Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 03/09/2011	Task #: 2011030930453503001	Request #: 20110309304535
Procedure: ILS OR LOC RWY 16 L AMDT 5		Airport ID: KSEA	Airport: SEATTLE-TACOMA INTL		Reimbursable #:
City: SEATTLE	ST: WA	GPS #:		Estimated Chart Date: 03/07/2013	FICO #:
Fac ID: SNQ	Fac. Type: ILS	Specialist: MARK ADAMS			

Procedure Review

	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 2 of 2

SEATTLE, WA SEATTLE-TACOMA INTL (KSEA) ILS OR LOC RWY 16L, AMDT 5 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; MCCHORD (TCM) VTAC, REV 3; MILLT-INT, REV 11; TEBNE-INT, REV 1; (INFO ONLY) PAINE (PAE) VDME, REV 7.

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

NEW

SEATTLE, WASHINGTON | AL-582 (FAA) | FIG

ILS or LOC RWY 16L

SEATTLE-TACOMA INTL (SEA)

LOC/DME I-SNQ	APP CRS	Rwy Idg	11901
110.3 Chan 40	163°	THRE	433
		Apt Elev	433

T Simultaneous approach authorized with Rwy 16R. For Inop ALSF, increase L-ILS 16L Cat A visibility to RVR 4500, and Cats B,C,D to RVR 4000. DME or Radar required.

ALSF-2

MISSED APPROACH: Climb to 900 on heading 165 then on SEA VORTAC R-161 to cross TEBNE/SEA 2.4 DME/RADAR at or below 2000, then climb to 5000 on SEA VORTAC R-161 to MILLT INT/SEA 11 DME/RADAR 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

DME or RADAR REQUIRED

PROTOTYPE: NOT FOR NAVIGATION

R-165 (185°T)

(IAF) GRIFY 6000 (GPS REQ'D)

4000 (6.5) 135° (152°T)

(185°T) 5000 165° (13.3)

(360°N)

(IAF) KENMO I-SNQ 15.9 RADAR

343°

(180°T) 4000 163° (3.1)

(IF) HELZR I-SNQ 12.8 RADAR

(180°T) 3200 163° (2.5)

KARFO I-SNQ 10.3 RADAR

(180°T) 1900 163° (4.1)

DGLAS I-SNQ 6.2 RADAR

Boeing Field/ King County Intl

PAINE 110.6 PAE Chan 43

Procedure NA for arrivals at PAE VOR/DME on V23 northbound.

MSA SEA 25 NM

180°

3400

070°

6400

2200

340°

1729

2160

3149

2040

3020

ALTERNATE MISSED APCH FIX

(096°T) 074° (276°T) 254°

R-074 (096°T)

MC CHORD TCM 109.6 Chan 33

MISSED APCH FIX

MILLT INT SEA 11 RADAR

116.8 SEA Chan 115

(360°T) 341° 161° (180°T)

R-025 (047°T)

109.6 TCM Chan 33

R-161 (180°T)

LOCALIZER 110.3 I-SNQ Chan 40

IM 514±

SEATTLE 116.8 SEA Chan 115

TEBNE SEA 2.4 RADAR

(180°T) R-161

ELEV 433 | THRE 433

D

163° 4.4 NM from FAF

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

900 165° | SEA R-161 | TEBNE SEA 2.4 RADAR 2000 | 5000 SEA R-161 | MILLT INT SEA 11 RADAR

*LOC Only

HELZR I-SNQ 12.8 RADAR

KARFO I-SNQ 10.3 RADAR

DGLAS I-SNQ 6.2 RADAR

*I-SNQ 2.9

I-SNQ 1.8

4000 (180°T) 163° 3200 1900

IM

GS 3.00° TCH 54

2.5 NM | 4.1 NM | 3.2 NM | 1.1 NM | 0.1

CATEGORY	A	B	C	D	E
S-ILS 16L	696/20 263 (300-½)	633/18 200 (200-½)			NA
S-LOC 16L	880/24 447 (500-½)		880/45 447 (500-⅞)		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

FAF to MAP 4.4 NM

Knots	60	90	120	150	180
Min:Sec	4:24	2:56	2:12	1:46	1:28

NEW

SEATTLE, WASHINGTON

AL-582 (FAA)

FIG

ILS RWY 16L (SAC CAT I)

SEATTLE-TACOMA INTL (SEA)

LOC/DME I-SNQ	APP CRS	Rwy Idg	11901
110.3	163°	THRE	433
Chan 40		Apt Elev	433

~~Simultaneous approach authorized with Rwy 16R.~~ Simultaneous approach authorized with Rwy 16R. DME or Radar required. Requires specific OPSPEC, MSPEC, or LOA approval and use of HUD to DH.

ALSF-2

MISSED APPROACH: Climb to 900 on heading 165° then ~~climb on heading 165° and~~ SEA VORTAC R-161 to cross TEBNE/SEA 2.4 DME/RADAR at or below 2000, then climb to 5000 on SEA VORTAC R-161 to MILLT INT/SEA 11 DME/RADAR 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

DME or RADAR REQUIRED

PROTOTYPE: NOT FOR NAVIGATION

(IAF) GRIFY 6000 (GPS REQD)

R-165 (185°T) 5000 (185°T) 165° (13.3)

4000 135° (16.5) (152°T)

(360°T) 343° (IAF) KENMO I-SNQ 15.9 RADAR

4000 (180°T) 163° (3.1) (IF) HELZR I-SNQ 12.8 RADAR

3200 (180°T) 163° (2.5) KARFO I-SNQ 10.3 RADAR

1900 (180°T) 163° (4.1) DGLAS I-SNQ 6.2 RADAR

PAINE 110.6 PAE Chan 43

Procedure NA for arrivals at PAE VOR/DME on V23 northbound.

MSA SEA 25 NM: 180°–070° 3400; 070°–340° 6400; 340°–180° 2200

ALTERNATE MISSED APCH FIX

(096°T) 074° (276°T) 254° R-074 (096°T)

MC CHORD TCM 109.6 Chan 33

MISSED APCH FIX

MILLT INT SEA 11 RADAR

116.8 SEA Chan 115

109.6 TCM Chan 33

R-025 (047°T) 341° (360°T) 161° (180°T) R-161 (180°T)

Boeing Field/ King County Intl

Λ1729 Λ2160 Λ3149 2040 3020

LOCALIZER 110.3 I-SNQ Chan 40

IM Λ514±

SEATTLE 116.8 SEA Chan 115

TEBNE SEA 2.4 RADAR (180°T) R-161

ELEV 433 THRE 433

D

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

HELZR I-SNQ 12.8 RADAR

KARFO I-SNQ 10.3 RADAR

900 165° 165° SEA R-161

TEBNE SEA 2.4 RADAR 2000

5000 SEA R-161

MILLT INT SEA 11 RADAR

DGLAS I-SNQ 6.2 RADAR 1900

4000 (180°T) 163° 3200 1900

GS 3.00° TCH 54

DH RA175 248 IM 433 MSL

2.5 NM 4.1 NM 4.1 NM 1839' 1089'

CATEGORY	A	B	C	D	E
S-ILS 16L	NA	RA 175/14 248 150 DA 583			NA

SA CATEGORY I ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

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

SEATTLE, WASHINGTON

Amdt 5 FIG

47°27'N-122°19'W

SEATTLE-TACOMA INTL (SEA)

ILS RWY 16L (SAC CAT I)

NEW

ILS RWY 16L (CAT II)
SEATTLE-TACOMA INTL (SEA)

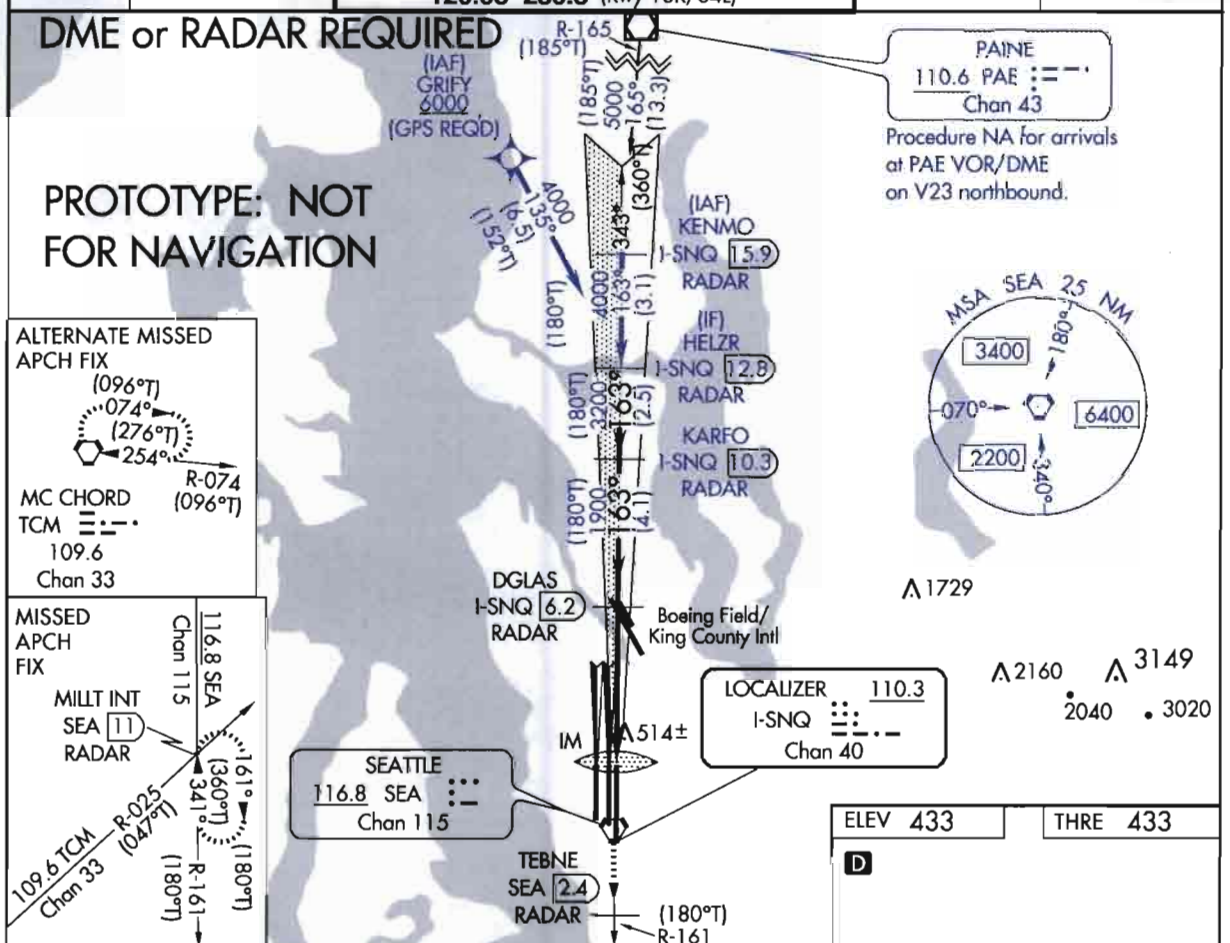
LOC/DME I-SNQ	APP CRS	Rwy ldg	11901
110.3	163°	THRE	433
Chan 40		Apt Elev	433

Simultaneous approach authorized with Rwy 16R. DME or Radar required. RVR 1000 authorized with specific OPSPEC, MSPEC, or LOA approval and use of AUTOLAND or HUD to touchdown.

ALSF-2

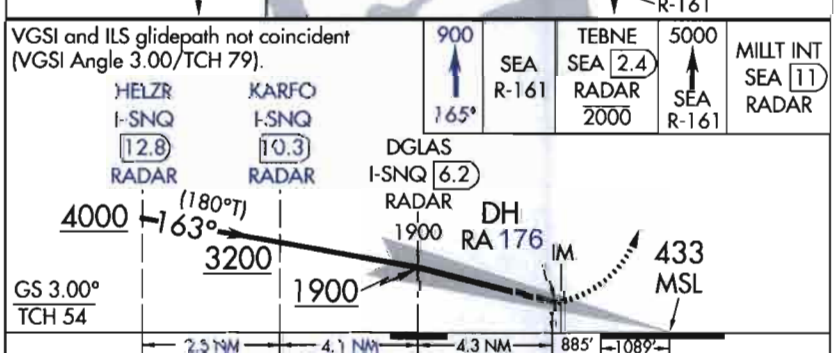
MISSED APPROACH: Climb to 900 on heading 165 then on SEA VORTAC R-161 to cross TEBNE/SEA 2.4 DME/RADAR at or below 2000, then climb to 5000 on SEA VORTAC R-161 to MILLT INT/SEA 11 DME/RADAR and hold, continue climb-in-hold to 5000.

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



ELEV 433	THRE 433

D



CATEGORY	A	B	C	D	E
S-ILS 16L	NA	RA 176/12 100 DA 533			NA

CATEGORY II ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

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

NEW

SEATTLE, WASHINGTON

AL 582 (FAA)

FIG

ILS RWY 16L (CAT III)

SEATTLE-TACOMA INTL (SEA)

LOC/DME I-SNQ	APP CRS	Rwy Idg 11901
110.3	163°	THRE 433
Chan 40		Apt Elev 433

Simultaneous approach authorized with Rwy 16R. DME or Radar required.

ALSF-2

MISSED APPROACH: Climb to 900 on heading 165 then on SEA VORTAC R-161 to cross TEBNE/SEA 2.4 DME/RADAR at or below 2000, then climb to 5000 on SEA VORTAC R-161 to MILLT INT/SEA 11 DME/RADAR 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

DME or RADAR REQUIRED

PROTOTYPE: NOT FOR NAVIGATION

R-165 (185°T)

(IAF) GRIFY 6000 (GPS REQD)

4000 135° (16.5) (152°T)

(185°T) 5000 165° (13.3)

(360°T)

(IAF) KENMO I-SNQ 15.9 RADAR

343° (180°T) 4000 163° (3.1)

(IF) HELZR I-SNQ 12.8 RADAR

(180°T) 3200 163° (2.5)

KARFO I-SNQ 10.3 RADAR

(180°T) 1900 163° (4.1)

DGLAS I-SNQ 6.2 RADAR

Boeing Field/ King County Intl

PAINE 110.6 PAE Chan 43

Procedure NA for arrivals at PAE VOR/DME on V23 northbound.

MSA SEA 25 NM

180°

3400

070° 6400

2200 340°

ALTERNATE MISSED APCH FIX

(096°T) 074° (276°T) 254°

R-074 (096°T)

MC CHORD TCM 109.6 Chan 33

MISSED APCH FIX

MILLT INT SEA 11 RADAR

116.8 SEA Chan 115

(360°T) 341° 161° (180°T)

109.6 TCM Chan 33

R-025 (047°T)

R-161 (180°T)

SEATTLE 116.8 SEA Chan 115

LOCALIZER 110.3 I-SNQ Chan 40

IM 514±

Λ1729

Λ2160 Λ3149

2040 • 3020

TEBNE SEA 2.4 RADAR

(180°T) R-161

ELEV 433 THRE 433

D

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

HELZR I-SNQ 12.8 RADAR

KARFO I-SNQ 10.3 RADAR

DGLAS I-SNQ 6.2 RADAR

4000 (180°T) 163° 3200 1900

IM

433 MSL

GS 3.00° TCH 54

2.5 NM 4.1 NM 4.3 NM 810' 1089'

900 165° SEA R-161

TEBNE SEA 2.4 RADAR 2000

5000 SEA R-161

MILLT INT SEA 11 RADAR

CATEGORY	A	B	C	D	E
S-ILS 16L	NA	CAT IIIa RVR 07			NA
S-ILS 16L	NA	CAT IIIb RVR 06			NA
S-ILS 16L	CAT IIIc NA				NA

CATEGORY III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

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

US DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

ILS - STANDARD INSTRUMENT APPROACH PROCEDURE TITLE 14 CFR PART 97.29

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/I-SNQ 15.94 DME/RADAR	164.88 / 13.25	5000
KENMO/I-SNQ 15.94 DME/RADAR (IAF)	HELZR/I-SNQ 12.80 DME/RADAR	163.34 / 3.14 (I-SNQ)	4000
GRIFY (IAF)	HELZR/I-SNQ 12.80 DME/RADAR	135.25 / 6.54	4000
HELZR/I-SNQ 12.80 DME/RADAR (IF)	KARFO/I-SNQ 10.29 DME/RADAR	163.34 / 2.51 (I-SNQ)	3200
KARFO/I-SNQ 10.29 DME/RADAR	DGLAS/I-SNQ 6.21 DME/RADAR	163.34 / 4.08 (I-SNQ)	1900

MISSED APPROACH

ILS: DA
LOC: 4.44 MILES AFTER DGLAS/I-SNQ 6.21 DME/RADAR OR AT I-SNQ 1.77 DME FIX

CLIMB TO 900 ON HEADING 165 THEN ON SEA VORTAC R-161 TO CROSS TEBNE/SEA 2.40 DME/RADAR AT OR BELOW 2000 THEN CLIMB TO 5000 ON SEA VORTAC R-161 TO MILLT INT/SEA 11.00 DME/RADAR AND HOLD, CONTINUE CLIMB-IN-HOLD TO 5000, OR AS DIRECTED BY ATC.

(SEE FORM 8260-10)

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT HELZR/I-SNQ 12.80 DME/RADAR
3. FAC: 163.34 FAF: DGLAS/I-SNQ 6.21 DME/RADAR 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: 810 150 HAT: 1839 100 HAT: 885 GS ANT: 1089
6. MIN GS INCPT: 1900 GS ALT AT: DGLAS 1900 OM: - MM: - IM: -
7. GS ANGLE: 3.00 TCH: 53.6
8. MSA FROM: SEA VORTAC 360-160 6400, 160-250 2200, 250-360 3400

ADDITIONAL FLIGHT DATA:
HOLD S, RT, 340.66 INBOUND.
CHART IN PLANVIEW: ALTERNATE MA HOLDING, HOLD E TCM VORTAC, RT, 254.00 INBOUND.
CHART FAS OBST: 514 TREE 472836N/1221818W
CHART VDP AT 2.93 DME*;
DISTANCE VDP TO THLD 1.16 MILES.
*LOC ONLY.
CHART IN PLANVIEW: TCM VORTAC.
CHART AT/ABOVE 6000 AT GRIFY.
CHART LOC RWY 16R.
CHART: 696 ATC TOWER 472721N/1221805W
CHART TCM R-025 AT MILLT
CHART KBFI

MAG VAR: 17E EPOCH YEAR: 2010

MINIMUMS

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT | ALTERNATE: N A | ILS: STANDARD | LOC: STANDARD

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
S-ILS 16L	696	2000	263	633	1800	200	633	1800	200	633	1800	200			
S-LOC 16L	880	2400	447	880	2400	447	880	4500	447	880	4500	447			
CIRCLING	1000	1	567	1000	1	567	1000	1 1/2	567	1000	2	567			

NOTES:
SA CATEGORY I ILS - SPECIAL AIRCREW AND AIRCRAFT CERTIFICATION REQUIRED. S-ILS 16L: CAT B, C, D, RA 248, RVR 1400, HATh 150, DA 583 MSL. CAT A NA.
CATEGORY II ILS - SPECIAL AIRCREW AND AIRCRAFT CERTIFICATION REQUIRED. S-ILS 16L: CAT B, C, D, RA 176, RVR 1200, HATh 100, DA 533 MSL. CAT A NA.
(SEE FORM 8260-10)

QUALITY CHECKED 4

CITY AND STATE	ELEVATION: 433 THRE: 433 AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	SUP:
SEATTLE, WA	SEATTLE-TACOMA INTL	I-SNQ	ILS OR LOC RWY 16L, AMDT 5 ILS RWY 16L (SA CAT I), ILS RWY 16L (CAT II), ILS RWY 16L (CAT III)	AMDT: 4B 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:	FIFO	DATE:

DEVELOPED BY

NAME:	FIFO	DATE:
MARK D. ADAMS	**AJV-354**	**11/02/2012**

APPROVED BY

NAME:		FIFO	DATE:
DEBORAH COPELAND	**MANAGER**	**AJV-354**	

CHANGES:

1. ADDED GPS TRANSITION INITIAL FROM GRIFY.
2. REPLACED COROK WITH KENMO AS AN IAF.
3. ADDED SA CAT 1 MINIMA AND ASSOCIATED NOTES.
4. ALL FIXES ON THE FAC WERE MOVED TO "ON-GLIDEPATH" LOCATIONS.
5. ADDED 6000 FT MIN ALT RESTRICTION AT GRIFY.
6. S-ILS 16L CAT A INCREASED FROM 695/18/262 (DA/RVR/HATH) TO 696/20/263.
7. CHANGED SIMULTANEOUS NOTE TO INCLUDE RWY 16R WITHOUT LISTING EACH PROCEDURE TO RWY 16R.
8. REMOVED CHART PLANVIEW NOTE (FOR CAT III ONLY): CATEGORY III SPECIAL AUTOLAND EVALUATION REQUIRED.
9. REMOVED CHART PROFILE NOTE: "WHEN ASSIGNED BY ATC, INTERCEPT GLIDEPATH AT 3200 OR 4000 OR 5000 OR 6000".
10. CHANGED INOP NOTE FROM "INCREASE S-ILS CAT A VIS TO RVR 5000".
11. RAISED CAT II RA FROM 125 TO 176.
DME: 472603.60N / 1221822.68W, GS: 472738.94N / 1221833.82W, LOC: 472542.27N / 1221829.03W, NGS 405 SURVEY
MB: 472757.65N / 1221827.84W, OTHER

REASONS:

1, 2. PER CHECKLIST.
3, 7. PER GUIDANCE IN 10/27/2010 MEMO, "IMPLEMENTATION OF AFS 400 MEMO, SPECIAL AUTHORIZATION CATEGORY I AND II INSTRUMENT PROCEDURE CHARTS, DATED APRIL 22, 12010."
4. TO SUPPORT SIMULTANEOUS DEPENDENT APPROACHES WITH RWY 16 L/C.
5. ATC REQUEST.
6. MISSED PEN REQUIRED 63 FT ADJ TO ILS FINAL VS 62 FT ON PREVIOUS AMDT.
8, 9. THESE NOTES ARE NOT SUPPORTED BY CURRENT CRITERIA.
10. 8260.3B CHG 20 TABLE 3-5A.
11. RE-EVALUATION OF UNDERLYING TERRAIN.

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 aiport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

MISSED APPROACH INSTRUCTIONS, (CONT.):
ALTERNATE MA: (SIMULTANEOUS OPERATIONS NA) CLIMB TO 2000 ON HEADING 163 THEN CLIMBING RIGHT TURN DIRECT TCM VORTAC AND HOLD, CONTINUE CLIMB-IN-HOLD TO 5000.

NOTES, (CONT.):
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT PAE VOR/DME ON V23 NORTHBOUND.
CHART PLANVIEW NOTE: DME OR RADAR REQUIRED.
CHART PROFILE NOTE: VGSI AND ILS GLIDEPATH NOT COINCIDENT.
CHART NOTE: SIMULTANEOUS APPROACH AUTHORIZED WITH RWY 16R.
SA CAT I CHART NOTE: REQUIRES SPECIFIC OPSPEC, MSPEC, OR LOA APPROVAL AND USE OF HUD TO DH.
CHART NOTE: FOR INOPERATIVE ALSF, INCREASE S-ILS 16L CAT A VISIBILITY TO RVR 4500, AND CATS B, C, D TO RVR 4000.
CHART NOTE: DME OR RADAR REQUIRED.
CHART IN PLANVIEW ADJACENT TO GRIFY: GPS REQUIRED.

CAT II CHART NOTE: RVR 1000 AUTHORIZED WITH SPECIFIC OPSPEC, MSPEC, OR LOA APPROVAL AND USE OF AUTOLAND OR HUD TO TOUCHDOWN.

CATEGORY III ILS - SPECIAL AIRCREW AND AIRCRAFT CERTIFICATION REQUIRED. S-ILS 16L: CAT IIIa CAT B, C, D, RVR 700. CAT IIIb CAT B,C,D, RVR 600. CAT IIIc NA. CAT A NA.

QUALITY CHECKED

CITY AND STATE	ELEVATION: 433 THRE: 433	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
SEATTLE, WA	AIRPORT NAME: SEATTLE-TACOMA INTL	I-SNQ	ILS OR LOC RWY 16L, AMDT 5 ILS RWY 16L (SA CAT I), ILS RWY 16L (CAT II) , ILS RWY 16L (CAT III)	AMDT: 4B DATED: 03/08/2012

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

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

ILS STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.29**

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 - ILS

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAD        PAE   K1011060VDLW N47551140W122164020    N47551210W122164180E0200006741     NARPAINE
        SUSAD        SEA   K1011680VTHW N47260734W122183462    N47260851W122183597E0190003542     NARSEATTLE
        SUSAD KSEAK1 ISNQ  K1011030 IT                     ISNQN47260360W122182268     003690     NARSEATTLE-TACOMA INTL

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   DGLAS K10    C     N47321590W122182557                        E0165     NAR          DGLAS
        SUSAEAENRT   GRIFY K10    W     N47443841W122225233                        E0165     NAR          GRIFY
        SUSAEAENRT   HELZR K10    C     N47385130W122182209                        E0165     NAR          HELZR
        SUSAEAENRT   KARFO K10    C     N47362068W122182342                        E0165     NAR          KARFO
        SUSAEAENRT   KENMO K10    C     N47415957W122182043                        E0165     NAR          KENMO
        SUSAEAENRT   MILLT K10    C     N47150775W122182881                        E0164     NAR          MILLT
        SUSAEAENRT   TEBNE K10    R     N47234344W122183338                        E0164     NAR          TEBNE

                 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 KSEAK1FI16L  AGRIFY 010GRIFYK1EA0E  A    IF                                  + 06000     18000                 0 NS
        SUSAP KSEAK1FI16L  AGRIFY 020HELZRK1EA0E  B    TF                                  + 04000                           0 NS
        SUSAP KSEAK1FI16L  AGRIFY 030KARFOK1EA0EE      CF ISNQK1      3433010616330025PI   + 03200                           0 NS
        SUSAP KSEAK1FI16L  APAE   010PAE  K1D 0V       IF                                              18000                 0 NS
        SUSAP KSEAK1FI16L  APAE   020KENMOK1EA0E  A    TF                                  + 05000                           0 NS
        SUSAP KSEAK1FI16L  APAE   030HELZRK1EA0E  B    TF                                  + 04000                           0 NS
        SUSAP KSEAK1FI16L  APAE   040KARFOK1EA0EE      CF ISNQK1      3433010616330025PI   + 03200                           0 NS
        SUSAP KSEAK1FI16L  I      010KARFOK1EA0E  I    IF ISNQK1      34330106        PI   J 032000190018000                 0 NS
        SUSAP KSEAK1FI16L  I      020DGLASK1EA0E  F    CF ISNQK1      3433006616300041PI   H 0190001900        -300SEA   K1D 0 NS
        SUSAP KSEAK1FI16L  I      030RW16LK1PG0GY M    CF ISNQK1      3433002116300044PI     00486             -300          0 NS
        SUSAP KSEAK1FI16L  I      040         0  M     VA                     1650         + 00900                           0 NS
        SUSAP KSEAK1FI16L  I      050TEBNEK1EA0E       CF SEA K1      1607002416070040D    - 02000                           0 NS
        SUSAP KSEAK1FI16L  I      060MILLTK1EA0EY      TF                                  + 05000                           0 NS
        SUSAP KSEAK1FI16L  I      070MILLTK1EA0EE  R   HM                     3407T010     + 05000                           0 NS

                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
```

QUALITY CHECKED

CITY AND STATE	ELEVATION: 433 THRE: 433	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
SEATTLE, WA	AIRPORT NAME: SEATTLE-TACOMA INTL	I-SNQ	ILS OR LOC RWY 16L, AMDT 5 ILS RWY 16L (SA CAT I), ILS RWY 16L (CAT II), ILS RWY 16L (CAT III)	AMDT: 4B DATED: 03/08/2012

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

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
ILS STANDARD INSTRUMENT APPROACH PROCEDURE
FLIGHT STANDARDS SERVICES - FAR PART 97.29

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.

```
        SUSAP KSEAK1GRW16L   0119011633 N47274966W122182790-0700    +0108800433000054150IISNQ3
                 1         2         3         4         5         6         7         8         9         0         1         2         3
ILS     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSEAK1IISNQ3   011030RW16LN47254227W1221829031633N47273894W1221833821008 10890311300E01705400425
                 1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSEAK1SSEA  K1D                 0   070180034251803400642534007002225                                                  M
```

QUALITY CHECKED

CITY AND STATE	ELEVATION: 433 THRE: 433	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
SEATTLE, WA	AIRPORT NAME: SEATTLE-TACOMA INTL	I-SNQ	ILS OR LOC RWY 16L, AMDT 5 ILS RWY 16L (SA CAT I), ILS RWY 16L (CAT II), ILS RWY 16L (CAT III)	AMDT: 4B DATED: 03/08/2012

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

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

ILS STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.29**

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 - ILS

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				AA 04000	
	GRIFY	KARFO	030		CF		FB		163.3()	002.5	AA 03200	
	PAE	PAE	010		IF		FB					
	PAE	KENMO	020	IAF	TF		FB				AA 05000	
	PAE	HELZR	030		TF		FB				AA 04000	
	PAE	KARFO	040		CF		FB		163.3()	002.5	AA 03200	
		KARFO	010	FACF	IF		FB				AA 03200 GI 01900	
		DGLAS	020	FAF	CF		FB		163.0()	004.1	GI 01900 GS 01900	
		RW16L	030	MAP	CF		FO		163.0()	004.4	AT 00486	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		VA		FB		165.0()		AA 00900	
	TEBNE	050		CF		FB		160.7()	004.0	AB 02000	
	MILLT	060		TF		FO				AA 05000	
	MILLT	070		HM	R	FO		340.7()	T01.0	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
	SEA	N472607.34	W1221834.62	N4726.122	W12218.577
	ISNQ (DME)	N472603.60	W1221822.68	N4726.060	W12218.378
	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
	TEBNE	N472343.44	W1221833.38	N4723.724	W12218.556
	RW16L	N472749.66	W1221827.90	N4727.828	W12218.465
	ISNQ (LOC)	N472542.27	W1221829.03	N4725.705	W12218.484

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:
SEATTLE, WA	AIRPORT NAME: **SEATTLE-TACOMA INTL**	**I-SNQ**	**ILS OR LOC RWY 16L, AMDT 5** **ILS RWY 16L (SA CAT I), ILS RWY 16L (CAT II), ILS RWY 16L (CAT III)**	AMDT: **4B** DATED: **03/08/2012**

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

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.

ARINC PACKET - 424-18 - LOC

```
                1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ----------------------------------------------------------------------------------------------------------------------------
        SUSAD        PAE   K1011060VDLW N47551140W122164020    N47551210W122164180E0200006741     NARPAINE
        SUSAD        SEA   K1011680VTHW N47260734W122183462    N47260851W122183597E0190003542     NARSEATTLE
        SUSAD KSEAK1 ISNQ  K1011030 IT                    ISNQN47260360W122182268     003690     NARSEATTLE-TACOMA INTL

                1         2         3         4         5         6         7         8         9         0         1         2         3
WP      12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ----------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   DGLAS K10    C     N47321590W122182557                    E0165     NAR          DGLAS
        SUSAEAENRT   GRIFY K10    W     N47443841W122225233                    E0165     NAR          GRIFY
        SUSAEAENRT   HELZR K10    C     N47385130W122182209                    E0165     NAR          HELZR
        SUSAEAENRT   KARFO K10    C     N47362068W122182342                    E0165     NAR          KARFO
        SUSAEAENRT   KENMO K10    C     N47415957W122182043                    E0165     NAR          KENMO
        SUSAEAENRT   MILLT K10    C     N47150775W122182881                    E0164     NAR          MILLT
        SUSAEAENRT   TEBNE K10    R     N47234344W122183338                    E0164     NAR          TEBNE

                1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ----------------------------------------------------------------------------------------------------------------------------
        SUSAP KSEAK1ASEA     0     119YHN47265960W122184240E017000433         1800018000C    MNAR    SEATTLE-TACOMA INTL

                1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ----------------------------------------------------------------------------------------------------------------------------
        SUSAP KSEAK1FL16L  AGRIFY 010GRIFYK1EA0E  A    IF                                  + 06000     18000                0 NS
        SUSAP KSEAK1FL16L  AGRIFY 020HELZRK1EA0E  B    TF                                  + 04000                          0 NS
        SUSAP KSEAK1FL16L  AGRIFY 030KARFOK1EA0EE      CF ISNQK1      3433010616330025PI  + 03200                          0 NS
        SUSAP KSEAK1FL16L  APAE   010PAE  K1D 0V       IF                                              18000                0 NS
        SUSAP KSEAK1FL16L  APAE   020KENMOK1EA0E  A    TF                                  + 05000                          0 NS
        SUSAP KSEAK1FL16L  APAE   030HELZRK1EA0E  B    TF                                  + 04000                          0 NS
        SUSAP KSEAK1FL16L  APAE   040KARFOK1EA0EE      CF ISNQK1      3433010616330025PI  + 03200                          0 NS
        SUSAP KSEAK1FL16L  L      010KARFOK1EA0E  I    IF ISNQK1      34330106        PI  + 03200     18000                0 NS
        SUSAP KSEAK1FL16L  L      020DGLASK1EA0E  F    CF ISNQK1      3433006616300041PI  + 01900                SEA   K1D 0 NS
        SUSAP KSEAK1FL16L  L      030RW16LK1PG0GY M    CF ISNQK1      3433002116300044PI    00486            -301             0 NS
        SUSAP KSEAK1FL16L  L      040         0  M     VA                      1650        + 00900                          0 NS
        SUSAP KSEAK1FL16L  L      050TEBNEK1EA0E       CF SEA K1      1607002416070040D   - 02000                          0 NS
        SUSAP KSEAK1FL16L  L      060MILLTK1EA0EY      TF                                  + 05000                          0 NS
        SUSAP KSEAK1FL16L  L      070MILLTK1EA0EE  R   HM                        3407T010  + 05000                          0 NS

                1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ----------------------------------------------------------------------------------------------------------------------------
```

CITY AND STATE	ELEVATION: 433 THRE: 433	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
SEATTLE, WA	AIRPORT NAME: **SEATTLE-TACOMA INTL**	**I-SNQ**	**ILS OR LOC RWY 16L, AMDT 5** **ILS RWY 16L (SA CAT I), ILS RWY 16L (CAT II), ILS RWY 16L (CAT III)**	AMDT: **4B** DATED: **03/08/2012**

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

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.

```
        SUSAP KSEAK1GRW16L   0119011633 N47274966W122182790-0700    +0108800433000054150IISNQ3
                 1         2         3         4         5         6         7         8         9         0         1         2         3
ILS     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        SUSAP KSEAK1IISNQ3   011030RW16LN47254227W1221829031633N47273894W1221833821008 10890311300E01705400425
                 1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        SUSAP KSEAK1SSEA  K1D                 0   070180034251803400642534007002225                                                  M
```

CITY AND STATE	ELEVATION: 433 THRE: 433	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
SEATTLE, WA	AIRPORT NAME: SEATTLE-TACOMA INTL	I-SNQ	ILS OR LOC RWY 16L, AMDT 5 ILS RWY 16L (SA CAT I), ILS RWY 16L (CAT II), ILS RWY 16L (CAT III)	AMDT: 4B DATED: 03/08/2012

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

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

LOC STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.25**

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 - LOC

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				AA 04000	
	GRIFY	KARFO	030		CF		FB		163.3()	002.5	AA 03200	
	PAE	PAE	010		IF		FB					
	PAE	KENMO	020	IAF	TF		FB				AA 05000	
	PAE	HELZR	030		TF		FB				AA 04000	
	PAE	KARFO	040		CF		FB		163.3()	002.5	AA 03200	
		KARFO	010	FACF	IF		FB				AA 03200	
		DGLAS	020	FAF	CF		FB		163.0()	004.1	AA 01900	
		RW16L	030	MAP	CF		FO		163.0()	004.4	AT 00486	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		VA		FB		165.0()		AA 00900	
	TEBNE	050		CF		FB		160.7()	004.0	AB 02000	
	MILLT	060		TF		FO				AA 05000	
	MILLT	070		HM	R	FO		340.7()	T01.0	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
	SEA	N472607.34	W1221834.62	N4726.122	W12218.577
	ISNQ (DME)	N472603.60	W1221822.68	N4726.060	W12218.378
	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
	TEBNE	N472343.44	W1221833.38	N4723.724	W12218.556
	RW16L	N472749.66	W1221827.90	N4727.828	W12218.465
	ISNQ (LOC)	N472542.27	W1221829.03	N4725.705	W12218.484

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW16L	00433	54

CITY AND STATE	ELEVATION: 433 THRE: 433	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
SEATTLE, WA	AIRPORT NAME: **SEATTLE-TACOMA INTL**	**I-SNQ**	**ILS OR LOC RWY 16L, AMDT 5** **ILS RWY 16L (SA CAT I), ILS RWY 16L (CAT II), ILS RWY 16L (CAT III)**	AMDT: **4B** DATED: **03/08/2012**

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

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/I-SNQ	1. TOWER (53-000084)	474605.00N/1222110.00W	920 (1D)	1000	DG3080	5000
		15.94 DME/RADAR	2. TERRAIN	475138.00N/1221657.00W	635 (600)		AS1500	2100
INITIAL	KENMO/I-SNQ	HELZR/I-SNQ	3. AAO	474142.00N/1221909.00W	683 (4E)	1000	DG2317	4000
	15.94 DME/RADAR	12.80 DME/RADAR	4. TERRAIN	474142.00N/1221909.00W	483 (500)		AS1500	2000
INITIAL	GRIFY	HELZR	5. TOWER (53-000053)	473755.00N/1222114.00W	1015 (2A)	1000	DG1985	4000
			6. TERRAIN	474427.00N/1222133.00W	548 (500)		AS1500	2000
INTERMEDIATE	HELZR/I-SNQ	KARFO/I-SNQ	7. TOWER (53-000500)	473656.35N/1221830.45W	1092 (4D)	500	DG1608	3200
	12.80 DME/RADAR	10.29 DME/RADAR	8. TERRAIN	473757.00N/1222115.00W	466 (500)		AS1500	2000
INTERMEDIATE:	KARFO/I-SNQ	DGLAS/I-SNQ 6.21	9. BLDG (53-000455)	473616.80N/1221951.08W	1075 (1A)	500		1600
STEPDOWN	10.29 DME/RADAR	DME/RADAR	10. TERRAIN	473357.00N/1221824.00W	365 (400)		AS1500	1900
FINAL: ILS	DGLAS/I-SNQ 6.21	RW16L				ASC	MA63	696/263
	DME/RADAR					ASC	XP0	633/200
FINAL: LOC	DGLAS/I-SNQ 6.21	4.44 MILES AFTER	11. TREE (KSEAC019)	472835.87N/1221818.26W	514 (1A)	250	MA92	880
	DME/RADAR	DGLAS/SNQ 6.21						
		DME/RADAR OR AT						
		I-SNQ 1.77 DME						
		FIX						
2. PROCEDURE TURN	NA							
3. MISSED APPROACH MAP:	DA / 4.44 MILES	MILLT INT/SEA	12. CTWR (53-001394)	472720.55N/1221805.18W	696 (1A)	ASC		5000
	AFTER DGLAS/SNQ	11.00 DME/RADAR	13. TOWER (53-000694)	471813.81N/1222347.84W	955 (4D)	1000		2000
ELEV:	501/466/630		14. TERRAIN	471509.00N/1221236.00W	598 (600)		AS1500	2100

4. CIRCLING AREA	DISTANCE	REQUIRED	ACTUAL						
CATEGORY A	1.3 NM	350	567	12. CTWR (53-001394)	472720.55N/1221805.18W	696 (1A)	300		1000
CATEGORY B	1.5 NM	450	567	12. CTWR (53-001394)	472720.55N/1221805.18W	696 (1A)	300		1000
CATEGORY C	1.7 NM	450	567	12. CTWR (53-001394)	472720.55N/1221805.18W	696 (1A)	300		1000
CATEGORY D	2.3 NM	550	567	12. CTWR (53-001394)	472720.55N/1221805.18W	696 (1A)	300		1000
CATEGORY E	4.5 NM	550							

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: **SEA VORTAC**

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
360-160	AAO	074/ 28.1	5362 (2A)	6400	250-360	TWR (53-000358)	270/ 21.4	2395 (5E)	3400
160-250	AAO	160/ 24.4	1172 (4E)	2200					

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
SEATTLE, WA	ELEVATION: 433 AIRPORT NAME: SEATTLE-TACOMA INTL	I-SNQ	ILS OR LOC RWY 16L, AMDT 5 ILS RWY 16L (SA CAT I), ILS RWY 16L (CAT II), ILS RWY 16L (CAT III)	ANM

PART B - SUPPLEMENTAL DATA

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

4. MONITOR STATUS

PRIMARY NAVAID: I-SNQ

MONITOR POINT: ATCT

HRS OPTN: CAT 1: 24; 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

DISTANCE FROM RWY: 1089

ELEV RWY THRESHOLD: 432.5

ELEV GP ANTENNA: 430.8

THRESHOLD CROSSING HEIGHT: 53.6

9. FINAL APPROACH COURSE AIMING

X	RUNWAY THRESHOLD	FT. FROM THRESHOLD
X	ON CENTERLINE	FT. FROM CENTERLINE

10. WAIVERS: 3

ORDER 8260.3B, VOLUME 1, PARAGRAPH 274; WIITHIN THE PRIMARY MISSED APPROACH AREA, NO OBSTACLE SHALL PENETRATE THE MISSED APPROACH SURFACE.

ORDER 8260.3B, VOLUME 3, PARAGRAPH 6.5; THE CAT I PROCEDURE MUST SUPPORT A 200-FT HATH. PARA 7.2: PUBLISH THE LOWEST AUTHORIZED CAT III RVR WHEN THE RUNWAY SUPPORTS UNRESTRICTED CAT II OPERATIONS.

ORDER 8260.3B, VOLUME 1, PARAGRAPH 274; USE OF AN "AT OR BELOW" ALTITUDE IN MISSED APPROACH.

PART D - PREPARED BY:	DATE:
MARK D. ADAMS	11/02/2012
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AJV-354

PART C - REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

KSEA ASOS ON SERVICE A / 24 HRS.

BACKUP ALTIMETER NOT REQUIRED DUE TO REDUNDANT LOCAL SOURCES.

VGSI DATA: 3.00 / 79.4

VEGETATION HEIGHT 100 FT PER CHECKLIST.

INITIAL, INTERMEDIATE, AND INTERMEDIATE STEPDOWN FIX ALTITUDES AND LOCATIONS PER ATC REQUEST FOR SEPARATION AND AIRSPACE PURPOSES.

USED 8260.54A L-V PFAF FORMULA TO ESTABLISH LOCATIONS OF FIXES ON LOCALIZER COURSE; PUBLISHED RNAV PROCEDURES TO RWY 16L SHARE THESE FIXES.

CONTROLLING OBSTRUCTIONS AND TERRAIN THE SAME FOR ALL INTERMEDIATE SEGMENTS.

GRIFY PROCEDURE ENTRY CONNECTS TO MARNR (RNAV) STAR.

XP=MISS ADJ NOT APPLIED TO CATS B/C/D DUE TO WAIVER.

HMAS IS IN THE ORDER OF ILS CAT A / ILS CATS B,C,D / LOC.

WAIVER: FAAO 8260.3B VOL 1 PARA 274 WIITHIN THE PRIMARY MISSED APPROACH AREA, NO OBSTACLE SHALL PENETRATE THE MISSED APPROACH SURFACE.

WAIVER: FAAO 8260.3B VOL 3 PARA 6.5 APP 1 THE CAT I PROCEDURE MUST SUPPORT A 200-FT HATH. PARA 7.2: PUBLISH THE LOWEST AUTHORIZED CAT III RVR WHEN THE RUNWAY SUPPORTS UNRESTRICTED CAT II OPERATIONS.

WAIVER: FAAO 8260.3B VOL 1 PARA 274 USE OF AN "AT OR BELOW" ALTITUDE IN MISSED APPROACH.

NO ADDITIONAL AIRSPACE REQUIRED.

MISSED APPROACH OBSTACLES CONT.
ALTERNATE:
12. CTWR (53-001394) (53-001394) 472720.55N/1221805.18W 696 ASC 5000
13. TOWER (53-000694) 471813.81N/1222347.84W 955 (4D) 1000 2000
15. TERRAIN 471815.00N/1222442.00W 539 (500) AS1500 2000

QUALITY 4 CHECKED

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
FINAL: ILS CAT II	**DGLAS/I-SNQ 6.21**	**RW16L**				**ASC**		**533/100**
	DME/RADAR							
FINAL: ILS SA CAT I	**DGLAS/I-SNQ 6.21**	**RW16L**				**ASC**		**583/150**
	DME/RADAR							
3. MISSED APPROACH MAP:								
ELEV:								

4. CIRCLING AREA	DISTANCE		HT. ABV. ARPT.		
CATEGORY A	1.3 NM	REQUIRED	350	ACTUAL	
CATEGORY B	1.5 NM		450		
CATEGORY C	1.7 NM		450		
CATEGORY D	2.3 NM		550		
CATEGORY E	4.5 NM		550		

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID:

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A

SEATTLE, WA 4 CHECKED

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
SEATTLE, WA	**ELEVATION: 433** AIRPORT NAME: **SEATTLE-TACOMA INTL**	**I-SNQ**	**ILS OR LOC RWY 16L, AMDT 5 ILS RWY 16L (SA CAT I), ILS RWY 16L (CAT II) ILS RWY 16L (CAT III)**	**ANM**

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE		3. ALTIMETER SETTING
	☐ NWS	OTHER:	SOURCE:
	☐ FAA		DISTANCE:
SATISFACTORY ON:	☐ A/C		HOURS REMOTE OPERATION:
☐ VHF ☐ UHF ☐ HF	LOCATION:		ADJUSTMENT:

4. MONITOR STATUS	PRIMARY NAVAID:	
	MONITOR POINT:	
	HRS OPTN: CAT 1	
	HRS OPTN: CAT 3	

5. APPROACH & RUNWAY LIGHTING	
☐	ALS
☐	(S) SALS
☐	MALS
☐	HIRL
☐	MIRL
☐	REIL
☐	TDZ
☐	C/LINE
☐	OTHER (SPECIFY)

6. RUNWAY MARKINGS	BASIC	
	ALL WEATHER	
	INSTRUMENT	
7. RUNWAY VISUAL RANGE	APPROACH	
	MIDFIELD	
	ROLL OUT	
8. GLIDE PATH	GP ANGLE:	ELEV RWY THRESHOLD:
	DISTANCE FROM RWY:	ELEV GP ANTENNA:
		THRESHOLD CROSSING HEIGHT:

9. FINAL APPROACH COURSE AIMING			
	☐	RUNWAY THRESHOLD	FT. FROM THRESHOLD
	☐	ON CENTERLINE	FT. FROM CENTERLINE

10. WAIVERS:

PART D - PREPARED BY:	DATE:
TITLE:	OFFICE:

PART C - REMARKS:

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:

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:

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:

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:

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	DIST FROM FAC 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:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: MCCHORD VORTAC **STATE:** WA **COUNTRY:** US

LATITUDE/LONGITUDE: 470851.60N/1222830.10W **TYPE:**

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FAC FEET	MRA	MAA
1	MCCHORD	TCM	VORTAC	T							20000

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	E	TCM	VORTAC	074.00	254.00	R	1		5000	10000	5	9

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	470645.00N/1221457.00W	847	4E
1	310	AAO	470242.00N/1220745.00W	2146	4E

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	ILS OR LOC RWY 16C (ALT MISS)	KSEA	SEATTLE	WA (US)
1	ILS RWY 16C (SA CAT I, CAT II/III) (ALT MISS)	KSEA	SEATTLE	WA (US)
1	ILS RWY 16L (SA CAT I, CAT II/III) (ALT MISS)	KSEA	SEATTLE	WA (US)
1	ILS OR LOC RWY 16R (ALT MISS)	KSEA	SEATTLE	WA (US)
1	ILS RWY 16R (SA CAT I, CAT II/III) (ALT MISS)	KSEA	SEATTLE	WA (US)
1	ILS OR LOC RWY 16L (ALT MISS)	KSEA	SEATTLE	WA (US)

REMARKS:
USED TEMPLATE #13 TO EVALUATE C-I-H.
PRIOR COORDINATION REQUIRED WITH SEA APP FOR HOLDING OVER R-6703A/B/C/D.
PRECIPITOUS TERRAIN EVAL COMPLETE.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	AUBURN			KS50	AUBURN	WA (US)
DP	PAINE			KPAE	EVERETT	WA (US)
DP	YELM			KOLM	OLYMPIA	WA (US)
DP	KENT			KBFI	SEATTLE	WA (US)
DP	ALDER			KTCM	TACOMA	WA (US)
DP	OLYMPIC			KTCM	TACOMA	WA (US)
DP	NARROWS			KTIW	TACOMA	WA (US)
IAP	GPS RWY 34			KPLU	PUYALLUP	WA (US)
IAP	NDB RWY 16			KRNT	RENTON	WA (US)
IAP	ILS RWY 13R			KBFI	SEATTLE	WA (US)
IAP	LOC/DME RWY 13R			KBFI	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16C (ALT MISS)		1	KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16L (ALT MISS)		1	KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16R (ALT MISS)		1	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16C (SA CAT I, CAT II/III) (ALT MISS)		1	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16L (SA CAT I, CAT II/III) (ALT MISS)		1	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16R (SA CAT I, CAT II/III) (ALT MISS)		1	KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16			KTCM	TACOMA	WA (US)
IAP	ILS Y RWY 34			KTCM	TACOMA	WA (US)
IAP	ILS Y RWY 34 (CAT II)			KTCM	TACOMA	WA (US)
IAP	ILS Z RWY 34			KTCM	TACOMA	WA (US)
IAP	TACAN OR ILS X RWY 34			KTCM	TACOMA	WA (US)
IAP	TACAN RWY 16			KTCM	TACOMA	WA (US)
STAR	JAWBN			KSEA	SEATTLE	WA (US)
STAR	OLYMPIA			KSEA	SEATTLE	WA (US)
STAR	ARRIE			KTCM	TACOMA	WA (US)
STAR	JAWBN			KTCM	TACOMA	WA (US)
STAR	PUGET			KTCM	TACOMA	WA (US)
STAR	WHYTE			KTCM	TACOMA	WA (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 3 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
ADDED STAR TO CHART PUB.

DEVELOPED BY:	**DATE:** 08/30/2012	**OFFICE:** AJV-354	**NAME:** MARK ADAMS
APPROVED BY:	**DATE:**	**OFFICE:** AJV-354	**NAME:** DEZ SILAGYI
	SIGNATURE:		

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZSE
ATC FACILITY: SEA APP/DEP CON
OTHER: MCCHORD AFB ATC

QUALITY CHECKED

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.

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:

RADIO FIX AND HOLDING DATA RECORD

NAME: TEBNE **STATE:** WA **COUNTRY:** US

LATITUDE/LONGITUDE: 472343.44N/1221833.38W **TYPE:** 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	SEA	VORTAC	H	160.66	179.66	2.40	2.40		1100	2000

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	1		KSEA	SEATTLE	WA (US)
IAP	ILS OR LOC RWY 16L	1		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16C (SA CAT I/ CAT II/III)	1		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16L (SA CAT I / CAT II/III)	1		KSEA	SEATTLE	WA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

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

REASON FOR REVISION:
REMOVE FAC2 KSEA R34R.
ADD FAC1 DIST FROM FAC.
UPDATE FIX USE.

DEVELOPED BY: **DATE:** 11/07/2012 **OFFICE:** AJV-354 **NAME:** AMANDA ROBBINS

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

SIGNATURE:

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

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:** NO CHANGE

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	PAINE	PAE	VOR/DME	L							17500

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

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

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	AAO	475148.00N/1221706.00W	814	4E
1	310	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	KRNT	RENTON	WA (US)

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	ARLINGTON			KAWO	ARLINGTON	WA (US)
DP	KIENO			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		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 (SA CAT I, CAT II/III)			KSEA	SEATTLE	WA (US)
IAP	ILS RWY 16L (SA CAT I, CAT II/III)			KSEA	SEATTLE	WA (US)

IAP	ILS RWY 16R (SA CAT I, CAT II/III)		KSEA	SEATTLE	WA (US)
IAP	ILS RWY 34C (CAT II)	1	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 34L (CAT II)	1	KSEA	SEATTLE	WA (US)
IAP	ILS RWY 34R (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: 8 **DATE OF REVISION:** 05/02/2013

REASON FOR REVISION:
CHANGED HOLDING OBSTRUCTION FROM "200' AAO" TO "AAO"
REMOVED "NO ADJUSTMENT" FROM PR REMARK
UPDATED FIX USE

DEVELOPED BY: **DATE:** 11/06/2012 **OFFICE:** AJV-354 **NAME:** PETER GETZ (WES COMBS)

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: WST
ARTCC: ZSE
ATC FACILITY:
OTHER:

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
ILS RWY 16L (SA CAT I, CAT II / III)

2. Waiver Required and Applicable Standard:
Waiver Required: To provide Category II/III operations for category B, C, and D aircraft in spite of Category I operations being restricted.

Applicable Standard: Flight Standards Service (AFS-400) Memorandum, Interim Criteria for Precision Approach Obstacle Assessment and Category II/III Instrument Landing System (ILS) Requirements dated Aug 16, 2011, Appendix 1 (Vertically-Guided Approach Obstacle Assessment and Category II/III ILS Requirements), paragraphs 6.5 & 7.2.

Paragraph 6.5: "The CAT I procedure must support a 200-ft HATh and lowest possible visibility (no restrictions incurred by lack of infrastructure or obstacle surface penetrations)."

Paragraph 7.2: "When CAT II operations for a runway are restricted, CAT III minimums for the runway must be determined by collision risk analysis."

3. Reason for Waiver *(Justification for nonstandard treatment)*:
The Air Traffice Control Tower penetrates the Category I missed approach surface, raising the minimums 63 ft to a DA of 696 ft MSL and a 263 ft HATh. Category B, C, and D aircraft have been authorized to descend to 633 ft MSL, a 200 ft HATh, on a separate waiver.

This waiver is to promulgate the collision risk analysis required to allow category B, C, and D aircraft to conduct Category II & III operations.

4. Equivalent Level of Safety Provided:

1. Technical Report DOT-FAA-AFS-440-4, "Risk Analysis of RWY 16L Category I, II Instrument Landing System Missed Approach Operations with the new Seattle-Tacoma International Airport (KSEA) Control Tower", published by the FAA Flight Operations Simulation and Analysis Branch, AFS-440 in December 2004 (COPY ATTACHED) reports the risk of collision for Category B, C, or D aircraft with the control tower is less than the Target Level of Safety (1 X 10 8) for aircraft operating in Caegories B, C, and D. Therefore the risk is acceptable for these aircraft categories.

2. Category A aircraft will not be authorized to conduct Cat II or III operations.

3. In accordance with Technical Report DOT-FAA-AFS-440-4, the KSEA Air Traffic Control Tower will be charted as an obstacle on the approach chart.

5. How Relocation or Additional Facilities Will Affect Waiver Requirement:
Relocation or lowering of the KSEA Air Traffic Control Tower is not a viable option.

6. Coordination With User Organizations (Specify):
AJV-354:_____
AJV-351:_____

7. SUBMITTED BY

DATE:	Office Identification:	Title:	Signature:
10/11/2012	AJV-35	Gregory Yamamoto, Manager, Terminal Products Group.	

8. CONTINUATION
Comments:

9. AFS ACTION	☐ Approved ☐ Disapproved ☐ Not Required

Comments:

Date:	Routing Symbol:	Signature:

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
ILS OR LOC RWY 16L
ILS RWY 16L (SA CAT I, CAT II/III)

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 TEBNE and from TEBNE to the clearance limit. The At or Below altitude of 2000' MSL provides 1000' of ROC for aircraft who level off at 2000. From TEBNE to the clearance limit the OCS was evaluated beginning at 1000' MSL (2000' MSL less 1000' ROC) at TEBNE to simulate the first level surface portion of the missed approach.

5. How Relocation or Additional Facilities Will Affect Waiver Requirement:
RELOCATION OR ADDITIONAL FACILITIES WILL HAVE NO AFFECT ON WAIVER REQUIREMENT.

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.	

FAA FORM 8260 - 1 / July 2003 (computer generated)

8. CONTINUATION

Comments:

9. AFS ACTION

- ☐ Approved
- ☐ Disapproved
- ☐ Not Required

Comments:

Date:	Routing Symbol:	Signature: