Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 03/09/2011	Task #: 2011030930453503002	Request #: 20110309304535
Procedure: RNAV (GPS) Y RWY 16L AMDT 3		Airport ID: KSEA	Airport: SEATTLE-TACOMA INTL		Reimbursable #:
City: SEATTLE	ST: WA	GPS #:		Estimated Chart Date: 03/07/2013	FICO #:
Fac ID:	Fac. Type: LPV	Specialist: MARK ADAMS			

LPV

Procedure Review

p1

	Rec'd	Rel'd	Full Name	Comments
Lead:	08/17/2012	11/20/2012	STEVEN SZUKALA	
QA:	11/20/2012	11/20/2012	STEVEN SZUKALA	
Liaison:	11/20/2012		Spurlin	WAIVER

Procedure Comments: ENROUTE-NON

Remark Type: INFORMATION

pkg 1 of 2

SEATTLE, WA SEATTLE-TACOMA INTL (KSEA) RNAV (GPS) Y RWY 16L, AMDT 3 (LPV) ENROUTE-NO FC: 1.22.13 PUB: 3.7.13

ATTACHED FORMS: 8260-3; 8260-10; 8260-9; 8260-2(S): DGLAS-INT, REV 6; GRIFY, REV 1; HELZR-INT, REV 5; KARFO-INT, REV 4; KENMO-INT, REV 4; MILLT-INT, REV 11; (INFO ONLY) CAVOB, REV 4; PAINE (PAE) VDME, REV 7.

CONTACT: PETE GETZ/LONNIE EVERHART-AVN-130 LEADS, 405.954.2079/ 405.954.4576.

RNAV (GPS) Y RWY 16L
SEATTLE-TACOMA INTL (SEA)

WAAS CH 63202 W16A	APP CRS 163°	Rwy ldg 11901 THRE 433 Apt Elev 433

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -8°C (18°F) or above 54°C (130°F). Simultaneous approach authorized with RWY 16R. Use of FD or AP providing RNAV track guidance required during simultaneous operations. LNAV procedure NA during simultaneous operations. DME/DME RNP -0.3 NA. For inop ALSF, increase LPV all Cats visibility to RVR 4500, and LNAV all Cats visibility to RVR 6000.

ALSF-2

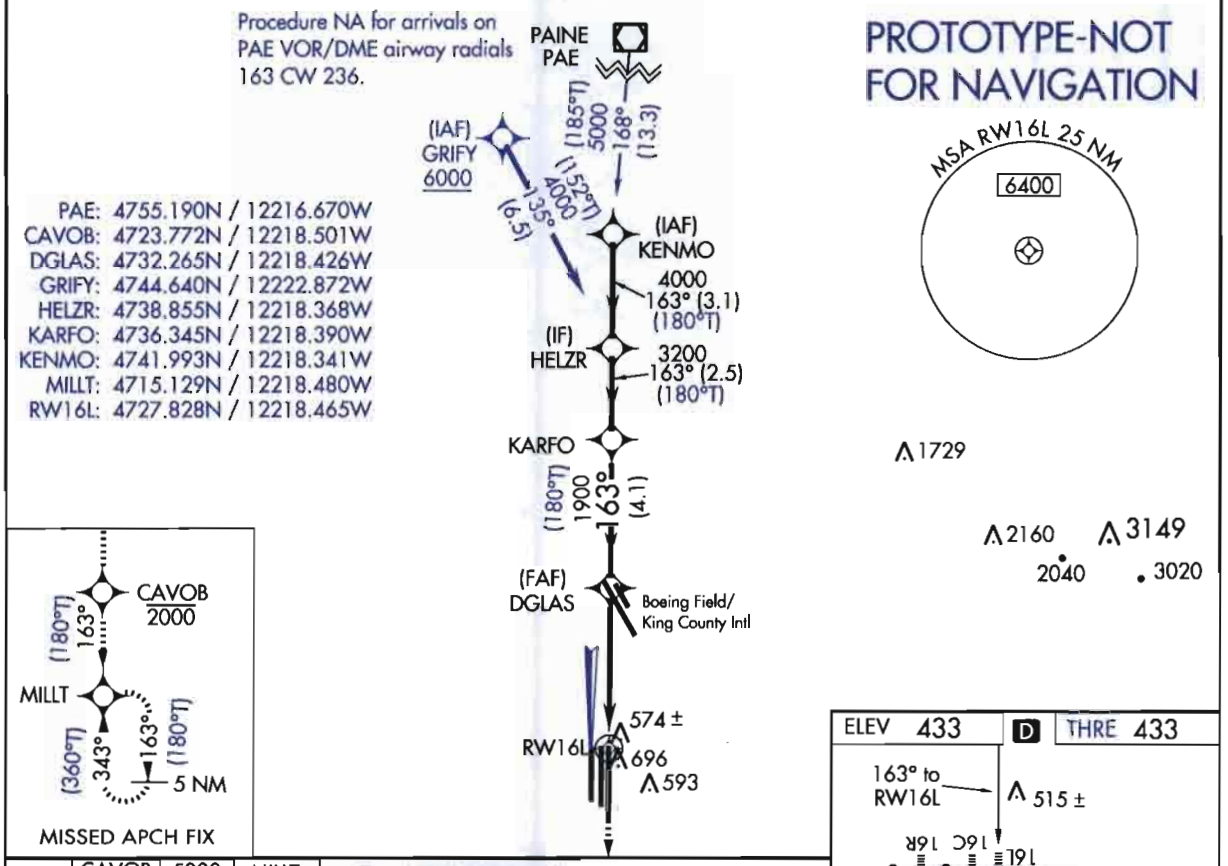
MISSED APPROACH: Climb direct CAVOB to cross CAVOB at or below 2000 then climb to 5000 on track 163° to MILLT and hold, continue climb-in-hold to 5000.

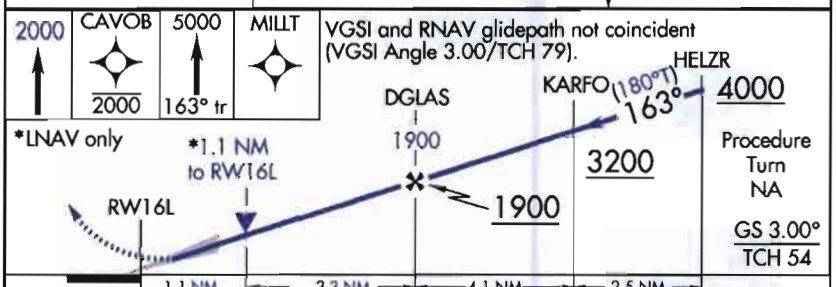
ATIS	SEATTLE APP CON	SEATTLE TOWER	GND CON	CLNC DEL
118.0	133.65 273.45	119.9 239.3 (Rwys 16C/34C, 16L/34R) 120.95 239.3 (Rwy 16R/34L)	121.7	128.0

Procedure NA for arrivals on PAE VOR/DME airway radials 163 CW 236.

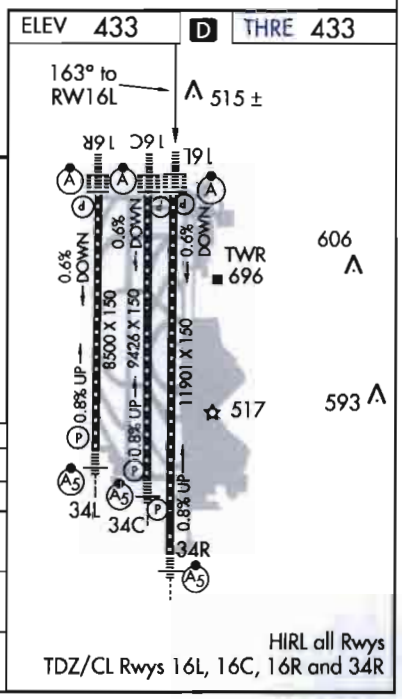
PROTOTYPE-NOT FOR NAVIGATION

PAE: 4755.190N / 12216.670W
CAVOB: 4723.772N / 12218.501W
DGLAS: 4732.265N / 12218.426W
GRIFY: 4744.640N / 12222.872W
HELZR: 4738.855N / 12218.368W
KARFO: 4736.345N / 12218.390W
KENMO: 4741.993N / 12218.341W
MILLT: 4715.129N / 12218.480W
RW16L: 4727.828N / 12218.465W





CATEGORY	A	B	C	D	E
LPV DA	709/24 276 (300-¼)				NA
LNAV/VNAV DA	789/34 356 (400-¾)				NA
LNAV MDA	840/24 407 (500-½)		840/40 407 (500-¾)		NA
CIRCLING	1000-1 567 (600-1)		1000-1½ 567 (600-1½)	1000-2 567 (600-2)	NA



WAAS CH 63202 W16A	APP CRS 163°	Rwy ldg 11901 THRE 433 Apt Elev 433

RNAV (GPS) Y RWY 16L
SEATTLE-TACOMA INTL (SEA)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -8°C (18°F) or above 54°C (130°F). Simultaneous approach authorized with RWY 16R. Use of FD or AP providing RNAV track guidance required during simultaneous operations. LNAV procedure NA during simultaneous operations. DME/DME RNP -0.3 NA. For inop ALSF, increase LPV all Cats visibility to RVR 4500, and LNAV all Cats visibility to RVR 6000.

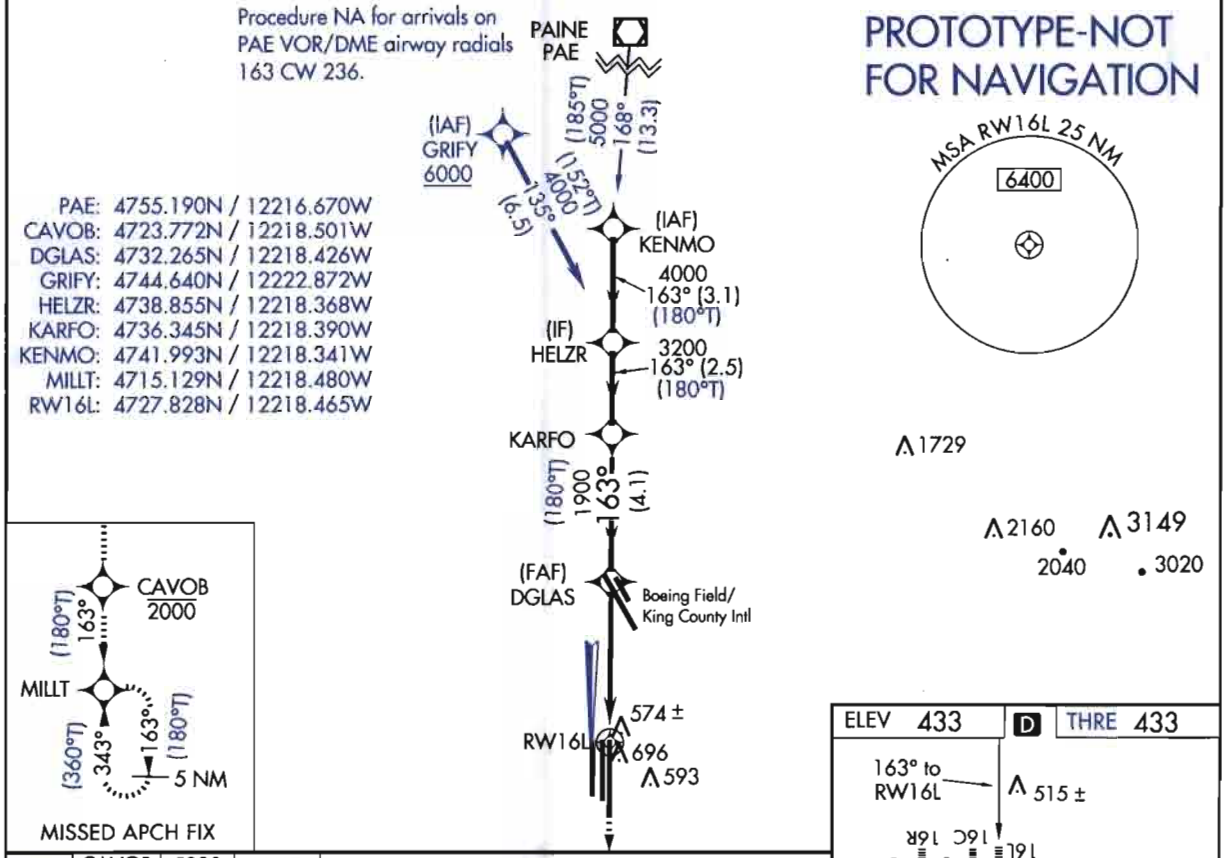
ALSF-2

MISSED APPROACH: Climb direct CAVOB to cross CAVOB at or below 2000 then climb to 5000 on track 163° to MILLT and hold, continue climb-in-hold to 5000.

ATIS	SEATTLE APP CON	SEATTLE TOWER	GND CON	CLNC DEL
118.0	133.65 273.45	119.9 239.3 (Rwys 16C/34C, 16L/34R) 120.95 239.3 (Rwy 16R/34L)	121.7	128.0

Procedure NA for arrivals on PAE VOR/DME airway radials 163 CW 236.

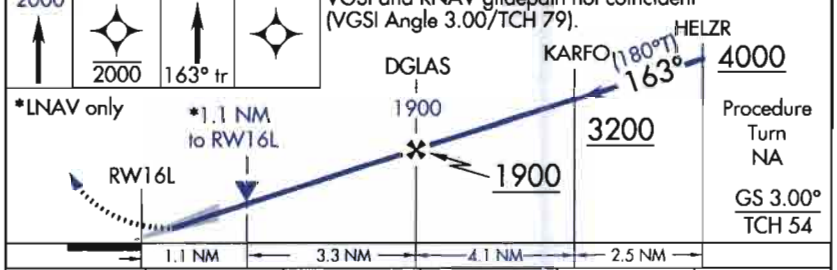
PAE: 4755.190N / 12216.670W
CAVOB: 4723.772N / 12218.501W
DGLAS: 4732.265N / 12218.426W
GRIFY: 4744.640N / 12222.872W
HELZR: 4738.855N / 12218.368W
KARFO: 4736.345N / 12218.390W
KENMO: 4741.993N / 12218.341W
MILLT: 4715.129N / 12218.480W
RW16L: 4727.828N / 12218.465W



2000	CAVOB	5000	MILLT
	2000	163° tr	

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 79).

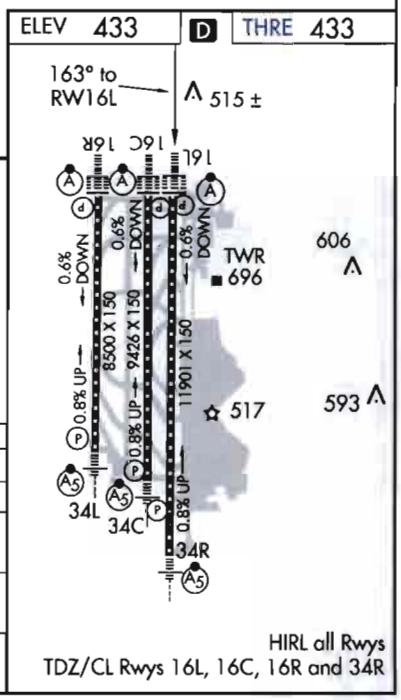
*LNAV only



Procedure Turn NA

GS 3.00°
TCH 54

CATEGORY	A	B	C	D	E
LPV DA	709/24 276 (300-¼)				NA
LNAV/VNAV DA	789/35 356 (400-¾)				NA
LNAV MDA	840/24 407 (500-½)		840/40 407 (500-¾)		NA
CIRCLING	1000-1 567 (600-1)		1000-1½ 567 (600-1½)	1000-2 567 (600-2)	NA



HIRL all Rwys
TDZ/CL Rwys 16L, 16C, 16R and 34R

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : SEATTLE	City : SEATTLE	Ident : SNQ	State : WA
Type/Class : GS	Frequency : M335	Reference No.: 12108820	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 981618-004	343	0	12	40	48

Requirement: HELZR FIX ON RWY KSEA RWY 16L GS.

Signature: Denton Jon	Routing Symbol: AJV-354	Date: 10/10/2012

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 981618-004	343	0	12	40	48	APPROVE

Requirement/Remarks: HELZR FIX ON RWY KSEA RWY 16L GS.APPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.

Signature: ORear Daniel	Routing Symbol:	Date: 10/11/2012

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 981618-004	343	0	12	40	48	APPROVE

Requirement/Remarks: HELZR FIX ON RWY KSEA RWY 16L GS.APPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.

Signature: Hughes Dennis	Routing Symbol:	Date: 10/12/2012

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 981618-004	343	0				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : SEATTLE	City : SEATTLE	Ident : SNQ	State : WA
Type/Class : GS	Frequency : M335	Reference No.: 12108840	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 981618-005	343	0	15	50	50

Requirement: KENMO FIX ON RWY KSEA RWY 16L GS.

Signature: Denton Jon	Routing Symbol: AJV-354	Date: 10/10/2012

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 981618-005	343	0	15	50	50	APPROVE

Requirement/Remarks: KENMO FIX ON RWY KSEA RWY 16L GS.APPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.

Signature: ORear Daniel	Routing Symbol:	Date: 10/11/2012

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 981618-005	343	0	15	50	50	APPROVE

Requirement/Remarks: KENMO FIX ON RWY KSEA RWY 16L GS.APPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.

Signature: Hughes Dennis	Routing Symbol:	Date: 10/12/2012

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 981618-005	343	0				

Requirement/Remarks:

Signature:	Routing Symbol:	Date:

US DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

RNAV - STANDARD INSTRUMENT APPROACH PROCEDURE TITLE 14 CFR PART 97.33

Bearings, headings, courses, and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

TERMINAL ROUTES

FROM	TO	COURSE AND DISTANCE	ALTITUDE
PAE VOR/DME	KENMO (FB)	167.88 / 13.25	5000
KENMO (IAF)	HELZR (FB)	163.34 / 3.14	4000
GRIFY (IAF)	HELZR (FB)	135.25 / 6.54	4000
HELZR (IF)	KARFO (FB)	163.34 / 2.51	3200
KARFO	DGLAS (FB)	163.34 / 4.08	1900
DGLAS (FAF)	RW16L (MAP) (FO)	163.34 / 4.44	
RW16L (MAP)	709 MSL	163.34	
(SEE FORM 8260-10)			

MISSED APPROACH

LPV: DA
LNAV/VNAV: DA
LNAV: RW16L

CLIMB DIRECT CAVOB TO CROSS CAVOB AT OR BELOW 2000 THEN CLIMB TO 5000 ON TRACK 162.91 TO MILLT AND HOLD, CONTINUE CLIMB-IN-HOLD TO 5000.

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT HELZR
3. FAC: 163.34 FAF: DGLAS DIST FAF TO MAP: 4.44 THLD: 4.44
4. MIN. ALT: HELZR 4000, KARFO 3200, DGLAS 1900
5. DIST TO THLD FROM OM: ____ MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 1900 GS ALT AT: DGLAS 1900 OM: ____ MM: ____ IM: ____
7. GS ANGLE: 3.00 TCH: 53.6 34:1 IS CLEAR
8. MSA FROM: RW16L 6400

ADDITIONAL FLIGHT DATA:

HOLD S, RT, 342.66 INBOUND.
FAS OBST: 574 TREE 472805N/1221800W
CHART 696 CTRL TWR 472720N/1221805W.
DISTANCE TO THLD FROM 276 HATH: 0.70 NM.
CHART VDP AT 1.11 MILES TO RW16L*
*LNAV ONLY.
WAAS CHANNEL # 63202
REFERENCE PATH ID: W16A
CHART KBFI
CHART MAXIMUM 2000 AT CAVOB.
CHART LOC RWY 16 R.
CHART AT/ABOVE 6000 AT GRIFY.
LTP HAE: 108.8 M

MAG VAR: 17E EPOCH YEAR: 2010

MINIMUMS

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT

ALTERNATE: N A

CATEGORY =====>	A			B			C			D			E		
	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA
LPV DA	709	2400	276	709	2400	276	709	2400	276	709	2400	276			
LNAV/VNAV DA	789	3400	356	789	3400	356	789	3400	356	789	3400	356			
LNAV MDA	840	2400	407	840	2400	407	840	4000	407	840	4000	407			
CIRCLING	1000	1	567	1000	1	567	1000	1 1/2	567	1000	2	567			

NOTES:
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -8C (18F) OR ABOVE 54C (130F).
CHART NOTE: SIMULTANEOUS APPROACH AUTHORIZED WITH RWY 16R.
CHART NOTE: DME/DME RNP-0.3 NA.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS ON PAE VOR/DME AIRWAY RADIALS 163 CW 236.
(SEE FORM 8260-10)

CITY AND STATE	ELEVATION: 433 THRE: 433 AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	
SEATTLE, WA	SEATTLE-TACOMA INTL	RNAV	RNAV (GPS) Y RWY 16L, AMDT 3	SUP: RNAV (GPS) RWY 16L AMDT: 2C DATED 03/08/2012

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
[ ] YES [X] NO		ROUTINE

COORDINATED WITH:

ATA	AAT	ALPA	APA	AOPA	NBAA	OTHER (specify)
[X]	[ ]	[X]	[X]	[X]	[X]	[X] ZSE, SEA APCH, SEA ATCT, AMGR, WA AERO

FLIGHT CHECKED BY		
NAME: JAMES MICHAEL MEEK	FIFO FIOG	DATE: 12/11/2012
DEVELOPED BY		
NAME: MARK D. ADAMS	FIFO AJV-354	DATE: 11/05/2012
APPROVED BY		
NAME: DEBORAH COPELAND MANAGER	FIFO AJV-354	DATE:

CHANGES:

1. ADDED INITIAL SEGMENT FROM GRIFY.
2. REPLACED COROK WITH KENMO AS AN IAF.
3. ALL FIXES ON THE FAC WERE MOVED TO 8260.54A "ON-GLIDEPATH" LOCATIONS AND, AS A RESULT, THE DISTANCES BETWEEN THE FIXES CHANGED ACCORDINGLY.
4. NAME CHANGED FROM "RNAV (GPS) RWY 16L" TO "RNAV (GPS) Y RWY 16L".
5. ELEVATION REFERENCE POINT CHANGED FROM TDZE TO THLD.
6. CHANGED PROCEDURE ENTRY RESTRICTION TO INCLUDE AIRCRAFT ARRIVING AT PAE VOR/DME ON V287.
7. ADDED CHART NOTES FOR FD OR AP REQUIREMENT FOR SIMULTANEOUS OPERATIONS.
8. ADDED CHART NOTE "SIMULTANEOUS APPROACH AUTHORIZED WITH RWY 16R".
9. ADDED 6000 FT MIN ALT RESTRICTION AT GRIFY.
10. DECREASED LPV DA FROM 729/RVR 2400 TO 709/RVR 2400.
11. DECREASED LNAV/VNAV DA FROM 811 TO 789 ALL CATS AND VISIBILITY FROM RVR 40 TO RVR 34 ALL CATS.
12. DECREASED LNAV MDA FROM 920 TO 840 ALL CATS AND DECREASED VISIBILITY FROM RVR 50 TO RVR 40 CAT D.
CHANGED VDP DISTANCE TO THLD FROM 1.4 NM TO 1.1 NM.
13. CHANGED VISIBILITY INCREASE NOTE FOR INOPERATIVE ALSF TO INCLUDE LNAV/VNAV AND LNAV ADJUSTMENTS.
SEE 8260-10

REASONS:

1, 2. PER CHECKLIST.
3. ATC REQUEST IN ORDER TO SUPPORT SIMULTANEOUS DEPENDENT APPROACHES WITH RWY 16 L/C.
4. ADDITION OF RNAV (RNP) PROCEDURE TO THIS RUNWAY.
5. 8260.19D.
6. TURN LIMITATIONS FOR PROCEDURE ENTRY.
7, 8. MEMO DATED 3/1/2012 "SIMULTANEOUS DEPENDENT APPROACH OPERATIONS AND SIMULTANEOUS INDEPENDENT PARALLEL INSTRUMENT APPROACHES TO WIDELY SPACED RUNWAYS".
9. ATC REQUEST.
10. DID NOT ENCOUNTER SAME FINAL PENETRATION THAT WAS LISTED ON THE PREVIOUS AMDT.
11, 12. THE MISSED APPROACH PENETRATION (CTRL TWR 53-001394) IN THE PREVIOUS AMDT IS CLEARED IN THIS AMDT BY 35 FT IN THE LNAV/VNAV MISSED AND BY 44 FT IN THE LNAV MISSED.
13. 8260.19E PARA 8-54 (M)(3)(D).
14. ACT VALUE FOR KSEA IS -8C PER FPT AND 5 YR HISTORY.

01/09/2013: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 11/05/2012
1. PER AFS, CHANGED NUMBER 10 ON THE 8260-3 CHANGES FROM "DECREASED LPV DA AND VIS FROM 729/RVR 2400 TO 709/RVR 2000" TO "DECREASED LPV DA AND VIS FROM 729/RVR 2400 TO 709/RVR 2400".

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TERMINAL ROUTES, (CONT.):

FROM	TO	COURSE AND DISTANCE	ALTITUDE
709 MSL	CAVOB (FB)		2000
CAVOB	MILLT (FO)	162.91 / 8.65	5000

NOTES, (CONT.):
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT.
CHART NOTE: USE OF FD OR AP PROVIDING RNAV TRACK GUIDANCE REQUIRED DURING SIMULTANEOUS OPERATIONS.

CHART NOTE: LNAV PROCEDURE NA DURING SIMULTANEOUS OPERATIONS.
CHART NOTE: FOR INOPERATIVE ALSF, INCREASE LPV ALL CATS VISIBILITY TO RVR 4500, AND LNAV ALL CATS VISIBILITY TO RVR 6000.

QUALITY CHECKED 4

CITY AND STATE	ELEVATION: 433 THRE: 433	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP: RNAV (GPS) RWY 16L
SEATTLE, WA	AIRPORT NAME: SEATTLE-TACOMA INTL	RNAV	RNAV (GPS) Y RWY 16L, AMDT 3	AMDT: 2C
				DATED: 03/08/2012

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA	AAT	ALPA	APA	AOPA	NBAA	OTHER (specify)
☐	☐	☐	☐	☐	☐	☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	FIFO	DATE:
APPROVED BY		
NAME:	FIFO	DATE:

CHANGES:

CHANGES CONT.
14. CHANGED LOW TEMP VALUES IN BARO-VNAV NOTE FROM -15 C (5 F) TO -8 C (18 F) AND THE HIGH TEMP VALUE FROM 47 C (116 F) TO 54 C (130 F).

REASONS:

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FAS DATA BLOCK INFORMATION

DATA FIELD	DATA
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KSEA
RUNWAY	RW16L
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	Y
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W16A
LTP/FTP LATITUDE	472749.6635N
LTP/FTP LONGITUDE	1221827.9040W
LTP/FTP ELLIPSOIDAL HEIGHT	+01088
FPAP LATITUDE	472552.2165N
FPAP LONGITUDE	1221828.9440W
THRESHOLD CROSSING HEIGHT (TCH)	00053.6
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0000
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	3683A0B5

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K1
LTP ORTHOMETRIC HEIGHT	+01318
FPAP ORTHOMETRIC HEIGHT	+01318

QUALITY CHECKED

CITY AND STATE	ELEVATION: 433 THRE: 433	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP: RNAV (GPS) RWY 16L
SEATTLE, WA	AIRPORT NAME: SEATTLE-TACOMA INTL	RNAV	RNAV (GPS) Y RWY 16L, AMDT 3	AMDT: 2C
				DATED: 03/08/2012

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA	AAT	ALPA	APA	AOPA	NBAA	OTHER (specify)
☐	☐	☐	☐	☐	☐	☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	FIFO	DATE:
APPROVED BY		
NAME:	FIFO	DATE:

CHANGES:

REASONS:

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.33**

Bearings, headings, courses, and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

ARINC PACKET - 424-18 - RNAV (GPS)

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAD        PAE   K1011060VDLW N47551140W122164020    N47551210W122164180E0200006741     NARPAINE

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   CAVOB K10    W     N47234629W122183005                      E0165     NAR           CAVOB
        SUSAEAENRT   DGLAS K10    C     N47321590W122182557                      E0166     NAR           DGLAS
        SUSAEAENRT   GRIFY K10    W     N47443841W122225233                      E0167     NAR           GRIFY
        SUSAEAENRT   HELZR K10    C     N47385130W122182209                      E0166     NAR           HELZR
        SUSAEAENRT   KARFO K10    C     N47362068W122182342                      E0166     NAR           KARFO
        SUSAEAENRT   KENMO K10    C     N47415957W122182043                      E0166     NAR           KENMO
        SUSAEAENRT   MILLT K10    C     N47150775W122182881                      E0165     NAR           MILLT

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSEAK1ASEA     0     119YHN47265960W122184240E017000433         1800018000C    MNAR    SEATTLE-TACOMA INTL

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSEAK1FR16LY AGRIFY 010GRIFYK1EA0E  A    IF                                  + 06000     18000                A JS
        SUSAP KSEAK1FR16LY AGRIFY 020HELZRK1EA0EE B 010TF                     13530065     + 04000                          A JS
        SUSAP KSEAK1FR16LY APAE   010PAE  K1D 0V       IF                                               18000                A JS
        SUSAP KSEAK1FR16LY APAE   020KENMOK1EA0E  A 020TF                     16790133     + 05000                          A JS
        SUSAP KSEAK1FR16LY APAE   030HELZRK1EA0EE B 010TF                     16330031     + 04000                          A JS
        SUSAP KSEAK1FR16LY R      010HELZRK1EA0E  I    IF                                  + 04000     18000                A JS
        SUSAP KSEAK1FR16LY R      011KARFOK1EA0E S  051TF                     16330025     + 03200                          A JS
        SUSAP KSEAK1FR16LY R      020DGLASK1EA1E  F 051TF                     16330041     + 01900                RW16L K1PGA JS
        SUSAP KSEAK1FR16LY R      020DGLASK1EA2WALPV       ALNAV/VNAV ALNAV                                                   JS
        SUSAP KSEAK1FR16LY R      030RW16LK1PG0GY M 031TF                     16330044       00486            -300          A JS
        SUSAP KSEAK1FR16LY R      040         0  M     CA                     1633         + 00709                          A JS
        SUSAP KSEAK1FR16LY R      050CAVOBK1EA0E       DF                                   - 02000                          A JS
        SUSAP KSEAK1FR16LY R      060MILLTK1EA0EY   010TF                     1629         + 05000                          A JS
        SUSAP KSEAK1FR16LY R      070MILLTK1EA0EE  R   HM                     34270050     + 05000                          A JS

                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSEAK1GRW16L   0119011633 N47274966W122182790-0700    +0108800433000054150I
```

QUALITY CHECKED

CITY AND STATE	ELEVATION: 433 THRE: 433	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP: RNAV(GPS)RWY 16L
SEATTLE, WA	AIRPORT NAME: **SEATTLE-TACOMA INTL**	**RNAV**	**RNAV (GPS) Y RWY 16L, AMDT 3**	AMDT: **2C**
				DATED: **03/08/2012**

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

Bearings, headings, courses, and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
PP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSEAK1PR16LY RW16L001Y0000W16A0N4727496635W12218279040+010880300N4725522165W122182894401067500000000536F4005003683A0B5
        SUSAP KSEAK1PR16LY RW16L002E      +01318+01318LPV       63202
```

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSEAK1SRW16LK1PG                0   18018006425                                                                        M
```

CITY AND STATE	ELEVATION: 433 THRE: 433 / AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP: RNAV(GPS)RWY 16L
SEATTLE, WA	SEATTLE-TACOMA INTL	RNAV	RNAV (GPS) Y RWY 16L, AMDT 3	AMDT: 2C
				DATED: 03/08/2012

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.33**

Bearings, headings, courses, and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

ARINC SUMMARY - 424-18 - RNAV (GPS)

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	GRIFY	GRIFY	010	IAF	IF		FB				AA 06000	
	GRIFY	HELZR	020		TF		FB	1.0	135.3(152.3T)	006.5	AA 04000	
	PAE	PAE	010		IF		FB					
	PAE	KENMO	020	IAF	TF		FB	2.0	167.9(184.9T)	013.3	AA 05000	
	PAE	HELZR	030		TF		FB	1.0	163.3(180.3T)	003.1	AA 04000	
		HELZR	010	FACF	IF		FB				AA 04000	
		KARFO	011	SDF	TF		FB	0.5	163.3(180.3T)	002.5	AA 03200	
		DGLAS	020	FAF	TF		FB	0.5	163.3(180.3T)	004.1	AA 01900	
		RW16L	030	MAP	TF		FO	0.3	163.3(180.3T)	004.4	AT 00486	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		163.3(180.3T)		AA 00709	
	CAVOB	050		DF		FB				AB 02000	
	MILLT	060		TF		FO	1.0	162.9(179.9T)		AA 05000	
	MILLT	070		HM	R	FO		342.7(359.7T)	005.0	AA 05000	

POINT DATA

WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
PAE	N475511.40	W1221640.20	N4755.190	W12216.670
CAVOB	N472346.29	W1221830.05	N4723.772	W12218.501
DGLAS	N473215.90	W1221825.57	N4732.265	W12218.426
GRIFY	N474438.41	W1222252.33	N4744.640	W12222.872
HELZR	N473851.30	W1221822.09	N4738.855	W12218.368
KARFO	N473620.68	W1221823.42	N4736.345	W12218.390
KENMO	N474159.57	W1221820.43	N4741.993	W12218.341
MILLT	N471507.75	W1221828.81	N4715.129	W12218.480
RW16L	N472749.66	W1221827.90	N4727.828	W12218.465

RUNWAY DATA

RWY	THRESHOLD ELEVATION	TCH
RW16L	00433	54

QUALITY & CHECKED

CITY AND STATE	ELEVATION: 433 THRE: 433	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP: RNAV(GPS)RWY 16L
SEATTLE, WA	AIRPORT NAME: SEATTLE-TACOMA INTL	RNAV	RNAV (GPS) Y RWY 16L, AMDT 3	AMDT: 2C
				DATED: 03/08/2012

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
FEEDER	PAE VOR/DME	KENMO	1. TOWER (53-001451)	475129.51N/1221708.79W	811 (1C)	1000	DG3189	5000
			2. TERRAIN	475127.00N/1221706.00W	614 (600)		AS1500	2100
INITIAL	KENMO	HELZR	3. TOWER (53-000053)	473755.00N/1222114.00W	1015 (2C)	1000	DG1985	4000
			4. TERRAIN	474139.00N/1221906.00W	482 (500)		AS1500	2000
INITIAL	GRIFY	HELZR	3. TOWER (53-000053)	473755.00N/1222114.00W	1015 (2C)	1000	DG1985	4000
			5. TERRAIN	474427.00N/1222133.00W	548 (500)		AS1500	2000
INTERMEDIATE	HELZR	KARFO	6. TOWER (53-000500)	473656.35N/1221830.45W	1092 (4E)	500	AC60 DG1548	3200
			7. TERRAIN	473754.00N/1222115.00W	466 (500)		AS1500	2000
INTERMEDIATE:	KARFO	DGLAS	6. TOWER (53-000500)	473656.35N/1221830.45W	1092 (4E)	500	AC60	1700
STEPDOWN			8. TERRAIN	473715.00N/1221845.00W	423 (400)		AS1500	1900
FINAL: LPV	DGLAS	RW16L				ASC	MA76	709/276
FINAL: LNAV/VNAV	DGLAS	RW16L	9. TREE (KSEA0011)	472830.69N/1221916.42W	522 (1A)	22.61:1		789/356
FINAL: LNAV	DGLAS	RW16L	10. TREE	472805.41N/1221800.33W	574 (2C)	250		840
2. PROCEDURE TURN	NA							
3. MISSED APPROACH — MAP:	DA / DA / RW16L	MILLT	11. CTWR (53-001394)	472720.55N/1221805.18W	696 (1C)	ASC		5000
			12. AAO	472010.44N/1221827.64W	719 (2C)	1000		1800
ELEV:	509/628/740		13. TERRAIN	472010.44N/1221827.64W	519 (500)		AS1500	2000

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT. REQUIRED	HT. ABV. ARPT. ACTUAL							
CATEGORY A	1.3 NM	350	567	11. CTWR (53-001394)	472720.55N/1221805.18W	696 (1C)	300		1000
CATEGORY B	1.5 NM	450	567	11. CTWR (53-001394)	472720.55N/1221805.18W	696 (1C)	300		1000
CATEGORY C	1.7 NM	450	567	13. CTWR (53-001394)	472720.55N/1221805.18W	696 (1C)	300		1000
CATEGORY D	2.3 NM	550	567	13. CTWR (53-001394)	472720.55N/1221805.18W	696 (1C)	300		1000
CATEGORY E	4.5 NM	550							

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: RW16L

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
360-360	AAO	080/ 28.2	5362 (6A)	6400					

CITY AND STATE	ELEVATION: 433 / AIRPORT NAME:	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
SEATTLE, WA	SEATTLE-TACOMA INTL	RNAV	RNAV (GPS) Y RWY 16L, AMDT 3	ANM

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE		3. ALTIMETER SETTING
SEA APP CON SEA TOWER ZSE ARTCC	N W S	OTHER: ASOS	SOURCE: KSEA
	F A A		DISTANCE:
SATISFACTORY ON:	A / C		HOURS REMOTE OPERATION:
X V H F X U H F H F	LOCATION: KSEA		ADJUSTMENT: 0

4. MONITOR STATUS	PRIMARY NAVAID:	
	MONITOR POINT:	
	HRS OPTN: CAT 1	
	HRS OPTN: CAT 3	
5. APPROACH & RUNWAY LIGHTING	X	ALSF-2 16C, 16L, 16R
		(S) SALS
	X	MALSR 34L, 34C, 34R
	X	HIRL 16C, 16L, 34L, 16R, 34C, 34R
		MIRL
		REIL
	X	TDZ 16C, 16L, 16R, 34R
	X	C/L 16C, 16L, 34L, 16R, 34C, 34R
	X	OTHER (SPECIFY) PAPI-4R 16R PAPI-4L 16C, 16L, 34L, 34C, 34R
6. RUNWAY MARKINGS	BASIC	
	ALL WEATHER	PIR-G 16C, 16L, 34L, 16R, 34C, 34R
	INSTRUMENT	
7. RUNWAY VISUAL RANGE	APPROACH	16C, 16L, 34L, 16R, 34C, 34R
	MIDFIELD	16C, 16L, 34L, 16R, 34C, 34R
	ROLL OUT	16C, 16L, 34L, 16R, 34C, 34R
8. GLIDE PATH	GP ANGLE: 3.00	ELEV RWY THRESHOLD: 432.5
	DISTANCE FROM RWY:	ELEV GP ANTENNA:
		THRESHOLD CROSSING HEIGHT: 53.6
9. FINAL APPROACH COURSE AIMING	X	RUNWAY THRESHOLD — FT. FROM THRESHOLD
	X	ON CENTERLINE — FT. FROM CENTERLINE

10. WAIVERS: 1

ORDER 8260.3B, VOLUME 1, PARAGRAPH 274; AN "AT OR BELOW" ALTITUDE IS NEEDED BY ATC IN THE FIRST SEGMENT OF THE MISSED APPROACH TO PROVIDE VERTICAL SEPARATION BETWEEN AIRCRAFT EXECUTING THE MISSED APPROACH AND AIRCRAFT OVERFLYING THE AIRPORT.

PART D - PREPARED BY: MARK D. ADAMS	DATE: 11/05/2012
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AJV-354

PART C - REMARKS:

ISA DEVIATION USED: -22.14C (-7.86F)

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

KSEA ASOS ON SERVICE A / 24 HRS.

BACKUP ALTIMETER NOT REQUIRED DUE TO REDUNDANT LOCAL SOURCES.

TAA NOT DEVELOPED PER ATC REQUEST.

VGSI DATA: 3.00 / 79.4

ISA DEVIATION USED: -22.14C (-7.86F).

AVG COLD TEMP: -8C (17.6F)
AVG COLD TEMP BASED ON 5-YR HISTORY (2007-2011).

VEGETATION HEIGHT 100 FT PER CHECKLIST.

INITIAL, INTERMEDIATE, AND INTERMEDIATE STEPDOWN FIX ALTITUDES AND LOCATIONS PER ATC REQUEST FOR SEPARATION AND AIRSPACE PURPOSES. THESE FIXES WERE PLACED ON GLIDEPATH USING 8260.54A L-V PFAF FORMULA.

USED 8260.54A TO ESTABLISH LOCATIONS OF FIXES ON FAC; PUBLISHED ILS AND RNAV (RNP) PROCEDURES TO RWY 16R SHARE THESE FIXES.

CONTROLLING OBSTRUCTIONS AND TERRAIN THE SAME FOR ALL INTERMEDIATE SEGMENTS.

GRIFY INITIAL CONNECTED TO MARNR STAR.

AT OR BELOW ALTITUDE AT MISSED APPROACH FIRST FIX (CAVOB) PER ATC REQUEST.

BARO HIGH TEMP COMPUTED USING AFS SPREADSHEET.

WAIVER: FAAO 8260.3B VOL 1 PARA 274 AN "AT OR BELOW" ALTITUDE IS NEEDED BY ATC IN THE FIRST SEGMENT OF THE MISSED APPROACH TO PROVIDE VERTICAL SEPARATION BETWEEN AIRCRAFT EXECUTING THE MISSED APPROACH AND AIRCRAFT OVERFLYING THE AIRPORT.

SEE ATTACHED AIRSPACE LETTER.

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: DGLAS **STATE:** WA **COUNTRY:** US

LATITUDE/LONGITUDE: 473215.90N/1221825.57W **TYPE:** WP, RADAR, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	SEATTLE	I-SNQ	LOC/DME		343.34	000.34	6.21	6.56	39884	1900	4800

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
DME ANTENNA COORDINATES: 472603.60N/1221822.68W
PFAF DETERMINED IAW FAAO 8260.54A FORMULA 2-16B.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 16L	1		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16L (SA CAT I, CAT II/III)	1		KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 16L			KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) Z RWY 16L			KSEA	SEATTLE	WA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 6 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
FIX MOVED 324.24 FT NORTH.
UPDATED FIX COORDINATES.
CHANGED FAC 1 DME FOM 6.16 TO 6.21.
ADDED DIST FROM FAC IN NM AND FEET FOR FAC 1.
DELETED FACS 2 AND 3.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 09/20/2012 **OFFICE:** AJV-354 **NAME:** JON DENTON

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZSE
ATC FACILITY: SEA/SEA
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: GRIFY **STATE:** WA **COUNTRY:** US

LATITUDE/LONGITUDE: 474438.41N/1222252.33W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX RESTRICTIONS:
SPECIAL RNAV (RNP) M RWY 16R, KSEA, SEATTLE, WA

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 16C (SA CAT I, CAT II, III)			KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16L (SA CAT I, CAT II, III)			KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16R (SA CAT I, CAT II, III)			KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 16C			KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 16L			KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 16R			KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) M RWY 16R			KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) Z RWY 16C			KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) Z RWY 16L			KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) Z RWY 16R			KSEA	SEATTLE	WA (US)
STAR	MARNR (RNAV)			KSEA	SEATTLE	WA (US)

REQUIRED CHARTING: STAR, IAP, SPECIAL IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
CHANGED SPECIAL FIX RESTRICTION TO RNAV (RNP) M RWY 16R VICE MARNR RNAV STAR.
ADDED IAP TO REQUIRED CHARTING.
UPDATED FIX USE, CONVERTED MARNR STAR FROM SPECIAL TO PUBLIC USE AND ADDED ALL OTHER PROCEDURES.

DEVELOPED BY: **DATE:** 09/13/2012 **OFFICE:** AJV-354 **NAME:** DION LANCIA

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZSE
ATC FACILITY: SEA APP CON
OTHER:

QUALITY 4 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: HELZR **STATE:** WA **COUNTRY:** US

LATITUDE/LONGITUDE: 473851.30N/1221822.09W **TYPE:** WP, RADAR, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	SEATTLE	I-SNQ	LOC/DME		343.34	000.34	12.80	13.16		4000	4800

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
DME ANTENNA COORDINATES: 472603.60N/1221822.68W
FIX LOCATION DETERMINE IAW 8260.54A, FORMULA 2-16B.
ESV: SNQ GS R343/12/40/48

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 16L	1		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16L (SA CAT I, CAT II/III)	1		KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 16L			KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) Z RWY 16L			KSEA	SEATTLE	WA (US)

REQUIRED CHARTING: IAP, SPECIAL IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 5 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
FIX MOVED 1938.41 FT NORTH.
UPDATED FIX COORDINATES.
CHANGED FAC 1 DME FROM 12.48 TO 12.80.
ADDED DIST FROM FAC 13.10.
CHANGED GS ESV FROM 11 TO 12 NM.
DELETED FAC 2 DATA.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 10/10/2012 **OFFICE:** AJV-354 **NAME:** JON DENTON

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEBORAH COPELAND

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZSE
ATC FACILITY: SEA ATCT/APP CON
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: KARFO **STATE:** WA **COUNTRY:** US

LATITUDE/LONGITUDE: 473620.68N/1221823.42W **TYPE:** WP, RADAR, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	SEATTLE	I-SNQ	LOC/DME		343.34	000.34	10.29	10.65		3200	4800

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
DME ANTENNA COORDINATES: 472603.60N/1221822.68W
FIX LOCATION DETERMINED IAW 8260.54A, FORMULA 2-16B.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 16L	1		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16L (SA CAT I, CAT II/III)	1		KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 16L			KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) Z RWY 16L			KSEA	SEATTLE	WA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 4 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
FIX MOVED 1171.34 FT NORTH.
DELETED FAC 2 DATA.
CHANGED FAC 1 DME FROM 10.10 TO 10.29.
ADDED DIST FROM FAC 10.59.
UPDATED FIX COORDINATES.

DEVELOPED BY: **DATE:** 10/10/2012 **OFFICE:** AJV-354 **NAME:** JON DENTON

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEBORAH COPELAND

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZSE
ATC FACILITY: SEA ATCT/APP CON
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: KENMO **STATE:** WA **COUNTRY:** US

LATITUDE/LONGITUDE: 474159.57N/1221820.43W **TYPE:** WP, RADAR, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FEET	MRA	MAA
1	SEATTLE	I-SNQ	LOC/DME		343.34	000.34	15.94	16.30		5000	5000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-SNQ	LOC/DME	R-343	17	50	50

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
DME ANTENNA COORDINATES: 472603.60N/1221822.68W
FIX LOCATION DETERMINED IAW 8260.54A, FORMULA 2-16B.
ESV: SNQ GS R343/15/50/50

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 16L	1		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16L (SA CAT I, CAT II/III)	1		KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 16L			KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) Z RWY 16L			KSEA	SEATTLE	WA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 4 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
FIX MOVED 3150.32 FT NORTH.
UPDATED FIX COORDINATES.
DELETED FAC 2 DATA.
UPDATE ALL ESV DATA.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 10/10/2012 **OFFICE:** AJV-354 **NAME:** JON DENTON

APPROVED BY: **DATE:** **OFFICE:** AJV-354 **NAME:** DEBORAH COPELAND

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: WST
ARTCC: ZSE
ATC FACILITY: SEA ATCT/APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: MILLT **STATE:** WA **COUNTRY:** US

LATITUDE/LONGITUDE: 471507.75N/1221828.81W **TYPE:** WP, RADAR, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	SEATTLE	SEA	VORTAC	H	160.66	179.66	11.00	11.00		3000	17500
2	MCCHORD	TCM	VORTAC	T	025.39	047.39		9.28		3000	12200

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	S	SEA	VORTAC	160.66	340.66	R	1		5000	10000	5	9
2	S		WP	162.66	342.66	R		5	5000	10000	6	10

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	470800.00N/1221048.00W	1037	4E
1	310	AAO	465851.00N/1220545.00W	2792	4E
2	200	AAO	470739.00N/1220954.00W	1076	4E
2	310	AAO	465830.00N/1220448.00W	3002	4E

PRECIPITOUS TERRAIN ADDITIONS:

PAT	SPEED	ADDITION
2	310	170

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	ILS RWY 16L (SA CAT I, CAT II/III)	KSEA	SEATTLE	WA (US)
1	ILS OR LOC RWY 16L	KSEA	SEATTLE	WA (US)
1	ILS OR LOC RWY 16C	KSEA	SEATTLE	WA (US)
1	ILS RWY 16C (SA CAT I, CAT II/III)	KSEA	SEATTLE	WA (US)
1	ILS OR LOC RWY 16R	KSEA	SEATTLE	WA (US)
1	ILS RWY 16R (SA CAT I, CAT II/III)	KSEA	SEATTLE	WA (US)
2	RNAV (GPS) Y RWY 16L	KSEA	SEATTLE	WA (US)
2	RNAV (GPS) Y RWY 16C	KSEA	SEATTLE	WA (US)
2	RNAV (RNP) Z RWY 16L	KSEA	SEATTLE	WA (US)
2	RNAV (RNP) Z RWY 16C	KSEA	SEATTLE	WA (US)

REMARKS:
SEATTLE (FAC 1) AND MCCHORD (FAC 2) USED TO ESTABLISH FIX COORDINATES
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
CLIMB IN HOLD EVALUATED TO 10000.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 16C	1, 2	1	KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16L	1, 2	1	KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16R	1, 2	1	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16C (SA CAT I, CAT II/III)	1, 2	1	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16L (SA CAT I, CAT II/III)	1, 2	1	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16R (SA CAT I, CAT II/III)	1, 2	1	KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 16C		2	KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 16L		2	KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) Z RWY 16C		2	KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) Z RWY 16L		2	KSEA	SEATTLE	WA (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 11 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
DELETED FAC 3 DATA.
ADDED DIST FROM FAC FOR FAC 1 AND 2.
UPDATED FIX USE.

QUALITY CHECKED

DEVELOPED BY:	**DATE:** 09/12/2012	**OFFICE:** AJV-354	**NAME:** JON DENTON
APPROVED BY:	**DATE:**	**OFFICE:** AJV-354	**NAME:** DEZ SILAGYI
	SIGNATURE:		

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZSE
ATC FACILITY: SEA APP CON, SEA ATCT
OTHER:

QUALITY CHECKED

INFO ONLY

RADIO FIX AND HOLDING DATA RECORD

NAME: CAVOB **STATE:** WA **COUNTRY:** US

LATITUDE/LONGITUDE: 472346.29N/1221830.05W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	BANGR (RNAV)			KSEA	SEATTLE	WA (US)
DP	HAROB (RNAV)			KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 16L			KSEA	SEATTLE	WA (US)

REQUIRED CHARTING: DP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 4 **DATE OF REVISION:** 08/25/2011

REASON FOR REVISION:
DELETED FACILITY 1
UPDATED FIX USE

DEVELOPED BY: **DATE:** 09/27/2010 **OFFICE:** AVN-130 **NAME:** ADOLFO URRUTIA (ROBERT DAVIS)

APPROVED BY: **DATE:** 06/01/2011 **OFFICE:** AVN-130 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZSE
ATC FACILITY: SEA APP CON, SEA ATCT
OTHER:

QUALITY 4 CHECKED

INFO ONLY

RADIO FIX AND HOLDING DATA RECORD

NAME: PAINE VOR/DME **STATE:** WA **COUNTRY:** US

LATITUDE/LONGITUDE: 475511.40N/1221640.20W **TYPE:**

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FAC FEET	MRA	MAA
1	PAINE	PAE	VOR/DME	L							17500

FIX RESTRICTIONS:
SPECIAL RNAV (RNP) M RWY 16R, KSEA, SEATTLE, WA

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	NW	PAE	VOR/DME	329.04	149.04	R	1-1 1/2		2000	17500	4	16

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	200' AAO	475148.00N/1221706.00W	814	4E
1	310	200' AAO	475148.00N/1221706.00W	814	4E

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	BELLEVUE (LOST COMMUNICATIONS)	KRNT	RENTON	WA (US)

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED: NO ADJUSTMENT

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	ARLINGTON			KAWO	ARLINGTON	WA (US)
DP	KIENO (OBSTACLE)			KBLI	BELLINGHAM	WA (US)
DP	PAINE			KPAE	EVERETT	WA (US)
DP	TAKE-OFF MINIMUMS			KPAE	EVERETT	WA (US)
DP	YELM			KOLM	OLYMPIA	WA (US)
DP	BELLEVUE (LOST COMMUNICATIONS)		1	KRNT	RENTON	WA (US)
DP	KENT			KBFI	SEATTLE	WA (US)
DP	NEEDLE			KBFI	SEATTLE	WA (US)
DP	BANGR (RNAV)			KSEA	SEATTLE	WA (US)
DP	HAROB (RNAV)			KSEA	SEATTLE	WA (US)
DP	MOUNTAIN			KSEA	SEATTLE	WA (US)
DP	SEATTLE			KSEA	SEATTLE	WA (US)
DP	SUMMA			KSEA	SEATTLE	WA (US)
EN ROUTE	V23					(US)
EN ROUTE	V287					(US)
IAP	LOC RWY 34			KAWO	ARLINGTON	WA (US)
IAP	NDB RWY 34			KAWO	ARLINGTON	WA (US)
IAP	RNAV (GPS) RWY 34			KAWO	ARLINGTON	WA (US)
IAP	RNAV (GPS) RWY 29			KBVS	BURLINGTON/MOUNT VERNON	WA (US)
IAP	ILS OR LOC/DME Y RWY 16R			KPAE	EVERETT	WA (US)
IAP	ILS OR LOC/DME Z RWY 16R			KPAE	EVERETT	WA (US)
IAP	ILS Z RWY 16R (SA CAT II)			KPAE	EVERETT	WA (US)
IAP	RNAV (GPS) RWY 34L			KPAE	EVERETT	WA (US)
IAP	RNAV (GPS) Y RWY 16R			KPAE	EVERETT	WA (US)
IAP	RNAV (GPS) Z RWY 16R			KPAE	EVERETT	WA (US)
IAP	VOR RWY 16R		1	KPAE	EVERETT	WA (US)
IAP	VOR/DME RWY 16R		1	KPAE	EVERETT	WA (US)
IAP	RNAV (GPS) Y RWY 16			KRNT	RENTON	WA (US)
IAP	RNAV (GPS) Z RWY 16			KRNT	RENTON	WA (US)
IAP	ILS OR LOC RWY 31L			KBFI	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 13R			KBFI	SEATTLE	WA (US)
IAP	RNAV (RNP) Z RWY 13R			KBFI	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16C			KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16L			KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16R			KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 34C		1	KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 34L		1	KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 34R		1	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16C (CAT II/III)			KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16L (CAT II/III)			KSEA	SEATTLE	WA (US)

SUPERVISOR CHECKED

IAP	ILS RWY 16R (CAT II/III)		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16R (SA CAT 1)		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 34C (SA CAT I, CAT II)	1	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 34L (SA CAT I, CAT II)	1	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 34R (SA CAT I, CAT II)	1	KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 16C		KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS) Y RWY 16L		KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) M RWY 16R		KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) Z RWY 16C		KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) Z RWY 16L		KSEA	SEATTLE	WA (US)
IAP	RNAV (RNP) Z RWY 16R		KSEA	SEATTLE	WA (US)
IAP	RNAV (GPS)-A		KS43	SNOHOMISH	WA (US)
STAR	MADEE (RNAV)		CYXX	ABBOTSFORD, BRITISH COLUMBIA	(CA)
STAR	MADEE (RNAV)		KBLI	BELLINGHAM	WA (US)
STAR	EPHRATA		KSEA	SEATTLE	WA (US)
STAR	GLASR		KSEA	SEATTLE	WA (US)
STAR	JAWBN		KSEA	SEATTLE	WA (US)

REQUIRED CHARTING: DP, STAR, IAP, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 7 **DATE OF REVISION:** 05/05/2011

REASON FOR REVISION:
UPDATE HOLDING RESTRICTIONS
UPDATE FIX USE
UPDATE REQUIRED CHARTING

DEVELOPED BY: **DATE:** 10/06/2010 **OFFICE:** AVN-130 **NAME:** JOHN WALKER

APPROVED BY: **DATE:** 03/01/2011 **OFFICE:** AVN-130 **NAME:** DEZ SILAGYI

SIGNATURE:

DISTRIBUTION: NFDC
FPO: WST
ARTCC: ZSE
ATC FACILITY: SEA
OTHER: PAE ATCT

QUALITY CHECKED

TERMINAL AIRSPACE DATA REQUIREMENTS

CITY: **SEATTLE** STATE: **WA**

AIRPORT NAME: **SEATTLE-TACOMA INTL** ID: **KSEA**

PROCEDURE: **RNAV (GPS) Y RWY 16L** AMDT: **3**

DOCKET#: **NOT REQUIRED**
(96-AXX-X/Required/Not Required)

ALL DIST TO 1/100 NM; ELEV TO NEAREST FT; COORD TO 1/100 SEC; DEG TO 1/100 DG.

1. Distance from **THLD** to 1000' point **3.18**
   (Enter THLD, FAF, ARP, FACILITY, as appropriate)
2. Width of **FINAL** segment at 1000' point **1.20**
   (Enter appropriate segment, final, intermediate, etc.)
3. True Course of **FINAL** segment containing 1000' point **180.34**
4. High Terrain in **FINAL** segment containing 1000' point **469**
5. Distance from **THLD** to 1500' point **5.92**
   (If 1500' point in PT maneuvering area or holding pattern note in remarks)
6. Width of **INTERMEDIATE** segment at 1500' point **3.51**
7. True Course of **INTERMEDIATE** segment containing 1500' point **180.34**
8. High Terrain in **INTERMEDIATE** segment containing 1500' point **423**
9. Threshold Coordinates (if straight-in) ... **472749.66N** / **1221827.90W**
10. ARP Coordinates ..... **472659.60N** / **1221842.40W**
11. Runway Approach End and distance furthest from ARP ..... RWY **34R**
    Distance **1.13** NM
12. FAF Coordinates ..... **473215.90N** / **1221825.57W**

REMARKS: Approach/Drawing attached.

US Department of Transportation
Federal Aviation Administration

FLIGHT PROCEDURES STANDARDS WAIVER

FLIGHT STANDARDS USE ONLY

CONTROL NO:

1. Flight Procedure Identification:
SEATTLE-TACOMA INTL
Seattle, WA
RNAV (GPS) Y RWY 16L

2. Waiver Required and Applicable Standard:
Waiver Required: To use an "at or below" altitude in the missed approach.
Applicable Standard: FAAO 8260.3B, Volume 1, Para 274 (Straight Missed Approach Obstacle Clearance).

3. Reason for Waiver *(Justification for nonstandard treatment)*:
Air traffic has a need to keep aircraft that are executing a missed approach at or below 2000 ft while they are within 1 NM of the airport due to other traffic overflying the airport at 3000 ft. .

4. Equivalent Level of Safety Provided:
1. 40:1 OCS AND LEVEL SURFACE EVALUATIONS WERE DONE FROM DA/MAP TO CAVOB AND FROM CAVOB TO THE CLEARANCE LIMIT. THE AT OR BELOW ALTITUDE OF 2000' MSL PROVIDES 1000' OF ROC FOR AIRCRAFT WHO LEVEL OFF AT 2000. FROM CAVOB TO THE CLEARANCE LIMIT THE OCS WAS EVALUATED BEGINNING AT 1000' MSL (2000' MSL LESS 1000' ROC) AT CAVOB TO SIMULATE THE FIRST LEVEL SURFACE PORTION OF THE MISSED APPROACH.

5. How Relocation or Additional Facilities Will Affect Waiver Requirement:
N/A-RNAV (GPS) PROCEDURE

6. Coordination With User Organizations (Specify):
AJV-354:_____

7. SUBMITTED BY

DATE:	Office Identification:	Title:	Signature:
11/09/2012	AJV-35	Gregory Yamamoto, Manager, Terminal Products Group.	

8. CONTINUATION
Comments:

9. AFS ACTION	☐ Approved ☐ Disapproved ☐ Not Required

Comments:

Date:	Routing Symbol:	Signature: