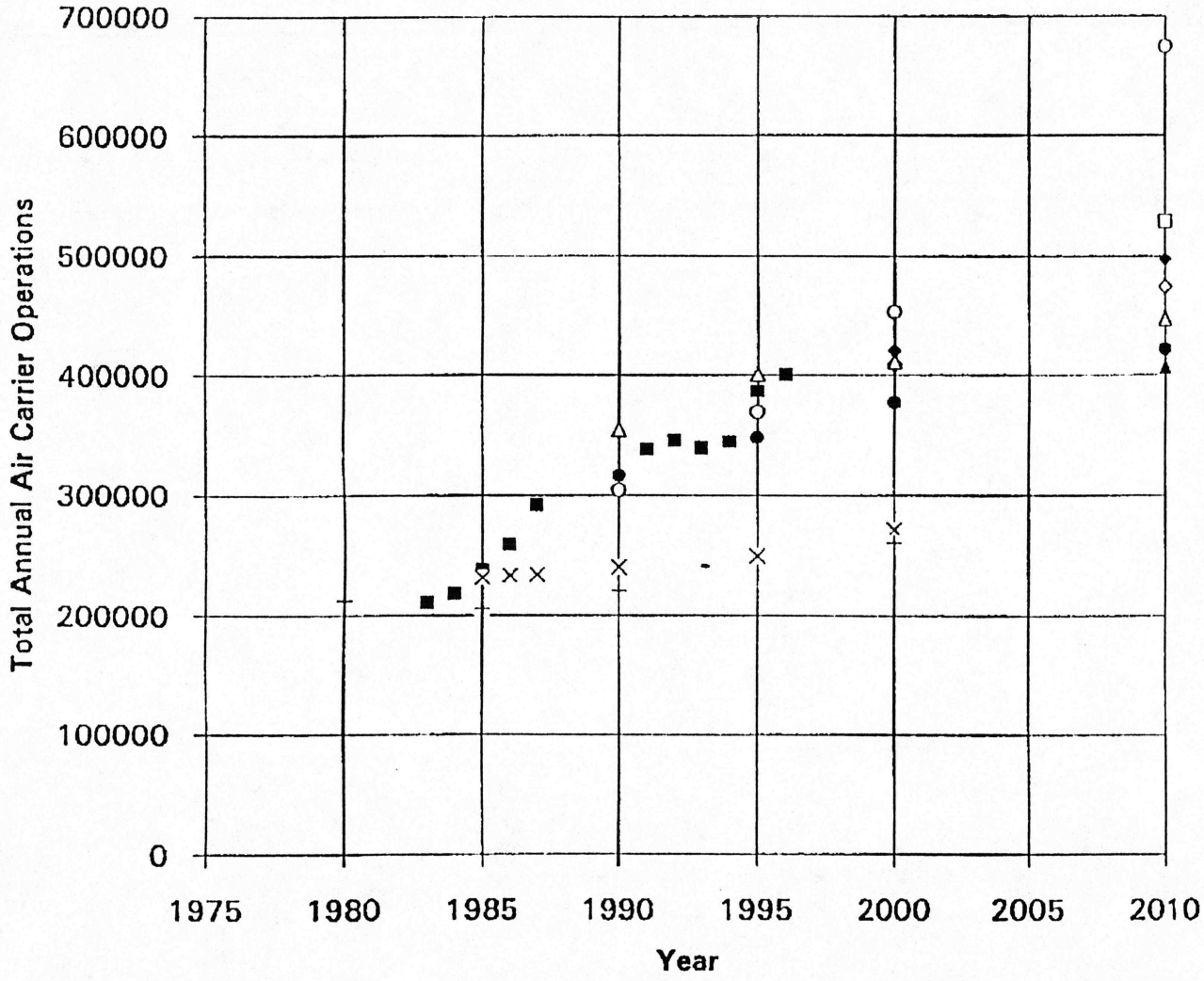
Sea-Tac Airport Operation Forecasts



- ■ Actual Annual Air Carrier Operations
- □ 1997 FAA Projection
- ◆ 1997 ACC Projection (Hockaday)
- ◇ 1997 Supplemental EIS (New FAA Figures)
- ▲ 1996 Master Plan Update FEIS
- △ 1992 Flight Plan Project Final EIS
- ● 1988 Operations Forecast prepared by Thomson Consultants International for P&D Technologies
- ○ 1987 PSCOG Draft EIS
- × 1984 Part 150 Program Update prepared by Peat Marwick Mitchell
- ✳ 1983 Airspace Study by King County and Port of Seattle
- \+ 1982 Sea-Tac International Airport Noise Exposure Update
- \- 1976 Sea-Tac Communities Plan

Sea-Tac to hail bigger 'cab'

Taller, roomier control tower planned by 2002

By Chris Genna
Journal Business Reporter

SEATAC — The Federal Aviation Administration wants to build a new air traffic control tower at Seattle-Tacoma International Airport to increase safety and efficiency at the Northwest's busiest commercial air travel hub.

The FAA says the new tower, which will cost $16 million to $18 million and be completed in mid-2002, will be taller, roomier, and better situated relative to Sea-Tac's two main runways.

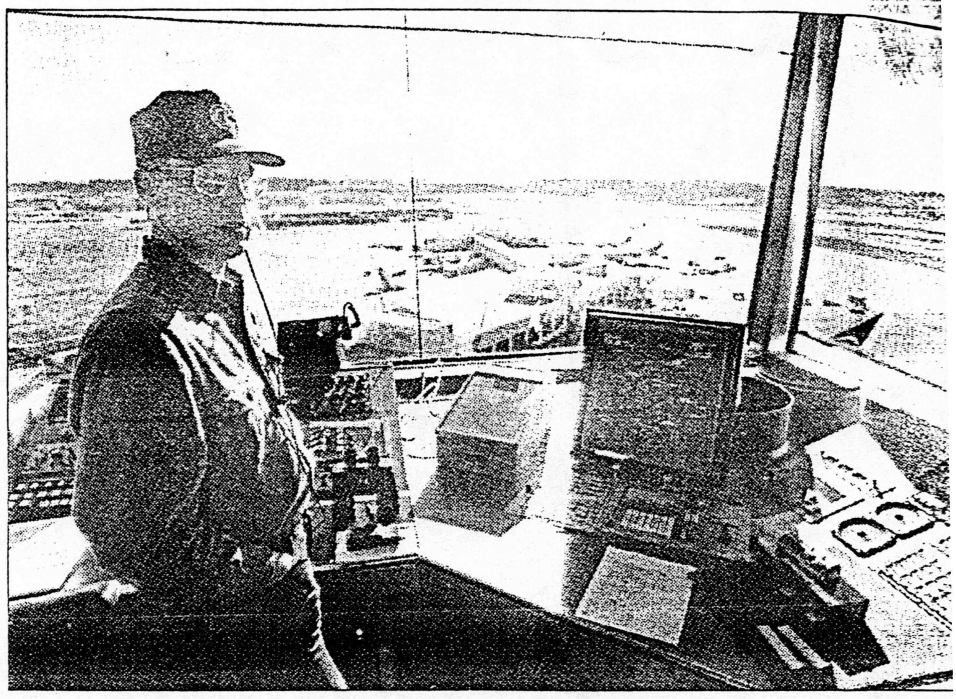
The Port of Seattle, which operates Sea-Tac, has completed an evaluation of 20 potential sites. It settled on one near the Airborne Freight Building in the "North Terminal Area" three-fourths to one mile north of the present tower.

FAA Air Traffic Manager Tom Davidson pointed out the need for more room to visitors Tuesday to the tower "cab" — the glass-enclosed top floor of the tower. From the cab, 127 feet above the pavement, air traffic controllers guide airliners, shuffling landings and takeoffs, directing like traffic cops the planes taxiing between runways and boarding gates.

"Sea-Tac is blessed with the latest of everything," Davidson said — the latest air surveillance radar, electronic aids for reduced visibility operations — it's one of nine airports in the U.S. that has the latest model of a radar that tracks airplanes moving on the ground.

"But all this equipment takes space." He motioned to the banks of lights and switches, radar and computer screens that take up every inch of counter space. "If you can find a place to put one more thing here, point it out to me."

That more equipment is coming is, to Davidson, a foregone conclusion — with or without a third runway planned for Sea-Tac. "I'm trying to look 40 years into the future and allow for what we'll need then," he said.



Gary Kissel/Journal

Paul Hadler, air traffic control specialist, directs the arrival and departure of jetliners at Seattle-Tacoma International Airport.

Walkaround room is just as important, Davidson said, since tower controllers are responsible for everything that moves on the flight side of the terminal. Business was slow Tuesday at 2 p.m., and a crew of four staffed the tower cab: local controller Paul Hadler, ground controller Rick Morris, Bud Pangan delivering clearances and flight data, and supervisor Brook Shumway.

But three times a day, the pace picks up:

- In the 20 minutes around 7 a.m. every day, 59 flights depart. In summer, 75 planes leave during the morning rush.
- Around 4:30 p.m., flights that left the East earlier in the day arrive in Seattle's holding patterns.
- From 10 to 11:30 p.m., the last rush of late East Coast flights arrives.

During those peaks, Davidson said, the tower crew can easily double. Assistants are called in and a gate hold controller is added to keep planes at their gates rather than burning up fuel on a gridlocked taxiway.

"And I'm seeing the peaks not growing, but filling in between. I need space for three more positions, and if I can get four, I'll take it."

Within the life span of the new tower, Davidson said, the FAA may have to have a local controller for each of Sea-Tac's parallel main runways. There will have to be two controllers giving flight crews their Air Traffic Control clearances. The gate hold controller's position will get more important as fuel costs rise.

And the growth of technology goes without saying. In the radar approach controllers' room one flight down from the cab, a computer shows a map of the U.S. superimposed with color-coded images

See SEA-TAC, B4

Specifically, the settleme[illegible]

Sea-Tac

Continued from B1

of every airplane headed for Seattle. Three blips hovered over the map of Wisconsin as visitors watched it Tuesday. "We would have liked to [illegible] of those in the cab," Davidson said, "but there just wasn't room."

Jim Serrill, manager of technical services for the port, said the present tower was constructed in 1975 and is approaching the end of its 25-year service life.

He hasn't seen final plans for a new tower from the FAA, Serrill said, but he's been told it will be 251 feet tall — just less than twice the height of the present tower.

The FAA will pick up the tab for design and construction of the new tower, but the port will pay a share in site preparation and "architectural enhancements," according to a recent memo to port commissioners.

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
Environmental Protection Specialist

September 24, 1996

Mr. Chuck Clark, Regional Administrator
U.S. EPA Region X
1200 Sixth Avenue
Seattle, WA 98101

Dear Mr. Clark:

I have received a copy of the letter from Mr. Lowell Johnson of FAA dated July 15, 1996 and, as I have again spent the time to look through the final EIS, have the following comments regarding his assertion that FAA has conducted a cumulative impact analysis. For your convenience, I have cited the appropriate sections referred to in the above referenced letter and given the exact analysis presented in the final document itself:

Chapter IV *Consequences*
Section 1- "Noise" "However, until specific project plans are completed for these developments, the total cumulative impacts can not be identified." [IV.1-13-]
Section 2- "Land Use" No cumulative analysis
Section 3- "Historic" "However, until project specific plans are developed for these developments, the cumulative impacts can not be identified." [IV.3-4-]
Section 4- "DOT 4(f) Lands" "However, until specific project plans are completed for these developments, the total cumulative impacts can not be identified." [IV.4-8-]
Section 5- "Farmland" "As no prime or unique farmland exist in the immediate airport area, no cumulative direct impacts would be expected." [IV.5-2-]
Section 6- "Social Impacts" "However, until specific project plans are completed for these developments, the total cumulative impacts can not be identified." [IV.6-7-]
Section 7- "Human Health" No cumulative analysis
Section 8- "Socio-Economic" "At this time, the long-term and combined impact from the construction and operation of a number of facilities planned for the Sea-Tac Airport vicinity cannot be fully assessed or quantified with any degree of precision." [IV.8-12-]
Section 9- "Air Quality" No cumulative analysis
Section 10- "Water Quality" No cumulative analysis
Section 11- "Wetlands" "Loss of this amount of wetland area, however, should be viewed as one of many contributing to cumulative effects on natural resources in the Puget Sound Region." [IV.11-5-]
Section 12- "Floodplains" "Adverse impacts on floodplains or flooding in the Des Moines basin would potentially result from development of other proposed projects in the vicinity..." [IV.12-4-]
Section 13-14- "Coastal & Rivers" "Within the Airport vicinity, Angle Lake is the only waterbody under the jurisdiction of a local Shoreline Master Program, and it would not be affected by any of the Master Plan Update alternatives." [IV.13-1-]
Section 15- "Surface Transportation" "However, until specific projects are proposed for these developments, the total cumulative impacts can not be identified." [IV.15-7-]

Section 16- "Plants & Animals" "Even with successful implementation of proposed mitigation, construction and operation of the proposed Master Plan Update and other planned development in the area could contribute to cumulative impacts on fish and aquatic resources." [IV.16-13-]
Section 17- "Endangered Species" "Bald eagles and peregrine falcons are not likely to use regularly forage or perch in such highly developed areas." [IV.17-3-]
Section 18- "Services/Utilities" "However, until specific project plans are completed for these developments, the total cumulative impacts can not be identified." [IV.18-7-]
Section 19- "Earth" "Many proposed projects, such as the Regional Transit Project, would require use of substantial fill, which, together with the Sea-Tac Master Plan Update airport improvements, would increase the borrow demand within the Regon." [IV.19-18-]

The FAA letter also referenced Chapter II, but I did not find any cumulative analysis or reference to one in that chapter. Does FAA believe that a list of other projects such as that contained in their letter constitutes a cumulative analysis? I am concerned that the ROD will contain only a list of area projects. And I do not believe that the words; "cannot be identified" satisfy the intent of NEPA, especially when some of the projects in the list the FAA has supplied are Port of Seattle proposals. The SASA base is missing from the list however, and this is a significant oversight. The final EIS for SASA is an FAA/Port of Seattle co-lead agency project subject to the general conformity provisions of the CAA. The SASA document did not contain a detailed air quality impact analysis. The Master Plan identifies a number of carriers who will be relocated for maintenance to the SASA area with a phased build-out planned for this facility. I believe it is imperative that the FAA be required to now complete the necessary air quality analysis before approval of the Master Plan since SASA with 9,000 employees and several relocated carriers with expanded maintenance will use the facilities.

I would appreciate a response to my concerns as soon as possible.

Sincerely,

Debi L. DesMarais
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Federal Way, WA 98003
(206) 529-8407
c: ACC
Port of Seattle