U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION

NORTHWEST MOUNTAIN REGION

RECORD OF DECISION

ENVIRONMENTAL REEVALUATION FOR MASTER PLAN UPDATE DEVELOPMENT ACTIONS SEA-TAC INTERNATIONAL AIRPORT

AUGUST 8, 2001

INTRODUCTION AND BACKGROUND

Four years ago, on July 3, 1997, I signed a Record of Decision (ROD) approving Federal Aviation Administration (FAA) actions providing support for various Master Plan Update (MPU) development actions proposed by the Port of Seattle (POS), including a controversial third runway project. The 1997 ROD relied upon a Final Environmental Impact Statement (FEIS) approved by the FAA on February 1, 1996, and a Supplemental EIS (SEIS) approved by the FAA on May 13, 1997. The instant year-2001 ROD makes the determination that it is not necessary to further supplement the 1996 and 1997 EIS documents at this time, to account for subsequent refinements to the MPU projects and new information relating to environmental impacts of these projects.

It is not uncommon during airport design and development, in the period between initial FAA approval of federal actions supporting airport projects and the completion of those projects, for new environmental information to come to the attention of the FAA. Likewise, it is not uncommon for an airport sponsor to propose and make design refinements to previously-approved projects as those projects proceed towards the construction phase. This is particularly true when the airport development plan involves multiple separate projects proposed to be completed in several stages over a lengthy period of time.

At 40 CFR Part 1500, the Council on Environmental Quality (CEQ) has promulgated regulations for implementing the procedural provisions of the National Environmental Policy Act. Section 1501.9(c)(1) provides that an agency shall prepare supplements to final environmental impact statements if:

> (i) The agency makes substantial changes to the proposed action that are relevant to environmental concerns; or
>
> (ii) There are significant new circumstances or information relevant to environmental concerns and bearing upon the proposed action or its impacts.

The FAA Northwest Mountain Region Airports Division has prepared and signed two environmental reevaluations[1]. The ROD Appendices A and B address the issue of whether the previous environmental analyses, pertinent to ongoing discretionary federal actions concerning the POS MPU projects, must now be supplemented based upon new information concerning these projects or recent modifications to these projects.

The Appendix A reevaluation examines the validity of the FSEIS in light of increased airport activity levels and MPU project refinements that have occurred in the 4 years since issuance of the 1997 FSEIS and ROD.

Appendix A discusses increased airport activity levels that have occurred and have been forecast since the 1997 FSEIS forecasts, noting that the environmental consequences of these activity levels have the potential to affect aircraft noise and land use, air quality, and surface traffic conditions. While reporting that since 1997 airport operations have been somewhat greater than forecast in the FSEIS, Appendix A concludes: 1) that the noise mitigation commitments in the ROD would fully mitigate any noise impacts exceeding those forecast in the FSEIS, 2) that the MPU projects will continue to comply with the de-minimus thresholds of the Clean Air Act conformity regulations, as stated in the FSEIS, and 3) that the increased passenger levels will not significantly degrade surface traffic conditions to an extent undisclosed in the FSEIS.

Appendix A also discusses various refinements to the MPU projects that have been identified over the last 4 years. When considering the overall context and intensity of these refinements, it is concluded that none of these modifications are expected to cause significant adverse impacts, either individually or in combination.

The Appendix B reevaluation discusses new biological information that has arisen in the 4 years since issuance of the 1997 FSEIS and ROD, including new information on wetlands, endangered and candidate species, commercially managed fish species, and migratory birds.

With regard to wetlands, Appendix B concludes that despite an increase in the acreage of wetlands now known to be

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[1] Re-Evaluation of Airport Activity and Changes to the Master Plan Update at Seattle-Tacoma International Airport, dated July 2001, attached as Appendix "A"; and Re-Evaluation of Impacts to Biological Conditions from the Master Plan Update Improvements at Seattle-Tacoma International Airport, dated July 2001, attached as exhibit "B."

affected, the functions and values of the affected wetlands are the same as those analyzed and evaluated in the FEIS and FSEIS, with no additional or unrecognized biological functions identified.

With regard to the Endangered Species Act (ESA), Appendix B addresses the fact that on March 24, 1999, and November 1, 1999, the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Services (USFWS), [the Services], respectively listed the Puget Sound Chinook salmon and the Puget Sound bull trout as threatened species under the ESA. Critical habitat for the Puget Sound Chinook salmon was designated in February 2000.

On May 22, 2001, following a year-long consultation process, the USFWS issued a biological opinion (BO) concluding that the MPU development actions are not likely to jeopardize the continued existence of the bull trout, bald eagle or marbled murrelet. On May 31, 2001, the NMFS issued a letter concurring with the BA conclusions that the MPU development actions are not likely to adversely affect the Puget Sound Chinook salmon or result in the destruction or adverse modification of its critical habitat. Under ESA Section 7, and its implementing regulations, the FAA's formal consultation with the Services was concluded at the issuance of these two documents.

Appendix B starts with the premise that these new listings of threatened fish species by the Services represent determinations of the species' legal status, and do not by themselves constitute significant new information requiring preparation of another SEIS. The written reevaluation notes that the 1996 and 1997 EIS and SEIS specifically considered the effects of the project upon fisheries and aquatic resources in the project vicinity, including anadromous fish. The reevaluation specifically relies upon the expertise of the Services, and, likewise, concludes that the MPU development actions are not likely to jeopardize the continued existence of newly ESA-protected fish species or result in the destruction or adverse modification of their designated critical habitat. The reevaluation documents the fact that the MPU projects' environmental effects resulting from the ESA listings are neither significant nor uncertain, as compared with the impacts evaluated in 1996 and 1997.

With regard to the bald eagle, the USFWS's BO and Appendix B agree with the FEIS and FSEIS assessment that the MPU projects are not expected to adversely affect this threatened species. For the Marbled Murrelet, the BO found insignificant effects, given the absence of nearby critical

habitat, a conclusion similar to that reached in the FEIS and FSEIS, where it was found that the murrelet is not likely to occur in the project area.

With regard to coho salmon, an ESA-candidate species, Appendix B concludes that, while there may be temporary adverse affects on coho during MPU construction, long-term benefits to coho are expected as a result of in-basin mitigation efforts. Appendix B notes that these effects are consistent with the effects from potential construction and operational activities described in the FEIS and FSEIS for similar fish species.

With regard to commercially managed fish species and their essential fish habitat protected by the Magnuson-Stevens Act, as amended by the Sustainable Fisheries Act, Appendix B concludes that construction and operation of the MPU projects would have no effect upon Coastal Pelagic Fisheries or West Coast Groundfish, and that, even though these projects may adversely affect coho essential fish habitat over the short term, over the long term they would have an overall beneficial affect. These effects are likewise consistent with the effects from potential construction and operational activities described in the FEIS and FSEIS for other fish species.

With regard to species protected under the Migratory Bird Treaty Act, Appendix B notes that project impacts upon bird species were thoroughly discussed in the FEIS and FSEIS, and concludes that new information in this area is consistent with the FEIS and FSEIS findings that the MPU projects would not have a significant adverse effect upon migratory birds. Neither the legal status of these species under federal law nor their biological status has changed over the last 4 years.

DECISION AND ORDER

Given the project modifications and new information discussed in Appendices A and B, the decision choices available for the FAA are either to refrain from further FAA actions, pending preparation of a SEIS, or to continue with those actions without preparing another SEIS.

Having thoroughly reviewed the Appendix A and B reevaluation documents, along with pertinent portions of the documents they reference, I have concluded that the recent MPU project modifications and the new information concerning environmental impacts do not affect the quality of the human environment in a significant manner or to a significant

extent not already considered. I have, therefore, concluded that there is no significant new information warranting preparation of new SEIS.

I have further determined that the certification prescribed by 49 U.S.C. § 44502(b), that the projects approved in the July 3, 1997, ROD are reasonably necessary for use in air commerce, along with the subsidiary orders and determinations therein, will neither be reconsidered, nor their effectiveness stayed, for further environmental review.

Therefore, under the authority delegated to me by the Administrator of the FAA, I find that the preparation of another SEIS is not warranted at this time, and I direct that the FAA continue to implement the agency actions/approvals specified in Section III of the 1997 ROD, without further NEPA documentation or supplementation.

L. Andriesen

Lawrence B. Andriesen
Regional Administrator
Northwest Mountain Region
Federal Aviation Administration

8-8-01
Date

RIGHT OF APPEAL

This decision constitutes the Federal approval for the actions identified above and any subsequent actions approving Federal funding for the Port of Seattle. Today's decision is made pursuant to 49 U.S.C. Subtitle VII, Parts A and B, and constitutes a Final Order of the Administrator, subject to review by the courts of appeals of the United States in accordance with the provisions of 49 U.S.C. § 46110.

APPENDIX A

RE-EVALUATION OF AIRPORT ACTIVITY AND CHANGES TO THE MASTER PLAN UPDATE

AT

SEATTLE-TACOMA INTERNATIONAL AIRPORT

July 20, 2001

RE-EVALUATION OF AIRPORT ACTIVITY AND CHANGES TO THE MASTER PLAN UPDATE AT SEATTLE-TACOMA INTERNATIONAL AIRPORT

TABLE OF CONTENTS

I. BACKGROUND AND NEED FOR RE-EVALUATION

On May 13, 1997, the FAA approved the *Final Supplemental Environmental Impact Statement (Final Supplemental EIS) for the Proposed Master Plan Update Development Actions at Seattle-Tacoma International Airport.* The SEIS supplemented the Final Environmental Impact Statement dated February 9, 1996 (FEIS). A Record of Decision (ROD) was subsequently signed on July 3, 1997, providing final approval for those FAA actions necessary to support the proposed Master Plan Update projects. The Master Plan environmental documents describe four needs at the Airport and the corresponding actions necessary to satisfy those needs: 1) a third runway (a new 8500-foot dependent air carrier runway), 2) a 600-foot southerly extension of existing Runway 16L/34R, 3) expanded runway safety areas for Runways 16R and 16L, and 4) certain terminal and landside improvements scheduled to be completed through the year 2010.

FAA Order 5050.4A Paragraph 102 establishes time limitations for environmental impact statements. Among other provisions, subparagraph 102b states with respect to Final EIS's:

> If major steps toward implementation of the proposed action (such as the start of construction, substantial acquisition, or relocation activities) have not commenced within 3 years from the date of approval of the final statement, a written reevaluation of the adequacy, accuracy and validity of the final statement shall be prepared. If there have been significant changes in the proposed action, the affected environment, anticipated impacts, or proposed mitigation measures, a new or supplemental environmental impact statement shall be prepared and circulated.

A Written Reevaluation is not required if "major steps toward implementation of the proposed action" have occurred. Steps considered "major" under Order 5050.4A "Airport Environmental Handbook" include start of construction, substantial acquisition, or relocation activities. The FAA has reviewed the actions taken by the Port of Seattle (Port), the owner and operator of the Airport, to implement the projects included within the approvals in the Final Supplemental EIS and the ROD. The following summarize those actions:

A. Steps Toward Implementation Since July 3, 1997.

Between July 3, 1997 and June 1, 2001, the Port has acquired about 240 acres of land to implement the Third Runway and associated projects (including Taxiway C, connecting taxiways, taxiway filets), at a total cost of $143 million; 319 residential units have been demolished and 34 moved off-site, and all occupants of 483 residences have been relocated to other dwellings. The cost of demolition and relocation for the runway since July 3, 1997 total $3.7 million. Approximately 95% of the property to be acquired for the project has been acquired and about 3 million cubic yards of earth fill material has been acquired and deposited at the Airport for the Third Runway embankment at a cost of $48 million. This fill constitutes approximately 20% of the total fill required for the runway. Of these amounts, approximately $46.7 million was funded by FAA grants.

Virtually all of these steps would be of little or no value to the Port, or to the national air transportation system, if the runway and associated projects are not completed and operational.

In addition, construction on the following elements of the terminal and landside projects have been initiated: the southern expansion of the main parking garage; expansion of the main terminal, improvements to the main garage and garage access, expansion of the A Concourse, completion of the new North Employee Parking Lot, completion of aircraft parking hardstands in the cargo area, infrastructure in anticipation of other planned improvements, etc. The cost of this construction between July 3, 1997 and the date of this document is approximately $365,000,000.

In total, the Port has expended about $498 million of the total $2.6 billion Master Plan Update projects. The Port has acquired almost all of the land required for the project at substantial cost, has cleared the land and relocated the residents. The Port has moved approximately 20% of the total fill needed for the runway and has already constructed elements of the airfield improvements that will serve the new runway. Such steps toward implementation are "major" and sufficient under Paragraph 102b to make a Written Reevaluation unnecessary.

B. Need for Written Reevaluation

Paragraph 103 of FAA Order 5050.4A states:

> "In addition to the requirement for a written reevaluation due to circumstances arising under paragraph 102, the responsible official should exercise judgment on when a written reevaluation is appropriate in other circumstances to evaluate the continued validity of an environmental document. The preparation of a new EIS, FONSI, or supplement is not necessary when it can be documented that: the proposed action conforms to plans or projects for which a prior EIS or FONSI has been filed; the data and analysis contained in the previous EIS or FONSI are still substantially valid; and that all pertinent conditions and requirements of the prior approval have been or will be met in the current action."

The FAA has continued to monitor the progress of the Port of Seattle development through regular interactions at levels ranging from monthly coordination meetings, site visits, and project specific coordination, to reviews of materials submitted by the Port of Seattle. The FAA has reviewed the data, analysis and conditions presented in the FEIS and FSEIS and found them to remain substantially valid. Further, changes in proposed development projects at Sea-Tac conform to the Master Plan Update, upon which the Final EIS and FSEIS were prepared. Further, the Port has continued to meet all pertinent conditions and requirements noted in the FAA's ROD.

The FAA concludes that under the standards of paragraph 103 of Order 5050.4A, a Written Reevaluation is not required.

Upon gaining access to acquired lands where previous requests for access had been denied, the Port identified additional wetlands that would be affected by the proposed project. While the number of wetlands affected has increased over that which was presented in the Final EIS and FSEIS, the conclusions regarding the impact of the project on wetland resources remains substantially valid. As is documented in the FAA's re-evaluation concerning biological issues, the wetland impact analysis presented in the Final EIS and FSEIS remain substantially valid.

Nevertheless, the FAA has prepared this Written Reevaluation. The FAA is aware that the Master Plan Update projects are highly controversial in some communities near the Airport. Although the City of SeaTac, in which the Airport is located, has accepted the Master Plan Update projects, certain other units of government near the Airport have not, and continue to oppose these projects. In light of this controversy, the FAA has elected to prepare this document.

* * *

It is important to note that the Council of Environmental Quality's (CEQ) "NEPA's Forty Most Asked Questions" response to question 32 contains further clarification on NEPA's intent relative to Supplements to old EISs:

> "As a rule of thumb, if the proposal has not yet been implemented, or if the EIS concerns an ongoing program, EISs that are more than 5 years old should be carefully reexamined to determine if the criteria in Section 1502.9 compel preparation of an EIS supplement.
>
> If an agency has made a substantial change in a proposed action that is relevant to environmental concerns, or if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts, a supplemental EIS must be prepared for an old EIS so that the agency has the best possible information to make any necessary substantive changes in its decisions regarding the proposal. Section 1502.9(c)."

This Written Reevaluation has been prepared because more than three years have elapsed since the Final Supplemental EIS was approved, per FAA Order 5050.4A, but not more than the five years noted by CEQ. This Reevaluation evaluates the current validity of the Final EIS and Final SEIS in light of subsequent events and current conditions, all as provided in Order 5050.4A.

II. ISSUES RELATING TO CONTINUED VALIDITY OF FINAL SUPPLEMENTAL EIS

The FAA has re-evaluated the adequacy, accuracy and validity of the FEIS/SEIS. The question in this document is whether any new information significantly affects the analysis of environmental impacts of the projects. With the passage of time, it is to be expected that some of the data in an EIS will not match subsequent actual experience exactly, and that new information will become available. That is true with respect to the FEIS/SEIS. However, the questions are whether the new information or changes in the project would significantly change the kind or extent of environmental impacts, and whether new or different mitigation of environmental impacts would be required. If the environmental impacts of the projects would not be significantly different in light of new information, there is no reason to undertake a supplemental EIS.

The FAA has re-evaluated the validity of the Final Supplemental EIS in light of the following events and circumstances that have occurred since the Final Supplemental EIS was issued in May 1997:

A. Variance between actual activity levels at the Airport and the levels forecast in the Final Supplemental EIS. In addition, the implications of the 2000 Terminal Area Forecast (TAF) were considered;

B. Modifications to the Master Plan Update projects; and

C. Information regarding cumulative impacts.

The FAA has reviewed each of these issues to determine whether it would require a new or supplemental EIS.

A. Activity Levels

A primary reason that the FAA prepared the 1997 Supplemental EIS was the rapid growth in air travel demand that had been experienced at Sea-Tac Airport during the 1990s. As a result, the FAA examined how actual activity at the Airport has occurred in comparison with the Master Plan Update forecasts, as well as more recent forecasts prepared by the agency.

1. Background and Current Situation

a) Master Plan Update Activity Levels

The Final Supplemental EIS used the following forecasts of future activity at the Airport for 2000, 2005, and 2010:

TABLE 1

COMPARISON OF FSEIS DO-NOTHING TO "WITH PROJECT" ACTIVITY LEVELS

Primary Forecast

	Total Passengers		Total Operations	
Year	Do Nothing	With Project	Do-Nothing	With Project
2000	27,400,000	27,400,000	409,000	409,000
2005	31,400,000	31,400,000	445,000	445,000
2010	35,800,000	35,800,000	460,000	474,000

Source: Final Supplemental EIS, Page 2-14

Contingency Forecasts (Final Supplemental EIS Appendix D)

	Total Passengers		Total Operations	
Year	Case 1	Case 3	Case 1	Case 3
2010	35,800,000	35,800,000	474,000	521,400
2020	44,600,000	49,060,000	532,000	585,200

Appendix D, Final Supplemental EIS, With Project activity.

The Final Supplemental EIS Appendix D also contained supplemental estimates of environmental impacts for purposes of considering the environmental consequences

of a contingency forecast. That Appendix recited the difficulty of making reliable forecasts for future years, particularly for distant years. It is particularly difficult to assign a specific activity level to particular future years. Although an airport may be expected to reach particular forecast levels eventually, it is difficult to predict the precise year in which that will occur. As a result, FAA's guidance on performing forecasts (as will be noted in the following section) suggests that airport planning focus on future activity levels rather than particular future years.

In light of the fact that a Supplemental EIS was being prepared because activity had varied over earlier predictions, and that activity is difficult to accurately predict, the appendix was prepared to contain a "what if" the new forecasts were also less than actual. Three cases were examined. Case 1 reflected the Supplemental EIS forecasts, with a linear extrapolation through 2020. Case 2 reflected a 10% increase in each respective year over the Supplemental EIS forecasts. Case 3 was the same as Case 2, but in the case of the Do-Nothing, assumed that the terminal and landside facilities could not accommodate the passenger demand beyond 2010.

b) Recent Actual Levels and the FAA's Terminal Area Forecast (TAF)

Since the Final Supplemental EIS, the Airport has experienced operations that are somewhat greater than expected in the primary forecasts. For 2000, the Airport handled 446,066 operations, the operations total expected by the Final Supplemental EIS to initially occur in 2005. Passenger enplanements, however, have not grown as fast as operations. In 2000, the Airport accommodated 28.4 million passengers. The Final Supplemental EIS enplanements forecasts are generally consistent with the actual experience at the Airport in the intervening years, as the FSEIS evaluated 27.4 Million annual passengers (MAP) versus actual of 28.4 MAP. The difference between the growth rate for the number of passengers and aircraft operations appears as a result of how the airlines are responding to the growth in passenger demand – by providing more frequent service with smaller aircraft.

The FAA has continued to issue annual updates of its Terminal Area Forecasts (TAF), as was acknowledged in the Final EIS and Final Supplemental EIS. The TAF is prepared using different methods than the Master Plan Update forecasts, and the Final Supplemental EIS explains why the Master Plan Update forecasts were considered by the FAA to be more appropriate than the TAF for purposes of that environmental impact analysis. The Master Plan Update Final Supplemental EIS forecasts relied more heavily on actual local conditions, whereas the TAF relied more heavily on national trends, with the result that the Master Plan Update forecasts were somewhat lower than the TAF forecasts.

In preparing this evaluation, the FAA considered the most recent actual activity levels as well as the most recent (2000) Terminal Area Forecast. These are as follows:

Year	Total Passengers	Aircraft Operations
1999 Actual	27,700,000	434,425
2000 Actual	28,400,000	446,066
TAF 2005	33,805,000	485,740
TAF 2010	39,746,000	529,060
TAF 2015	45,687,000	572,400

Actual: Port of Seattle, TAF Downloaded from the Internet on 1-13-01

When considering the need to supplement the FSEIS, the FAA has compared the year 2000 TAF with the 1996 TAF that formed the basis for determining the need to prepare the FSEIS. This comparison shows:

Year	2000 TAF		1996 TAF	
	Total Passengers	Aircraft Operations	Total Passengers	Aircraft Operations
1999 Actual	27,700,000	434,425		
2000	28,400,000	446,066	27,840,000	433,474
TAF 2005	33,805,000	485,740	32,580,000	468,053
TAF 2010	39,746,000	529,060	37,900,000	528,205
TAF 2015	45,687,000	572,400	NA	NA

For the year 2010, the two TAFs are less than 0.2% different (855 operations) from an aircraft operations perspective and less than 5% from a total passenger perspective. In 2005, the passenger difference is less than in 2010, while the operations differ by 3.8%. These differences are very small, particularly in the most distant future (2010), the FAA finds that there is not a significant difference between the two TAF forecasts.

During the preparation of this re-evaluation document, the FAA began internal coordination of the 2001 TAF. As part of the initial review, the FAA Washington DC office distributed national information to its local offices and seeks feedback. The initial data set for Sea-Tac indicates that the 2001 TAF will likely use lower growth rates (2000 TAF used 1.8% whereas the 2001 TAF may use 1.58%) than were used in the 2000 TAF. As a result, the TAF projection of 572,400 annual operations in 2015 may be lowered to 562,500 in the 2001 TAF. The 2001 TAF would reflect the slower economic conditions now affecting the country.

The FAA has reviewed the Final Supplemental EIS explanations of the differences between its forecasts and the TAF and has concluded that the same conditions continue to exist. The TAF is a useful guide to projected airport activity, but is not adjusted to the specific conditions at the Airport. The FAA continues to consider the local forecasts more specifically applicable to the Airport for environmental impact analysis purposes.

Further, the 2000 TAF was prepared in mid 2000, based on conditions preceding that period. Since that time, national and local economic conditions have begun to slow. As a result, activity at Sea-Tac has also begun to slow such that growth in aircraft operations and passenger activity has declined and leveled-off. During the first five months of 2001, air travel activity has been less than 2000. Even accounting for the effect of the February 28, 2001 earthquake in Seattle, which for a short period severely affected the control tower and ability to process arriving and departing operations, total passengers and operations are less than the comparable periods in 2000.

As was noted in the FSEIS, the quantity of air travel demand is based on population, per capita income, and the cost of air travel. Both the cost of air travel and per capita income have been affected by recent economic conditions – the cost of fuel has increased substantially and the availability of discretionary income has decreased.

FAA believes that it is reasonable to use locally developed forecasts for purposes of environmental evaluations of specific local improvements. As has not been

uncommon in the past, airport activity has been known to grow in a fashion that graphs as stairs – growing and then leveling off for a period before additional growth. Therefore, the FAA does not place any additional weight on the 2000 TAF in comparison to the 1996 FSEIS forecasts; particularly since the 1996 TAF (upon which the need to prepare the FSEIS is based) and 2000 TAF are very similar, as noted earlier. However, to aid in understanding the probable environmental consequences of these forecasts, this written re-evaluation discusses (in "2. Environmental Consequences") the probable impact of the 2000 TAF.

c) Other Issues

Table 2 contrasts the current (2000) TAF with the Master Plan forecast as well as the contingency analysis presented in Appendix D of the Final Supplemental EIS. While the FAA's terminal area forecast is greater than was considered in evaluating the Master Plan forecast, it is lower than the contingency analysis presented in Appendix D through 2005. Post 2005, the TAF is slightly greater than the contingency forecast.

As **Table 2** shows, the difference in aircraft operations between the 2000 TAF and the Master Plan Update forecast is less than the difference between the Appendix D comparison against the forecast; the TAF activity level is embraced generally by the Case 3 analysis.

After comparing the two activity level projections, several issues were considered:

- FAA Guidance on Forecast Comparisons
- Capability of the existing airfield
- Activity and Capacity with the Third Runway
- Forecasting beyond a 10 year period

TABLE 2
Comparison of TAF, Master Plan and Final Supplemental EIS Contingency Forecasts

Year	*2000 TAF*	*Master Plan Update Forecast*	*Contingency FSEIS Appendix D Case 1*	TAF compared to Forecast (Case 1)	*Contingency FSEIS Appendix D Case 3*	TAF compared to Contingency Forecast (Case 3)
2000	442,420	409,000	409,000	33,420	449,900	-7,480
2005	485,740	445,000	445,000	40,740	489,500	-3,760
2010	529,060	474,000	474,000	55,060	521,400	7,660
2015	572,400	NA	503,000	69,400	553,300	19,100
2020	NA	NA	532,000	NA	585,200	NA

The following briefly summarize these issues

FAA Guidance on Forecast Comparisons: The FAA has issued guidance concerning forecast comparisons in only two specific areas. For purpose of environmental analysis, the FAA requires revisions to some environmental analysis if actual or new forecast activity levels are more than a certain percentage different from those relied

upon for the initial analysis. For instance, if an airport's forecast is 10% or more different than the TAF, documentation is required to reconcile the difference or a supplemental analysis is performed.[1/] The previous text documents the FAA's consideration of the 2000 TAF relative to activity evaluated in the FSEIS.

For Part 150 Noise Compatibility Planning purposes, the FAA uses a 15% difference in actual activity relative to modeled conditions to justify the need to perform an updated noise analysis. The FAA has chosen for noise purposes the 15% rule, as this level of activity ensures that any change in noise is less than the 1.5 DNL (Day-Night Average Sound Level) threshold of significance used by the FAA.[2/]

The 2000 TAF operations level is about 11% greater than the Case 1 forecast for 2010 (the level considered in Chapter 5 of the FSEIS) and 14% greater than the 2015 Case 1 extrapolation. The 2000 TAF is less than 4% greater than the condition evaluated in Appendix D (Case 3) for 2015. While the TAF projection is slightly greater than the 10% FAA guide, the FAA has considered the differences, as documented in this re-evaluation. First, the 2000 TAF for operations is 0.2% greater than the 1996 TAF that led to the development of the FSEIS. Second, actual condition in late 2000 and early 2001 are producing lower airport operations than occurred in 2000. As the 2000 TAF was prepared when national economic conditions were better than the current conditions producing less air travel demand, it is likely that the next TAF will reflect lower air travel projections that are more in line with the 1996 TAF and/or FSEIS forecast.[3/] Finally, the FSEIS considered a contingency forecast which is within the 10% FAA guidance range. For these reasons, the FAA believes that the difference between the 2000 TAF and the FSEIS forecasts does not warrant further environmental review.

Capacity of Existing Airfield: In preparing the forecasts for the Final Supplemental EIS, future demand was first identified. To consider the level of activity associated with the Do-Nothing (without the Third Runway), the operating capability of the existing airfield was assessed. The operating capability of the existing airfield was based on the 1992 Flight Plan Study EIS that found that the maximum *theoretical* capacity of the existing airfield is 460,000 operations, assuming that operations are extended into the late evening and early morning and that greater levels of delay would be experienced. Overlaying the delay curve relative to then current delay conditions, the Final Supplemental EIS re-validated the estimate of the existing airfield operating capability at 460,000 annual operations; it also noted that

> "To calculate an extreme capacity of the existing airfield at Sea-Tac, this hourly capacity could be multiplied by the number of hours in a day, and days in the year. Theoretically, 481,800 operations would be accommodated, reflecting that air travel demand is typically concentrated into a 16 hour period (6 am to 9 p.m.) based on today's fleet mix and passenger demand profile." Page II-9

1/ FAA Order 5100.38A Change1 provides guidance for approval of aviation forecasts. Paragraph 428(a) indicates that "FAA should review sponsor forecasts to ensure they are realistic and provide an adequate justification for the airport planning and development. The study should include data supporting the forecasts, including information that can be used as a basis to update the Terminal Area Forecast (TAF). When the forecast is different from the TAF (differences of 10 percent and more, or any difference that affects timing and/or cost of development in the NPIAS/ALP) differences must be resolved with APO-110 and/or the sponsor. If the variance does not result in such change, then the FAA may accept the forecast without further coordination."

2/ A 15% increase in activity relative to a base condition would produce less than 1.0 dBA change in noise. The 15% change is noted in the FAA Part 150 Checklist for Noise Exposure Maps (NEM III.B.). This change in sound is based on the mathematical equation 10*Log (new activity/old activity).

3/ Based on the lower growth rate expected to be included in the 2001 TAF, it is likely that the 2001 TAF for Sea-Tac will be within the 10% difference criteria used by the FAA.

When considering the consequences of not adding a Third Parallel runway, the FAA must consider how the air transportation system at Sea-Tac and in the region would evolve to accommodate the anticipated increases in air travel demand. If the Third Runway were not completed at Sea-Tac, it is reasonable to assume that the FAA would take actions (such as air traffic instrument procedures and possibly actions involving the locations of navigation aids), to enable more landings to occur during poor weather. While the only prudent alternative to addressing the total poor weather problem is the development of the Third Runway; other technological improvements, as documented in the Final EIS and FSEIS, could be implemented that would increase the poor weather capability in a limited extent. For purposes of this evaluation, only those actions that would occur without the Third Runway were considered.

The Third Runway would increase arrival processing capability, which during good weather (VFR1) is 60 arrivals an hour, by 20% during VFR2, 40% during IFR1, and 60% during IFR2/4 (Table I-3 FEIS). It is reasonable to assume that without the Third Runway, actions such as the Localizer Directional Aid (LDA) approach would be instituted. An LDA would improve the ability to land during VFR2 conditions at Sea-Tac but would not affect landings during IFR conditions; the net benefit would be an increase of about 6.5% on an annual basis from an LDA. In addition, other technological improvements may occur toward the forecast horizon of 2010 that would also incrementally increase the number of hourly landings during poor weather. Technologies that may be available in later years, coupled with LDA, could increase the overall operating capability of the existing two runway system at Sea-Tac from the 460,000 predicted in the FEIS/FSEIS to in excess of 500,000 operations. Together these actions would be expected to increase the operating capability of the two runway system. Precisely how much higher than 500,000 would depend on the aircraft fleet mix at the time, technology, and weather conditions in any respective year.[4/]

Activity and Capacity With the Third Runway: Because actual activity levels for 2000 will exceed the Final Supplemental EIS forecast activity levels for 2000, the FAA has considered whether forecast levels for 2010 are also too low. The FAA must determine whether such higher growth rates will continue through 2010 and require an adjustment of the 2010 "With Project" forecast. If so, the difference between the *with* and *without* levels could be larger than forecast in the Final Supplemental EIS with a resulting difference in some categories of environmental impacts.

The Master Plan Update forecast demand to reach 35.8 million annual passengers and 474,000 annual aircraft operations by 2010, the end of the planning horizon. Appendix D's contingency forecasts examined conditions beyond 2010 for three conditions. Case 1 examined a linear interpolation from 2010 conditions to predict

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4/ In June 2001, the FAA issued "Airport Capacity Benchmark Report 2001" which characterized Sea-Tac's existing delay conditions as "while only about 1% of all flights at Seattle are delayed more than 15 minutes from their estimated flight plan arrival time, the airport operator emphasizes that almost a third of airline flights arrive more than 15 minutes later than scheduled." The reference to 1% of flights delayed more than 15 minutes is reference to the OpsNet data that quantifies the number of flights that are delayed more than 15 minutes during any one of four operating phases. FAA Washington DC has readily noted that the FAA does not maintain delay data in a way that clearly quantifies delay associated with specific conditions. As a result, existing operational capability is often assessed using OpsNet data, as well as the Airline Service Quality Performance (ASQP). ASQP data for Sea-Tac indicates that 33.3% of arrivals arrived more than 15 minutes late. When conducting planning for airport improvements, simulation data, such as that used by the Capacity Enhancement Plan are used. Simulation models enable the quantification of average delay per aircraft operation, and enable the identification of conditions that led to delay.

conditions in 2020. Case 2 and 3 then examined activity levels and environmental conditions, if activity were 10% greater than the Case 1 conditions.

The Final Supplemental EIS recites the difficulty of making long-range airport activity forecasts.[5/] The factors that made precise forecasts for 2010 and 2020 difficult in the Final Supplemental EIS still affect forecasting. After review of the actual activity levels since 1997, the TAFs for the intervening years (including the 2000 TAF), and the factors affecting operations at the Airport, the FAA has concluded that a new forecasting effort would be unlikely to provide a new forecast that would materially change the environmental impact analysis of the Final Supplemental EIS. The environmental consequences of these differences are considered in a following section.

As is shown in Table 2, the Case 3 activity levels for 2010 is within 4% of the 2000 TAF (TAF is 529,060 operations versus Case 3 at 521,400). The TAF is 11% greater than the Master Plan forecast of 474,000. While the passenger levels are much more closely related, the annual aircraft operations differs primarily due to assumptions concerning commuter aircraft operations. Based on a review of the two activity projections, and difficulty in predicting how the commuter markets will evolve, the FAA has determined that the differences alone do not warrant conducting additional environmental review.

Support from Area Airports: The Final EIS, which preceded the Final Supplemental EIS and remains the basic environmental document analyzing the impacts of the projects, also recognized that other airports in the region might begin to serve commercial air travel demand. The FEIS states:

> It is recognized that commercial air service at an existing airport in the Region could be initiated at any time. It is likely that such air service would be by a charter or niche carrier (cargo, low-cost, etc.). However such activity would not materially affect the demand at Sea-Tac and the resulting facility needs. Low-cost operators have historically initiated new service at an airport with 30 or less aircraft operations. As such, this would represent less than 3 percent of Sea-Tac's current daily aircraft operations – and would likely amount to less than 1 million enplanements a year (10 percent of Sea-Tac's enplaned passengers). FEIS, Page II-9

The FAA is aware that carriers have from time to time investigated initiating commercial air carrier service from Boeing Field or Paine Field, and is also aware that on occasion certain operations have been relocated to Boeing Field to avoid restrictions at Sea-Tac Airport. It is therefore likely, as the Final EIS recognizes, that if the Third Runway is not built and demand for air travel in the region continues to grow, that not only would air traffic control instrument procedure actions be undertaken to satisfy demand, but some portion of that demand would be served by one or more other airports.

An examination of the Master Plan's for both Boeing Field and Paine Field indicate that both airports anticipate commercial passenger service in the future. The Master Plan underway for Boeing Field includes 9,000 passenger aircraft operations accommodating 77,000 passengers in 2010 and growing to 10,200 operations in 2015 with 89,300 passengers. The Paine Field forecasts examined several scenarios, ranging from 176,000 passengers in 2009 to 1,014,000 passengers. By 2014, Paine Field estimated a range of 192,000 passengers to 1,106,000 passengers. The forecast adopted for use in the Paine Field Master Plan was the low end of the range with

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5/ See Final Supplemental EIS, p. D-1 – D-3

176,000 annual passengers and 10,100 annual operations in 2009 or 192,000 passengers and 11,000 operations in 2014. Thus, within the planning horizon, it is possible that as many as 19,100 annual passenger aircraft operations could be accommodated at existing airports within the region.

Based on the anticipated strong growth in air travel demand, Sea-Tac's role as the sole commercial passenger service airport, and a probable limitation in the operating capability of Sea-Tac, it is reasonable to assume that the airlines will continue to serve the passenger demand. Such service could realistically include continued evolution of the demand profile at Sea-Tac to accommodate greater levels of passenger and aircraft activity coupled with initiation of limited passenger service at one of the region's existing airports. The Final EIS and Final Supplemental EIS anticipated this probability as noted.

Forecasting Conditions Beyond a 10-year period Remains Uncertain: The Final Supplemental EIS contained a detailed description of the difficulties with preparing forecasts of aviation activity. Since the issuance of the Final Supplemental EIS, the FAA has issued its TAF each of the three years, and in each year the forecasts have been changed to reflect the most recent conditions affecting the aviation industry. Since the issuance of the 2000 TAF, aviation activity across the country increased initially, but began to flatten off as a result of several conditions, including a slowing of the national economy, increased congestion in the aviation system, and increases in fuel cost which caused an increase in the cost of air travel. Because these conditions began in the latter part of the second quarter of 2000, it is uncertain as to their effects on actual activity levels and on future TAFs.

* * *

The FAA has reviewed the new (2000) TAF and the actual activity at the Airport since 1997 to determine whether this new information is sufficient to require a new EIS or another supplemental EIS. The FAA has considered the statement in Order 5050.4A that "a supplement is not required if the only change is the development of additional data, provided such data are not in conflict with the environmental document." Paragraph 104b. A new or supplemental EIS will be required only if "the contents of the original document are no longer applicable, adequate, accurate or valid."

Therefore, the FAA's review focused on two issues: (i) whether the forecasts in the Final Supplemental EIS are still substantially valid, and (ii) whether the data and analyses of environmental impacts are still substantially valid. If the FAA determines that a new set of forecasts either would not produce substantially different numbers for either of the forecast years, or that any differences in forecasts would not substantially affect the analysis of environmental impacts, a new or supplemental EIS is not required.

2. **Environmental Consequences**

Because activity levels at Sea-Tac have increased faster than was considered in the Final Supplemental EIS, and because of the discussion in the preceding section, the FAA considered the environmental consequence of an additional scenario. In considering these issues, the FAA focused on the difference in activity levels that would be accommodated with the proposed projects versus the activity that would be accommodated without the projects.

As was noted in the preceding section, the only new forecast that has been prepared for Sea-Tac is the FAA's Terminal Area Forecast. Therefore, for purposes of this re-evaluation the 2000 TAF is being used to define the With Project condition.

TABLE 3

COMPARISON OF TAF-BASED DO-NOTHING TO "WITH PROJECT" ACTIVITY LEVELS

	Total Passengers		Total Operations	
Year	Do Nothing	With Project (TAF)	Do-Nothing	With Project (TAF)
2000	27,400,000	27,400,000	420,700	420,700
2005	33,805,000	33,805,000	485,740	485,740
2010	39,746,000	39,746,000	500,000	529,060

Source: FAA, based on issues documented in this re-evaluation
Note: The 2010 Do-Nothing condition assumes that demand is continued to be served in the region, with the significant portion being accommodated at Sea-Tac Airport in accord with the theory articulated by Dr. Richard DeNeufville as documented in the FEIS page II-10.

Comparing the data shown in Table 3 for the With Project to the Do-Nothing, indicates that Sea-Tac (and possibly an existing airport in the region) would likely continue to accommodate the passenger demand. However, Sea-Tac Airport would likely not be able to accommodate the 2010 air traffic demand (operations). The Final Supplemental EIS noted that in 2010 Sea-Tac could not accommodate about 14,000 annual aircraft operations (474,000 operations with project and 460,000 without project) but could accommodate the entire passenger demand, through spreading the peak and increasing load factors/aircraft sizes.

Using the TAF data and current operating conditions, Sea-Tac would likely continue to not be capable of accommodating about 29,060 annual aircraft operations in 2010. Approximately 19,100 of these operations could occur within the region at airports such as King County International Airport or Snohomish County Airport (Boeing Field and Paine Field respectively), leaving about 9,940 operations not accommodated. Similar to the evaluation performed for the Final Supplemental EIS, it is reasonable to assume that the passenger demand could continue to be accommodated through increased load factors and spreading of the off-hour peaks.

This re-evaluation considered the environmental consequences of the TAF. Three primary environmental factors are affected by the level of activity at Sea-Tac Airport: a) aircraft noise and land use, b) air quality, and c) surface traffic conditions. The following briefly summarize how current activity levels would affect these factors.

a) <u>Noise and Land Use</u>

Noise impacts depend to a considerable degree on operations levels. The FAA has considered whether the potential differences in activity levels described above may produce significant difference in noise impacts of the Master Plan Update projects. The FAA has considered both whether the noise analysis in the Final Supplemental

EIS is still substantially valid, and whether the mitigation program required by the Final Supplemental EIS is sufficient to mitigate impacts of the projects even if the potential differences in activity levels occur.

As is noted earlier, the higher activity projections of the TAF are less than the 15% threshold used by FAR Part 150 to develop official noise exposure maps for an airport. Based on FAR Part 150 guidance, no additional noise exposure analysis would be required and the contours prepared for the FSEIS would remain valid. This 15% rule used by the FAA was established because a 15% change in activity would increase aircraft noise exposure by 1.0 DNL, which is less than the 1.5 significance threshold used by the FAA in its NEPA evaluations.

Further, the Final Supplemental EIS contains an analysis of noise impacts for operations levels considerably higher than those in the main text of the Final Supplemental EIS. Appendix D assumed a 10% greater growth rate than the main text, and calculated noise impacts for 521,400 operations in 2010. In 2010, the Final Supplemental EIS shows the following population affected by DNL 65 or greater noise:

2010 Without Project	11,940
2010 With Project	13,220
2010 Case 3 contingency w/ project	15,340 (Appendix D Table D-2)

The difference in impacted population between the two cases (main text and contingency case 3) is 2,120 people.

The Port has recently updated its noise exposure contours through the Part 150 Study process and found that noise has not decreased as rapidly as was anticipated in the FSEIS. The Part 150 Study showed, however, that substantial reductions are still anticipated, as noisier aircraft (MD80 and F-28) are transitioned out of the fleet at Sea-Tac. Therefore, while the exact magnitude of total people affected by aircraft noise today is greater, substantial decreases in the future are still anticipated. More importantly, the comparison of *With Project* to *Without Project* would remain the same and mitigation is required in the FSEIS/ROD.

The population and housing units affected by 521,400 operations are already covered by the Port's noise mitigation commitments to the FAA in the Final Supplemental EIS. The noise mitigation program was designed to cover noise impacts exceeding those projected in the Final Supplemental EIS, should they occur.

> Following commencement of operations on the new runway, but prior to the year 2010, the POS [Port] and the FAA will undertake a further supplemental evaluation of noise and land use impacts anticipated after the year 2010. . . . Following completion of that evaluation, if significant additional adverse environmental impacts are found, the Port of Seattle will be required to adopt further noise and land use mitigation measures designed to minimize any significant adverse affects [sic] found in that evaluation. ROD, 21

The FAA found that such additional mitigation is feasible. The FAA further determined that "even if the maximum additional adverse environmental effects estimated in Appendix D should occur, it would still make the decisions set forth in this ROD and would approve the projects, subject to the special condition with respect to additional mitigation." ROD, 22

The FAA considers the mitigation commitments of the Port sufficient, in light of the ROD, to mitigate all of the impacts of any such higher growth.

It is important to note that in response to the FSEIS and the PSRC Expert Panel review of noise conditions at Sea-Tac, the Port undertook an unprecedented Part 150 Study for the purpose of collecting data to improve the credibility of the noise modeling process. Airport operational data and noise measurements were taken over a 12-month period. Based on this data, improvements in the accuracy of the noise modeling process were identified and incorporated into the Part 150 Noise Study contours. While these changes in the noise exposure contour process change the characterization of noise conditions for each existing and future condition, it would not significantly change the comparison of the With Project and Do-Nothing condition. Based on the Part 150 noise contours, which are larger than the EIS contours, the mitigation would continue to be necessary upon commissioning the runway as was described and depicted in the FSEIS. It is likely that additional homes along the northwest corner of the existing noise remedy program boundary would require sound insulation; these properties are included in the ROD mitigation commitment for insulation.

It is also important to note that had the noise model calibration data been available at the time that the EIS was prepared, that data would have been reflected in the FEIS/FSEIS noise contours. FAA EIS guidance does not require the collection of such data, and at the time of the analysis neither the FAA nor the airport operator expected that actual annual data would differ from the default information imbedded in the noise model. See Attachment A, page A-4 for further discussion of the changes made during the Part 150 to the modeling data. However, in response to public input, the Port conducted the Part 150 (a study which as was expected by the EIS) to address these public concerns. The Port is in the process of updating the noise exposure maps to reflect this new information. The FEIS and FSEIS acknowledged that the Port would undertake an update of its Part 150. In addition, the FSEIS deferred refinement of the approach transition area acquisition to the Part 150 Study. Because of these issues, and the ROD requirement to update the contours upon commissioning the runway and to mitigate any now unforeseen impacts, the FAA believes that the Part 150 Study contours do not make the EIS contours invalid.

As noted earlier, the FAA is requiring the Port to develop a new noise analysis upon commissioning the runway and to identify mitigation based on actual operational characteristics. In light of this commitment, the FAA believes that developing additional noise contours at this time in response to the 2000 TAF is unwarranted and could be misleading, because of the changing conditions that can not be predicted at this time.

b) Air Quality

In preparing this Re-evaluation the FAA must consider whether the finding made under the conformity provision of the Clean Air Act remains substantially valid. The ROD concluded that the projects would not exceed the de-minimis thresholds for general conformity, and would conform to the Washington State Air Quality Implementation Plan. In evaluating emission in the FSEIS, emissions were categorized as operating, which included the operation of airport sources upon completion of projects, and construction, the emissions associated with the construction activity. As that analysis showed, the primary project-related emissions occur during construction. With the project changes discussed above, the project will not exceed de minimis thresholds or cause any significant air impacts that were not fully discussed in the SEIS.

Relative to the operating emissions, one of the primary considerations in evaluating air quality and conformity with the SIP is differences in the level of activity between the With Project and that of the Do-Nothing. In preparing the FSEIS, in 2010 the With Project was found to accommodate 14,000 annual aircraft operations more than the Do-Nothing (with the project 474,000 annual aircraft operations, and 460,000 operation under the Do-Nothing). Because the higher level of activity with project is accommodated in a much more efficient manner, air emissions (particularly for nitrogen oxides) are less with project than without. Therefore, when considering the TAF activity, the differences between the With Project and Do-Nothing from an activity and efficiency perspective must be considered.

For evaluation purposes, the 2000 TAF projections of 529,000 annual operations for 2010 would reflect the With Project, or regional air travel demand. Under this scenario, a Do-Nothing scenario must be postulated. The FAA believes that with a higher demand, several scenarios might exist: 1) all of the demand could be accommodated at Sea-Tac, with an associated extreme delay condition (about 64 minutes of average arrival delay versus 13 minutes with project); or 2) some portion of demand could be accommodated at Sea-Tac, with the remaining accommodated at other airports in the region. While slight differences in air emissions could occur with either scenario, the differences would be minor, approximately equal to that already addressed in the FSEIS. As was noted in an earlier section, while higher levels of activity are predicted by the TAF (in comparison to the FSEIS), it is likely that the region (through Sea-Tac or another airport) would accommodate a growing portion of that demand. For operating emissions, it is believed that emission benefits will continue to be achieved with the implementation of the proposed Master Plan Update projects relative to the Do-Nothing/No Build, as air travel demand will continue to be accommodated within the Puget Sound Region.

As was discussed in Appendix B of the FSEIS (Conformity evaluation), construction emissions represent the potential to exceed the de-minimis threshold. As is noted in the Port's response to comments in the Clean Water Act Section 404 process, the Port has continued to monitor its compliance with its de-minimis commitments in the FSEIS and ROD. The Port has evaluated its annual construction emissions and shown that the de-minimis thresholds will not be exceeded. To further confirm this compliance, the FAA has obtained a written commitment from the Port to prepare annual submittals demonstrating its de-minimis compliance, and thus, has no new information that would indicate that the Port or the proposed projects would not meet the Clean Air Act conformity requirements. The FAA will make this annual submittal a requirement of the Port's grant agreements. Therefore, relative to all direct and indirect emissions, conformity would continue to be met in the 2010 period.

Conformity analysis through 2010 was sufficient for purposes of the SEIS and was accepted by the US Court of Appeals. It remains the appropriate timeframe for this Reevaluation. The conformity requirement is not a general regulatory provision, but is limited to ensuring that federal activities do not interfere with the effectiveness of state implementation plans. The Seattle region currently is in attainment for ozone, and subject to a maintenance plan that regulates air quality through 2010. The regional clean air agency (Puget Sound Clean Air Agency) is currently revising its emissions inventory for the maintenance plan and the Port anticipates that the emissions for Sea-Tac Airport will reflect current regional growth, airport growth and anticipated airport development. The FAA has concluded that the de-minimis threshold would not be exceeded through the foreseeable future and this determination is sufficient to satisfy the requirements of the Clean Air Act.

For the period after 2010, the State of Washington must revise the maintenance plan. The maintenance plan itself provides for revision: "Such a revised SIP will provide for an additional ten years of maintenance." 61 FR 50441. Under this statutory mandate, the federal, state and regional air quality agencies will review current emissions data, which will include emissions estimates based on Airport activity at that future time, and updated forecasts of future Airport activity for the period after 2010. The revised plan will have to include whatever measures are deemed appropriate by the air quality agencies to ensure continued compliance with national air quality standards. Because the Airport, with the Master Plan Update projects, is already included in the Metropolitan Transportation Plan, all of its projected activity in the air and on the ground must be accommodated in the updated plan. USEPA must approve the revised plan. The updated plan will not require reliance on the Port's written commitment to the FAA.

c) **Surface Traffic Conditions**

In examining the effect of higher levels of airport passengers on surface traffic conditions, a comparison was made against the Master Plan traffic levels for the year 2000 with the levels evaluated for the base condition for 1999/2000 for the ongoing Joint Transportation Study (JTS -- the study funded by the City of SeaTac and Port of Seattle for purposes of examining traffic conditions in the airport vicinity).

A comparison of traffic levels along six roadways was conducted as shown in Table 4: International Boulevard (SR 99), North Airport Expressway, Air Cargo Road, South 160th Street, South 170th Street and South 188th Street. The Master Plan Update Final Supplemental EIS found intersections along many of these roadways to be heavily traveled, and in many circumstances with poor levels of service (LOS D or worse).

A comparison of the more recent JTS data shows that the Master Plan Update Final EIS and Final Supplemental EIS used very conservative (high traffic levels) when assessing surface traffic conditions in comparison to what has actually occurred on these roadways.

Actual traffic levels were less on all roadway segments, with the exception of four segments: a) North Airport Expressway from SR 518 to the terminal; b) Air Cargo Road from S. 160th to Airport Expressway; c) Air Cargo Road from North Expressway to S. 170th, and d) South 170th Street from Air Cargo Road to North Expressway. All of these segments are in the same general vicinity, and appear to reflect the greater number of passengers using the on-airport roadway system. Further, while slightly greater actual traffic has occurred on these roads, the FEIS and FSEIS noted that traffic conditions were and would continue to be relatively good, except at Air Cargo Road and S. 170th. At Air Cargo Road/S. 170th, the Port and City of SeaTac have proposed a signalized intersection (as was noted in the FSEIS), independent of the Master Plan to resolve low levels of service. Therefore the carrying capacity of these roads is capable of accommodating the slightly higher traffic levels. It is important to note that surface traffic on off-airport roadways is consistently less than was predicted.

Therefore, despite the higher levels of actual airport activity, surface traffic conditions on area roadways have not worsened in proportion to the increase. Rather, the increases in airport activity have not produced commensurate increases in surface traffic levels. Because the existing conditions for most roadways were over

predicted in the FSEIS, it is reasonable to assume that conditions that might be associated with a TAF level of future activity have already been accounted for in the evaluation prepared for the FSEIS. For the few roadways/intersections where actual traffic is greater than evaluated in the FSEIS, the slight differences would not have a material effect on traffic flow given the carrying capacity of the existing roads. Thus, it is reasonable to assume that the traffic conditions evaluated in the Final Supplemental EIS, by virtue of being conservative/over-predictive, have identified adequately actual traffic conditions and conditions associated with the 2000 TAF. Based on the surface traffic conditions, no further analysis would be warranted, as the traffic analysis in the FSEIS is substantially valid.

Table 4

Comparison of Actual to Projected Surface Traffic
(Average Daily Traffic Levels)

Roadway From/To	Actual 1999/2000 JTS	FSEIS 2000 W/o project	FSEIS 2000 W/ Project
International Boulevard/SR 99			
State Route 518 to S. 160th Street	33,000	43,600	42,900
S 160th Street to S 170th Street	27,500	36,600	35,500
S. 170th Street to S 176th Street	35,000	39,800	38,300
S 176th Street to S 180th Street	32,500	47,700	45,800
S 180th Street to S 188th Street	39,500	62,100	59,900
S 188th Street to S 192nd Street	37,000	53,600	51,500
Northern Airport Expressway			
State Route 518 to Terminal	58,100	56,100	55,400
Air Cargo Road			
S 154th Street to S 160th Street	9,700	12,100	12,400
S 160th Street to North Airport Expy	12,400	9,600	9,600
North Airport Expy to S 170th Street	13,500	12,500	12,400
South 160th Street			
Air Cargo Road to International Blvd	8,300	10,900	10,700
South 170th Street			
Air Cargo Road to North Airport Expy	12,500	12,600	12,300
North Airport Expy to International Bl	14,400	16,100	15,800
South 188th Street			
28th Ave S to International Blvd	24,500	28,700	27,200
International Blvd to Military Road	31,700	36,900	34,500

Source: Port of Seattle

B. Modifications to the Master Plan Update Project

As with any airport development project, refinements are made in the plan as projects move from planning documents to design and construction. In the case of the long-range Master Plan Update improvements, a number of refinements were identified subsequent to the preparation of the Final Supplemental EIS. These include:

- Revisions to the Concourse A expansion to enable an additional gate and to provide a six story office complex – this project also was modified such that the existing Delta Hangar was demolished, with a new hangar to accommodate Northwest Airlines.
- Implementation of a Hydrant Fueling System for the existing terminal and future terminals
- The Construction Only Temporary Interchange from SR 509, Modifications to the Third Runway Embankment and Retaining Wall, and Other Matters
- Expansion and improvements to the Industrial Waste System (IWS)
- Expansion of the South Electrical Substation;
- Expansion of the Main Terminal (North Esplanade) and Satellite Transit System (STS)
- Development of an Air Cargo Plan, which reinforced the Master Plan recommendations and recommended the development of a secure bridge from the existing north cargo area to the warehouse area north of SR 518 (warehousing recommended by the Master Plan);
- Refinements to the Auburn Wetland Mitigation Program;
- Temporary aircraft overnight parking on taxiways recommended by the Master Plan;
- Development of landscaping design standards

All of these projects were processed under the Washington State Environmental Policy Act (SEPA) as either Determinations of Non-Significance, Mitigated Determinations of Non-Significance or addendums to the Master Plan Update EIS. As a result, their impacts are either minor or have been mitigated. The FAA has reviewed these project SEPA documents, as noted in Attachment A to this re-evaluation, and determined that these projects are either a) design changes that are not significant or do not produce significant new information or environmental consequences, b) categorically excluded under the National Environmental Policy Act (per FAA Order 5050.4A, paragraph 23), or c) were adequately addressed in the Final EIS/Final Supplemental EIS. The cumulative effect of these projects, in combination with the Master Plan Update projects, are discussed in the following section.

C. Cumulative Impacts of Project Modifications and Changes in the Surrounding Environs

As would be expected, since publication of the Final EIS and SEIS, more detailed information has become available on other projects in the vicinity of the Airport. In response to comments concerning cumulative impacts, the Port has prepared a detailed review of cumulative impacts as documented in their response to public comments on the Clean Water Act Section 404 permit (See General Response GLR19). The FAA has reviewed that response and much of the underlying non-airport documentation and generally concurs with the Port's review. That

response is included by reference and shows that while a clearer definition of the non-airport projects have been prepared, no significant cumulative impacts are expected to occur.

III. CONCLUSION

Consistent with the requirements of 40 CFR 1508.7 and 40 CFR 1502.9, the FAA has taken a systematic "hard look" at the new environmental information and planned changes in elements of the Master Plan Update. FAA Order 5050.4A, Paragraphs 102b and 103 were considered. Relative to Paragraph 102b, the FAA has reviewed the status of the project. As is shown in this re-evaluation, the project is substantially underway. Relative to paragraph 103, three considerations were made: a) proposed action conforms to the plans for project upon which the FEIS/FSEIS was prepared, b) the data and analysis in the FEIS/FSEIS remain substantially valid, and c) all pertinent conditions and requirements of the prior approval have been or will be met.

As is shown in this re-evaluation, the project changes conform to the project upon which the FEIS/FSEIS is based. Further the re-evaluation shows that the data and analysis in the FEIS/FSEIS is substantially valid. Finally, the FAA has reviewed the Port's actions since issuance of the ROD. The Port has either implemented or has plans to implement all of the conditions and requirements of the ROD (such as Best Management Practices, air emissions evaluations, conduct of the Part 150, continued sound insulation, and implementation of acquisition and relocation processes). The FAA has considered the significance of the new information that has been developed for these projects and evaluated the information for potential cumulative impacts with those impacts identified in the Port's Master Plan Update Final EIS, Final Supplemental EIS and supporting environmental documentation. In each case, and collectively, the new information and the effects of the projects are either not significant or are not substantially greater than what had been reported previously.

The FAA has concluded that major steps toward implementation of the Project have occurred. A second supplemental EIS would not show significantly different impacts of the Project.

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Airport Master Plan Re-Evaluation

ATTACHMENT A

NEPA CONSIDERATION OF OTHER PORT PROJECTS

Since publication of the FEIS and SEIS, the Port has conducted refinements to elements of the Master Plan Update and identified additional projects that are necessary. This appendix presents the FAA's examination of the impact of these projects relative to the National Environmental Policy Act. In all cases, except where noted, the Port has completed an environmental review of the project per the requirements of the Washington State Environmental Policy Act (SEPA). As this appendix shows, none of these projects are expected to cause significant adverse impacts individually or in combination with the Master Plan Update projects.

1. South SeaTac Electrical Substation Upgrade

This project will expand the capacity of the existing South SeaTac Substation by constructing a new substation next to the existing one and installing approximately 1.2 miles of 115kV high transmission lines on segments of South 188th Street and 28th Avenue South. The Port completed a SEPA checklist and made a Determination of Non-Significance (DNS) for this project.

The proposed substation project will not affect airport activity (either aircraft or surface transportation) upon completion of the project. As a result operation of the project will have no impact on noise, land use compatibility, social impacts, induced socio-economic impact, air quality, DOT 4(f) lands, historic/architectural/archaeological and cultural resources, endangered species of flora and fauna, floodplains, coastal zone management and/or coastal barriers, wild and scenic rivers, farmland, light emissions, and solid waste.

The project will have a slight effect on water quality, biotic communities (plants and animals), wetlands, and energy supply and natural resources, and will generate short-term construction impacts. However, these impacts are not expected to be significant and are expected to be concentrated on airport lands. As is described in the Port's SEPA checklist supporting its determination of non-significance, two shrub and forested wetlands are located 50 feet south and 50 feet east of the proposed substation site. The wetlands south of the site contain both forested and emergent wetland habitats. Groundwater seepage into the wetlands during the wet season maintains the area as a wetland. The wetlands lack any distinct surface water inlet or outlet features. The wetlands are small in size, have been subjected to recent disturbance, and have limited biological diversity. No structures will be constructed within 65 feet of the wetlands, and measures to minimize erosion, and off-site sediment transport will be implemented. The project will have a benefit to the electrical capability of the airport, by providing redundancy, but will not generate measurable additional electrical consumption.

2. South Terminal Expansion (Concourse A and related projects)

Much of this project was analyzed under the Master Plan Update FEIS and FSEIS, as Table 2-7 of the FSEIS notes "Expansion of Concourse A including expansion of Main Terminal at A". Changes to the terminal expansion proposal were discussed in the Port of Seattle's July 19, 1999 *South Terminal Expansion SEPA Checklist*, and considered in a Mitigated DNS dated July 19, 1999. The project will be constructed on a previously developed portion of airport property and is expected to include the following elements: Concourse A Extension, Office Tower Building, tenant supporting space, South Ground Transportation Lot, Remain Overnight Aircraft Parking, apron paving, demolition of existing Delta Airlines hanger and construction of a new Northwest Airlines hanger on the site, Northwest

Airlines flight kitchen, aircraft lavatory dump station replacement, and construction staging area. The project changes do not substantially alter the Master Plan EIS analysis of potential environmental impacts.

3. Expansion of the Main Terminal (North Esplanade) and Satellite Transit System (STS)

This proposal was analyzed in the May 13, 1997 Master Plan Final Supplemental EIS, as is noted in Table 2-7 as "Overhaul and/or replacement of the STS". The upgrade entails relocation of the existing north security checkpoint, construction of a new vertical circulation core, improvements to the satellite transit system, interior remodeling, and extension of the north end of the main terminal by approximately 75 feet. Project modifications are discussed in the August 23, 1999 SEPA Addendum. The modifications do not substantially alter the analysis of significant impacts described in the Master Plan FSEIS.

4. Upgrade and Expansion of Industrial Wastewater System (IWS) Lagoon #3

This proposal is to clean, line, expand and upgrade an existing wastewater system lagoon. The expanded lagoon will provide greater industrial wastewater storage capacity prior to treatment in the Port's Industrial Wastewater System Treatment Plant and allow for controlled discharge to the King County Metro Sewer line. The proposal received a SEPA Determination of Non-Significance on December 22, 1999. The Final EIS noted that the Port was preparing a Stormwater Management Plan for the airport, for which this was a recommendation of that study.

This project will occur adjacent to (but not in) the northern arms of Wetland 28 (the Northwest Ponds) and wetland IWSA/IWSB (north of the pond). Buffer impacts resulting from the project would be reviewed by the appropriate regulatory agencies and may require mitigation such as buffer averaging or replacement. Other than these impacts, the project would provide water quality benefits and, other than short-term construction impacts, would have no adverse impacts.

5. Aircraft Hydrant Fueling System (AHFS)

The AHFS proposal is to install a Jet A underground fuel line concurrent with the planned improvements to Concourse A. The AHFS would provide single source fuel delivery of Jet A fuel at the airport and a common infrastructure that would be used by all airlines. The AHFS would replace the current fueling operations (primarily truck deliveries) for most commercial passenger aircraft at the Airport. The Port issued a SEPA DNS for the project on October 6, 2000.

The Master Plan Update and FEIS/FSEIS noted that the Port was considering addressing the existing hydrant fueling system, but that no decision had been reached concerning that project. However, it noted that as new terminal facilities are built, such as Concourse A and the North Terminal, they would have hydrant fueling.

6. North Electrical Substation

The North Electrical Substation received a SEPA Determination of Non-Significance on June 2, 2000. This DNS was amended on March 6, 2001 to reflect minor project changes. As currently envisioned, the project involves upgrading and expanding the existing Bow Lake Substation, replacing the North SeaTac Substation with a smaller facility (the North Main Service Point) and installing an 1,800-foot, 12.5 kV underground cable system between the Bow Lake Substation and the new North Main Service Point.

The Bow Lake Substation will be rebuilt on property owned by Puget Sound Energy ("PSE"). The North Main Service Point will consist of switch-gear enclosed in a 25-foot by 60-foot building that is 15 feet tall. The building will be enclosed by a 50-foot by 100-foot fence. The North Main Service Point will be located just east of the south entrance to the Airport parking garage between the entrance booth and the northbound Airport circulation road. The proposed 12.5 kV cable system will extend along the north side of South 176th St., across International Boulevard and onto Airport property.

No wetlands or water bodies are impacted in the construction of this facility. Stormwater collected at the North Main Service Point will flow either into the Port's stormwater collection system or industrial waste system. Catch basins for both systems are located in the area.

7. Temporary Aircraft Parking-Taxiway Stubs

On October 25, 2000 the Port issued a SEPA Determination of Non-Significance to allow use of some existing Taxiways for aircraft parking until the taxiways are needed for the Third Runway. No maintenance or de-icing activities will occur to aircraft parked on the taxiways, and no impacts to aquatic resources are expected to occur from this activity. The development of the pavement to support the aircraft parking was considered in the Final EIS and FSEIS.

8. The Construction Only Temporary Interchange from SR 509, Modifications to the Third Runway Embankment and Retaining Wall, and Other Matters

In January 2000, the Port issued "*Addendum To Final Environmental Impact Statement and Final Supplemental Environmental Impact Statement For Proposed Master Plan Update Development Actions at Seattle-Tacoma International Airport*" under SEPA. This Addendum addressed new information relating to: (a) wetlands and other aquatic resources that would be affected by the planned new runway and other improvements at Seattle-Tacoma International Airport; and (b) potential impacts of temporary construction-related interchanges on SR 518 and SR 509 to be used by trucks delivering fill material to the planned new runway site. This Addendum was prepared by the Port to report the Port's assessment of the new information and its determination that the existing environmental analyses under the Washington State Environmental Policy Act (SEPA) and the National Environmental Policy Act (NEPA) remain adequate. This conclusion was based on the Port's findings that the newly discovered areas of adverse impacts to wetlands and other aquatic resources, and the potential impacts of the temporary construction interchanges, either were not environmentally significant, in light of project changes and mitigation measures, or were adequately covered by the analyses of wetland impacts in the 1996 FEIS and 1997 FSEIS.

This Re-evaluation discusses the consequences of the project relative to wetland impacts and shows that based on the FEIS/FSEIS the FAA believes that there is not the need to supplement the FSEIS. As the temporary construction interchanges were addressed in the FSEIS, and slight changes occurred in the design of the project element that do not create adverse effects, the FAA finds that there is no need to supplement the EIS based on that project.

9. Refinements to the Auburn Mitigation Program

On May 5, 2000, the Port of Seattle issued a SEPA addendum to the FEIS/FSEIS and to the August 1998 SEPA checklist for the Auburn Wetland Mitigation Project. The purpose of the addendum was to analyze the consequences to the mitigation of wetlands for the Master Plan Update projects. The addendum accounted for an increase in the wetland mitigation size and advanced the design of the mitigation site from a conceptual plan to a 60% design. As noted in the Addendum, the project design and increase in mitigation size did not "substantially change the analysis of significant impacts

described in" the FEIS/FSEIS. Based on the FAA's review of the Addendum relative to NEPA, the analysis of the Auburn Mitigation site in the FEIS/FSEIS remains valid.

10. Part 150 Noise Compatibility Plan

In late 2000, the Port of Seattle completed its commitment to update its Part 150 Noise Compatibility Plan as noted in the Final Supplemental EIS and ROD, and formally submitted the Plan to the FAA in mid 2001. The scope of this study was undertaken to respond to comments raised during the Puget Sound Regional Council (PSRC) Expert Panel on Noise as well as comments received during preparation of the FEIS/FSEIS concerning the use of computer driven noise exposure contours. As a result, the Port commissioned the Part 150 Study to collect 12 months of airport operational and associated noise measurements for use in improving the accuracy of the FAA's Integrated Noise Model at Sea-Tac Airport.

The Part 150 study resulted in the preparation of two primary products:

- **Noise Exposure Maps:** The Port updated its existing (2000), 2005 and 2010 noise exposure maps for Sea-Tac after completing an extensive measurement program to validate the model's accuracy. **Table 5** shows that the contours prepared for the Part 150 Study are larger than those prepared for the EIS. This difference is attributed to:
    - A full year of aircraft noise and aircraft operational performance data was collected and used to calibrate the noise model specific to Sea-Tac Airport. A comparison was made between the departure climb profiles actually used at Sea-Tac with that provided in INM Version 5.2. The comparison showed that Stage 3 narrow body aircraft (for their representative stage length) actually climb slower than the INM was predicting. To more accurately represent the departure climb performance, the Part 150 contours used profiles associated with heavier aircraft (aircraft operating to a longer stage length). The departure climb stage length adjustment is the primary reason that the noise exposure contours are larger than was predicted in the FSEIS;
    - A new version of the Integrated Noise Model (the computer model used to evaluate aircraft noise – Version 5.2a was used in the Part 150 Study, while Version 4.11 was used in the EIS) became available after the FAA issued the ROD; and
    - The EIS fleet mix assumed a different fleet mix (aircraft types) versus what is actually occurring, such as Alaska Airlines' planned discontinued use of F-28's.
- **Noise Compatibility Plan:** The Port has submitted to the FAA's its recommended Plan that expands upon the operational and land use recommendations reflected in the Final Supplemental EIS.

The Noise Compatibility Plan continues to reflect the Port's commitment to mitigate noise impacts within the designated noise contours, which is consistent with its commitment in the Final EIS.

Because the conduct of the study was recognized and directed, to some degree, by the FSEIS, the FAA believes that the conclusions do not warrant the preparation of an additional supplemental EIS. The ROD commitment to develop new noise exposure contours once the runway has been commissioned provides the maximum assurance that any project-related impacts will have been mitigated by 2010.

The Port issued a SEPA Determination of Non-Significance for the Part 150 Noise Compatibility Plan on October 20, 2000. The Plan is part of the Port's Noise Remedy program, the goal of which is

to reduce aircraft and ground noise at the Airport, reduce noise impacts on the greater Seattle area, and encourage land uses that are compatible with anticipated aircraft noise exposure. The Plan recommends conducting additional studies including a siting study for the Ground Run-up Enclosure, a siting study for noise walls, recommended changes to runway use and flight tracks, acquisition of mobile home parks, sound insulation of schools, and compatible land use planning by local communities.

Table 5
Comparison of Noise Impacts
Final Supplemental EIS versus the Part 150 (population)

	65-70 DNL	70-75 DNL	75+ DNL	65+ DNL
Final Supplemental EIS				
Existing (1996)	26,230	5,570	0	31,800
2000	10,330	950	30	11,310
2005	9,640	700	100	10,440
2010	11,960	1,070	190	13,220
2000 Part 150				
Existing (1998)	30,600	7,100	0	37,700
2005	10,140	2,560	0	11,700
2010	14,960	360	0	15,320

11. Development of Landscaping Standards

Section IV.24 "Aesthetics and Urban Design" of the FEIS contains a discussion of the conceptual landscaping envisioned in the Master Plan Update for the airport. Subsequent to the Master Plan Update, the Port prepared landscape design standards that represent minimum requirements and provide a clear and concise set of regulations to be use for all exterior development at Sea-Tac. These standards are consistent with the Master Plan and will improve the aesthetic quality of future airport facilities. Based on a SEPA checklist, the Port rendered a DNS for the standards in August 1999. Based on the FAA's consideration of the SEPA checklist, the landscaping standards do not create any significant adverse environmental consequence and the analysis in the FEIS/FSEIS remains valid.

12. Air Cargo Development Plan (ACDP)

In 1999, the Port of Seattle completed an air cargo development plan that refined elements of the Master Plan Update relative to the north cargo area. To comply with SEPA, the Port prepared a programmatic evaluation of the project, but at this time does not have any specific construction plans. The ACDP is a 10-year development plan for facilities and actions recommended to meet the needs of existing air cargo customers at Sea-Tac Airport. Master Plan Update elements included in the ACDP are: purchasing of airport leases to allow redevelopment in the north cargo area, constructing four aircraft hardstands in the north cargo area, constructing freight warehousing in the north cargo area, preparing a site development plan for property north of SR 518 (the "L-shaped parcel"), and redeveloping Port building 313 for air cargo, constructing mail processing and transfer facilities. Items not included in the Master Plan Update include: constructing a non-public bridge across SR 518 (adjacent to the existing 24th Ave. S. bridge), and constructing a ground support equipment storage area. Development of the L-shaped parcel north of SR518 could increase impervious surface because the parcel is currently undeveloped. In addition, preliminary information indicates the presence of wetlands on the site. At the time that the Port pursues development of these non-Master Plan Update projects, the FAA will consider what, if any, additional NEPA evaluations are required.

13. North End Development Project

The North End Development Project (NEDP) is in the initial planning stages by the Port and would cover primarily the area north of the existing main terminal. It is the FAA's understanding from Port briefings, that the project builds on and includes the Master Plan Update improvements to construct a North Unit Terminal (which is currently being called the North End Terminal). The Port continues to define the elements of this project, and as a result, the FAA has not been presented with a plan for review and/or approval. Thus, consideration by the FAA of the NEDP relative to NEPA is not ripe. When the FAA has been presented with a plan for review and approval, the FAA will conduct the appropriate NEPA evaluation.

14. Water System Improvements

The Port proposes to construct water system improvements, including a two-million gallon reservoir, expansion of an existing booster pump station, and other improvements to the fire and domestic water distribution systems at Airport. The reservoir will be constructed on Port-owned land on Host Road, west of the Washington Memorial Cemetery on the east side of the Airport. This location is about 350 feet south of the existing water tower. Construction of the reservoir will involve relocating utilities and the east west portion of Host Road to a point approximately 100 feet north of the new reservoir.

15. Miscellaneous Airport Projects

The following projects are at various stages of the design and planning process. At this time, it is not possible to identify the impacts of the project or to determine, for those projects that were included in the Master Plan Update, how their final design/plan would alter conditions identified in the EIS. These projects include:

- **SASA (South Aviation Support Area):** A final design for the facility has not been completed and the Port is continuing to work on the amount of each proposed use. There are no new environmental documents for SASA. Final evaluations of the SASA facility will take into account the SR509/South Access project and the buffering of Des Moines Creek.
- **TRACON (Terminal Approach Control):** The Master Plan Update FEIS and FSEIS evaluated this project as being located at the base of the new air traffic control tower that is under construction. Since the completion of that study, the FAA has determined that a site on-airport is not necessary and is conducting a siting evaluation, which is investigating a 19-acre potential site at 8th Ave. and 160th Street. The FAA will prepare all requisite environmental analysis for the final site.
- **ASDE (Airport Surface Detection Equipment):** The Master Plan Update EIS evaluated placing the ASDE on top of the air traffic control tower. Since that time, the FAA has learned that there are performance issues associated with locating this type of radar close to buildings. The FAA is currently conducting a siting study for this facility, which to date has determined that the location on top of the new tower could pose visibility issues. Upon selection of a final site, it is expected that the Port will conduct an additional SEPA review, and the FAA will complete any requisite NEPA documentation.
- **Airport Surveillance Radar (ASR-9):** To complete the Third Runway requires the relocation of the existing ASR-9, which is presently located west of the existing runway system. Relocation of the ASR-9 was considered in the FEIS/FSEIS through the review of nine possible sites. The FAA has selected Site 3, at Eighth Place (170th Avenue) and Eighth Avenue South. The radar antenna will be elevated at the site by 160 feet. This will be

accomplished with a 160-ft non-standard tower, or by a standard 45-ft tower placed on fill. The site consists of about 1.1 acres and would have two access points, with the main access being from Eighth Place. On March 15, 2001, the FAA (Seattle NAS Implementation Center) issued a re-evaluation of this project per the FEIS/FSEIS. This project was included in the Biological Assessment (BA) prepared for the Services, and upon which the Services rendered an opinion/concurrence as documented. No wetland impacts would occur. Based on the evaluation of Site 3, the FAA determined in its re-evaluation titled "Re-Evaluation Seattle-Tacoma International Airport Master Plan Update Environmental Impact Statement, Relocation of Airport Surveillance Radar-9" that the project consequences noted in the FEIS/FSEIS remain valid.

- **Approach Lighting with Sequential Flashers (ALSF) for 16L:** Installation of the ALSF-2 on Runway 16L was included in the Master Plan Update FEIS/FSEIS. The Port of Seattle (POS) conducted field investigations for wetlands in the area between March 1998 and October 2000 as access to individual parcels was obtained during the POS property acquisition phase. This field investigation determined that approximately 10 acres of wetland in three distinct locations were present north of Runway 16L.

  The typical ALSF-2 structures consist of lights mounted upon individual towers set into the ground and secured with stabilizing cable guy lines. Because the location of the ASLF-2 is fixed in relation to the landing threshold of the runway, the standard design would have required placement of several tower foundations and stabilizing guy line anchors within the wetlands. To avoid disturbance to the wetlands a span-arch frame was designed to provide a mounting platform for the ALSF-2 lights in their proper location while avoiding the installation of tower foundations or guy line anchors in the wetland areas. The foundations for the span-arch will be located outside the wetlands on their north and south borders. The span-arch will be fabricated off-site, assembled on-site and set into place in a single piece spanning the wetland areas. The remainder of the ALSF-2 lights required in locations outside the wetlands will be installed upon individual towers.