Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 01/17/2012	Task #: 2012011725094201002	Request #: 20120117250942
Procedure: RNAV (GPS) RWY 31 AMDT 0A		Airport ID: KHIO	Airport: PORTLAND-HILLSBORO		Reimbursable #:
City: PORTLAND	ST: OR	GPS #:		Estimated Chart Date: 11/15/2012	FICO #:
Fac ID: HIO	Fac. Type: LPV Proc-5	Specialist: VICTOR BOONE			

Procedure Review

P2

	Rec'd	Rel'd	Full Name	Comments
Lead:	01/23/2012	07/27/2012	LONNIE EVERHART	
QA:	07/27/2012	07/30/2012	RICHELLE ADDINGTON	
Liaison:	07/30/2012		K. Spurlin	P2 - REQUEST TABLE TOP

Procedure Comments:

Remark Type: INFORMATION PKG 1 of 2

PORTLAND, OR PORTLAND-HILLSBORO (KHIO) RNAV (GPS) RWY 31, ORIG-A ENROUTE-NO FC BY 10/2/12 PUB 11/15/12

ATTACHED FORMS: 8260-3, 8260-9

REQUEST TABLETOP REVIEW FROM FLIGHT CHECK

CONTACT: ADOLFO URRUTIA/LONNIE EVERHART, AJV-354 LEADS, 405.954.2079/4576

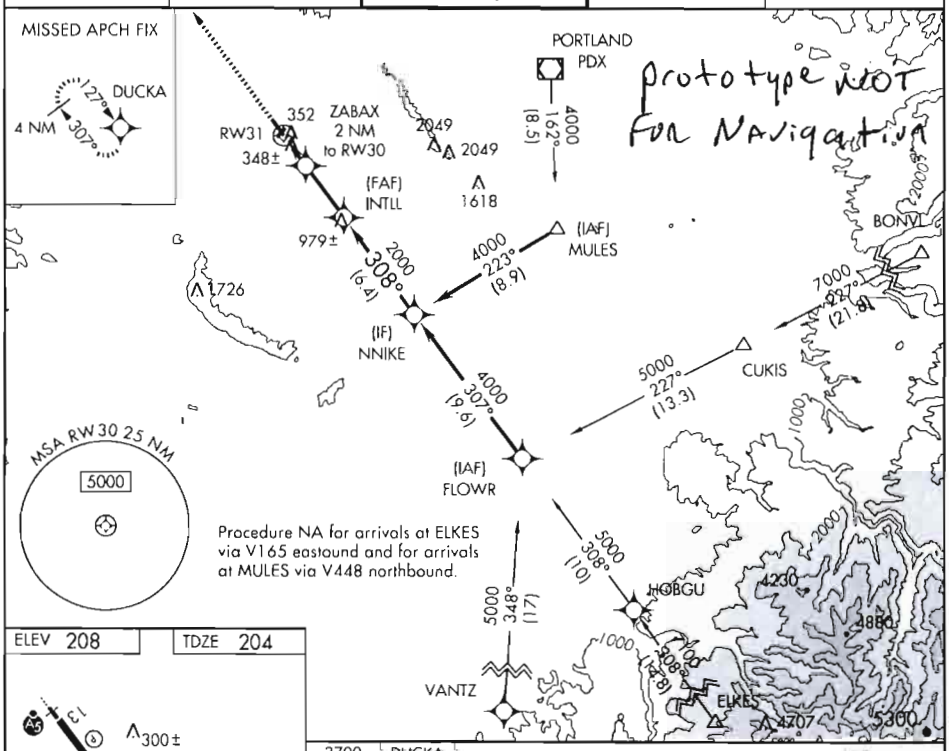
WAAS CH 69417 W30A	APP CRS 308°	Rwy ldg 6600 TDZE 204 Apt Elev 208

RNAV (GPS) RWY 31
PORTLAND-HILLSBORO (HIO)

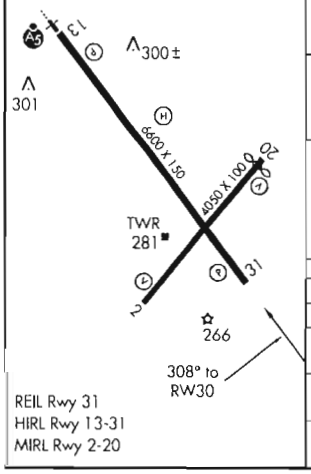
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 48°C (118°F). DME/DME RNP- 0.3 NA. Visibility reduction by helicopters NA. VDP and Baro-VNAV NA when using Portland Intl altimeter setting. When local altimeter setting not received, use Portland Intl altimeter setting and increase all DA and MDA 60 feet, increase LPV all Cats, LNAV/VNAV all Cats, and LNAV Cats C and D visibility ¼ mile.

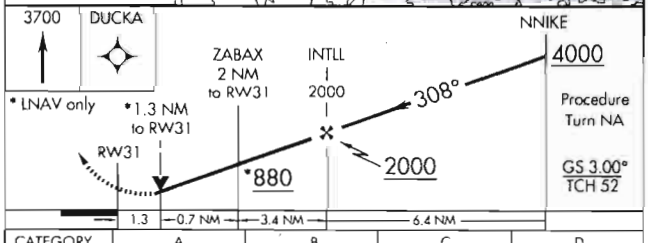
MISSED APPROACH: Climb to 3700 direct DUCKA and hold.

ATIS	PORTLAND APP CON	HILLSBORO TOWER*	GND CON	UNICOM
127.65	126.0 284.6	119.3 (CTAF) 239.3	121.7	122.95



ELEV 208	TDZE 204





CATEGORY	A	B	C	D
LPV DA	589-1¼ 385 (400-1¼)			
LNAV/VNAV DA	657-1½ 453 (500-1½)			
LNAV MDA	660-1 456 (500-1)		660-1¼ 456 (500-1¼)	660-1½ 456 (500-1½)
CIRCLING	680-1 472 (500-1)		680-1½ 472 (500-1½)	760-2 552 (600-2)

REIL Rwy 31
HIRL Rwy 13-31
MIRL Rwy 2-20

NW-1, 28 JUN 2012 to 26 JUL 2012

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
VANTZ	FLOWR (FB)	348.11 / 17.00	5000
ELKES	HOBGU (FB)	308.04 / 14.79	7100
HOBGU	FLOWR (FB)	307.90 / 10.00	5000
BONVL	CUKIS (FB)	227.37 / 21.76	7000
CUKIS	FLOWR (FB)	227.04 / 13.28	5000
PDX VOR/DME	MULES (FB)	161.88 / 8.45	4000
MULES (IAF)	NNIKE (FB)	222.92 / 8.87	4000
(SEE FORM 8260-10)			

MISSED APPROACH

LPV: DA
LNAV/VNAV: DA
LNAV: RW31

CLIMB TO 3700 DIRECT DUCKA AND HOLD.

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT NNIKE
3. FAC: 307.63 FAF: INTLL DIST FAF TO MAP: 5.41 THLD: 5.41
4. MIN. ALT: NNIKE 4000, INTLL 2000, ZABAX/2.00 NM TO RW31 880*
5. DIST TO THLD FROM OM: ____ MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 2000 GS ALT AT: INTLL 2000 OM: ____ MM: ____ IM: ____
7. GS ANGLE: 3.00 TCH: 52.0 34:1 IS NOT CLEAR
8. MSA FROM: RW31 5000

ADDITIONAL FLIGHT DATA:
HOLD NW, RT, 127.38 INBOUND.
CHART FAS OBST: 348 TREE 453120N/1225603W
CHART FAS OBST: 352 TOWER 453158N/1225605W
979 AAO 452719N/1225217W
DISTANCE TO THLD FROM 385 HAT: 1.06 NM.
CHART VDP AT 1.29 MILES TO RW31*
*LNAV ONLY.
WAAS CHANNEL # 69417
REFERENCE PATH ID: W31A
LTP HAE: 37.5 M

MAG VAR: 16E EPOCH YEAR: 2010

MINIMUMS

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT ALTERNATE: N A 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
LPV DA	589	1 1/4	385	589	1 1/4	385	589	1 1/4	385	589	1 1/4	385			
LNAV/VNAV DA	657	1 1/2	453	657	1 1/2	453	657	1 1/2	453	657	1 1/2	453			
LNAV MDA	660	1	456	660	1	456	660	1 1/4	456	660	1 1/2	456			
CIRCLING	680	1	472	680	1	472	680	1 1/2	472	760	2	552			

NOTES:
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -15C (5F) OR ABOVE 54C (130F).
CHART NOTE: DME/DME RNP-0.3 NA.
CHART NOTE: VISIBILITY REDUCTION BY HELICOPTERS NA.
*LNAV ONLY
(SEE FORM 8260-10)

@ NA WHEN LOCAL WEATHER NOT AVAILABLE.

CITY AND STATE	ELEVATION: 208 TDZE: 204	FACILITY IDENTIFIER:	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	SUP: RNAV (GPS) RWY 30
PORTLAND, OR	AIRPORT NAME: PORTLAND-HILLSBORO	RNAV	RNAV (GPS) RWY 31, ORIG-A	AMDT: ORIG
				DATED 06/03/2010

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] **ZSE, PDX APP CON, AMGR**

FLIGHT CHECKED BY		
NAME: **SCOTT ANDREW THOMPSON**	FIFO **AVN-200**	DATE: **03/31/2010**
DEVELOPED BY		
NAME: **VICTOR BOONE**	FIFO **AJV-354**	DATE: **07/17/2012**
APPROVED BY		
NAME: **DEZ SILAGYI** **MANAGER**	FIFO **AJV-354**	DATE:

CHANGES:

1. CHANGED PROCEDURE NAME FROM RNAV (GPS) RWY 30 TO RWY 31.
2. CHANGED ALL REFERENCES FROM RWY 12 TO RWY 13 AND UPDATED ARINC CODING.
3. CHANGED UNCOMPENSATED BARO-VNAV SYSTEMS NOTE FROM ABOVE 48C (118F) TO ABOVE 54C (130F).

REASONS:

1, 2. RUNWAY NUMBERING CHANGED FROM RWY 30 TO RWY 31.
3. PER MEMO DTD 30 MAY 2012.

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TERMINAL ROUTES, (CONT.):

FROM	TO	COURSE AND DISTANCE	ALTITUDE
FLOWR (IAF)	NNIKE (FB)	307.16 / 9.55	4000
NNIKE (IF)	INTLL (FB)	307.70 / 6.40	2000
INTLL (FAF)	ZABAX/2.00 NM TO RW31 (FB)	307.63 / 3.41	
ZABAX/2.00 NM TO RW31	RW31 (MAP) (FO)	307.60 / 2.00	
RW31 (MAP)	589 MSL	307.60	
589 MSL	DUCKA (FO)		3700

NOTES, (CONT.):
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT ELKES VIA V165 EASTBOUND AND FOR ARRIVALS AT MULES VIA V448 NORTHBOUND.
CHART NOTE: VDP AND BARO-VNAV NA WHEN USING PORTLAND INTL ALTIMETER SETTING.
CHART NOTE: WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE PORTLAND INTL ALTIMETER SETTING AND INCREASE ALL DA AND MDA 60 FEET, INCREASE LPV ALL CATS, LNAV/VNAV ALL CATS, AND LNAV CATS C AND D VISIBILITY 1/4 MILE.

QUALITY CHECKED

CITY AND STATE	ELEVATION: 208 TDZE: 204	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP: RNAV (GPS) RWY 30
PORTLAND, OR	AIRPORT NAME: PORTLAND-HILLSBORO	RNAV	RNAV (GPS) RWY 31, ORIG-A	AMDT: ORIG
				DATED: 06/03/2010

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:

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FAS DATA BLOCK INFORMATION

DATA FIELD	DATA
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KHIO
RUNWAY	RW31
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W31A
LTP/FTP LATITUDE	453206.1555N
LTP/FTP LONGITUDE	1225639.1625W
LTP/FTP ELLIPSOIDAL HEIGHT	+00375
FPAP LATITUDE	453317.8400N
FPAP LONGITUDE	1225754.4400W
THRESHOLD CROSSING HEIGHT (TCH)	00052.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0736
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	30BD342C

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K1
LTP ORTHOMETRIC HEIGHT	+00604
FPAP ORTHOMETRIC HEIGHT	+00604

QUALITY CHECKED

CITY AND STATE	ELEVATION: 208 TDZE: 204	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP: RNAV (GPS) RWY 30
PORTLAND, OR	AIRPORT NAME: PORTLAND-HILLSBORO	RNAV	RNAV (GPS) RWY 31, ORIG-A	AMDT: ORIG
				DATED: 06/03/2010

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

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ARINC PACKET - 424-18 - RNAV (GPS)

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAD        PDX   K1011180VDLW N45353730W122362257    N45353730W122362257E0200000231     NARPORTLAND

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   BONVL K10    C   L N45304802W121541432                      E0159     NAR           BONVL
        SUSAEAENRT   CUKIS K10    R   L N45205959W122214941                      E0159     NAR           CUKIS
        SUSAEAENRT   DUCKA K10    C     N45481275W123134009                      E0162     NAR           DUCKA
        SUSAEAENRT   ELKES K10    R   L N44545528W122175865                      E0158     NAR           ELKES
        SUSAEAENRT   FLOWR K10    W     N45145720W122383479                      E0159     NAR           FLOWR
        SUSAEAENRT   HOBGU K10    W     N45065279W122301438                      E0159     NAR           HOBGU
        SUSAEAENRT   INTLL K10    W     N45274473W122520516                      E0160     NAR           INTLL
        SUSAEAENRT   MULES K10    C   L N45271051W122355586                      E0160     NAR           MULES
        SUSAEAENRT   NNIKE K10    W     N45223544W122464215                      E0160     NAR           NNIKE
        SUSAEAENRT   VANTZ K10    C     N44575996W122401833                      E0159     NAR           VANTZ
        SUSAEAENRT   ZABAX K10    W     N45302960W122545786                      E0160     NAR           ZABAX

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KHIOK1AHIO     0     066YHN45322620W122570070E016000208         1800018000C    MNAR    PORTLAND-HILLSBORO

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KHIOK1FR31   ABONVL 010BONVLK1EA0E       IF                                                18000                A JS
        SUSAP KHIOK1FR31   ABONVL 020CUKISK1EA0E    020TF                     22740218                                          A JS
        SUSAP KHIOK1FR31   ABONVL 030FLOWRK1EA0E  A 020TF                     22700133    + 05000                               A JS
        SUSAP KHIOK1FR31   ABONVL 040NNIKEK1EA0EE B 010TF                     30720096    + 04000                               A JS
        SUSAP KHIOK1FR31   ACUKIS 010CUKISK1EA0E       IF                                                18000                A JS
        SUSAP KHIOK1FR31   ACUKIS 020FLOWRK1EA0E  A 020TF                     22700133    + 05000                               A JS
        SUSAP KHIOK1FR31   ACUKIS 030NNIKEK1EA0EE B 010TF                     30720096    + 04000                               A JS
        SUSAP KHIOK1FR31   AELKES 010ELKESK1EA0E       IF                                                18000                A JS
        SUSAP KHIOK1FR31   AELKES 020HOBGUK1EA0E    020TF                     30800148                                          A JS
        SUSAP KHIOK1FR31   AELKES 030FLOWRK1EA0E  A 020TF                     30790100    + 05000                               A JS
        SUSAP KHIOK1FR31   AELKES 040NNIKEK1EA0EE B 010TF                     30720096    + 04000                               A JS
        SUSAP KHIOK1FR31   APDX   010PDX  K1D 0V       IF                                                18000                A JS
        SUSAP KHIOK1FR31   APDX   020MULESK1EA0E  A 020TF                     16190085    + 04000                               A JS
        SUSAP KHIOK1FR31   APDX   030NNIKEK1EA0EE B 010TF                     22290089    + 04000                               A JS
        SUSAP KHIOK1FR31   AVANTZ 010VANTZK1EA0E       IF                                                18000                A JS
        SUSAP KHIOK1FR31   AVANTZ 020FLOWRK1EA0E  A 020TF                     34810170    + 05000                               A JS
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QUALITY CHECKED

CITY AND STATE	ELEVATION: 208 TDZE: 204	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP: RNAV (GPS) RWY 30
PORTLAND, OR	AIRPORT NAME: PORTLAND-HILLSBORO	RNAV	RNAV (GPS) RWY 31, ORIG-A	AMDT: ORIG
				DATED: 06/03/2010

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:

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SUSAP KHIOK1FR31   AVANTZ 030NNIKEK1EA0EE B 010TF                    30720096    + 04000                          A JS
SUSAP KHIOK1FR31   R      010NNIKEK1EA0E  I    IF                                + 04000     18000                A JS
SUSAP KHIOK1FR31   R      020INTLLK1EA1E  F 051TF                    30770064    + 02000                 RW31  K1PGA JS
SUSAP KHIOK1FR31   R      020INTLLK1EA2WALPV       ALNAV/VNAV ALNAV                                                JS
SUSAP KHIOK1FR31   R      021ZABAXK1EA0E S  031TF                    30760034    V 0088000891        -300         A JS
SUSAP KHIOK1FR31   R      030RW31 K1PG0GY M 031TF                    30760020      00250             -300         A JS
SUSAP KHIOK1FR31   R      040         0  M     CA                    3076        + 00589                          A JS
SUSAP KHIOK1FR31   R      050DUCKAK1EA0EY      DF                                + 03700                          A JS
SUSAP KHIOK1FR31   R      060DUCKAK1EA0EE  R   HM                    12740040    + 03700                          A JS
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                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY   123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         ------------------------------------------------------------------------------------------------------------------------------------
         SUSAP KHIOK1GRW31    0066003076 N45320616W122563916+0000    +0037500198000052150R
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                 1         2         3         4         5         6         7         8         9         0         1         2         3
PP       123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         ------------------------------------------------------------------------------------------------------------------------------------
         SUSAP KHIOK1PR31   RW31 001 0000W31A0N4532061555W12256391625+003750300N4533178400W12257544400106750736000520F40050030BD342C
         SUSAP KHIOK1PR31   RW31 002E      +00604+00604LPV       69417
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                 1         2         3         4         5         6         7         8         9         0         1         2         3
MSA      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         ------------------------------------------------------------------------------------------------------------------------------------
         SUSAP KHIOK1SRW31 K1PG                0   18018005025                                                                          M
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CITY AND STATE	ELEVATION: 208 TDZE: 204	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP: RNAV (GPS) RWY 30
PORTLAND, OR	AIRPORT NAME: PORTLAND-HILLSBORO	RNAV	RNAV (GPS) RWY 31, ORIG-A	AMDT: ORIG
				DATED: 06/03/2010

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:

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ARINC SUMMARY - 424-18 - RNAV (GPS)

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	BONVL	BONVL	010		IF		FB					
	BONVL	CUKIS	020		TF		FB	2.0	227.4(243.4T)	021.8		
	BONVL	FLOWR	030	IAF	TF		FB	2.0	227.0(243.0T)	013.3	AA 05000	
	BONVL	NNIKE	040		TF		FB	1.0	307.2(323.2T)	009.6	AA 04000	
	CUKIS	CUKIS	010		IF		FB					
	CUKIS	FLOWR	020	IAF	TF		FB	2.0	227.0(243.0T)	013.3	AA 05000	
	CUKIS	NNIKE	030		TF		FB	1.0	307.2(323.2T)	009.6	AA 04000	
	ELKES	ELKES	010		IF		FB					
	ELKES	HOBGU	020		TF		FB	2.0	308.0(324.0T)	014.8		
	ELKES	FLOWR	030	IAF	TF		FB	2.0	307.9(323.9T)	010.0	AA 05000	
	ELKES	NNIKE	040		TF		FB	1.0	307.2(323.2T)	009.6	AA 04000	
	PDX	PDX	010		IF		FB					
	PDX	MULES	020	IAF	TF		FB	2.0	161.9(177.9T)	008.5	AA 04000	
	PDX	NNIKE	030		TF		FB	1.0	222.9(238.9T)	008.9	AA 04000	
	VANTZ	VANTZ	010		IF		FB					
	VANTZ	FLOWR	020	IAF	TF		FB	2.0	348.1(004.1T)	017.0	AA 05000	
	VANTZ	NNIKE	030		TF		FB	1.0	307.2(323.2T)	009.6	AA 04000	
		NNIKE	010	FACF	IF		FB				AA 04000	
		INTLL	020	FAF	TF		FB	0.5	307.7(323.7T)	006.4	AA 02000	
		ZABAX	021	SDF	TF		FB	0.3	307.6(323.6T)	003.4	AA 00880 GS 00891	
		RW31	030	MAP	TF		FO	0.3	307.6(323.6T)	002.0	AT 00250	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		307.6(323.6T)		AA 00589	
	DUCKA	050		DF		FO				AA 03700	
	DUCKA	060		HM	R	FO		127.4(143.4T)	004.0	AA 03700	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	PDX	N453537.30	W1223622.57	N4535.622	W12236.376
	BONVL	N453048.02	W1215414.32	N4530.800	W12154.239
	CUKIS	N452059.59	W1222149.41	N4520.993	W12221.824
	DUCKA	N454812.75	W1231340.09	N4548.213	W12313.668
	ELKES	N445455.28	W1221758.65	N4454.921	W12217.978
	FLOWR	N451457.20	W1223834.79	N4514.953	W12238.580
	HOBGU	N450652.79	W1223014.38	N4506.880	W12230.240
	INTLL	N452744.73	W1225205.16	N4527.746	W12252.086
	MULES	N452710.51	W1223555.86	N4527.175	W12235.931
	NNIKE	N452235.44	W1224642.15	N4522.591	W12246.703
	VANTZ	N445759.96	W1224018.33	N4457.999	W12240.306
	ZABAX	N453029.60	W1225457.86	N4530.493	W12254.964

CITY AND STATE	ELEVATION: 208 TDZE: 204	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP: RNAV (GPS) RWY 30
PORTLAND, OR	AIRPORT NAME: PORTLAND-HILLSBORO	RNAV	RNAV (GPS) RWY 31, ORIG-A	AMDT: ORIG
				DATED: 06/03/2010

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.

RW31	N453206.16	W1225639.16	N4532.103	W12256.653

RUNWAY DATA

RWY	THRESHOLD ELEVATION	TCH
RW31	00198	52

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	VANTZ	FLOWR	1. AAO	455618.00N/1223521.00W	2412 (4E)	2000	AT588	5000
			2. TERRAIN	445806.00N/1223454.00W	2025 (2000)		AS1500	3500
FEEDER	ELKES	HOBGU	3. AAO	445630.50N/1221738.80W	5081 (6A)	2000		7100
			4. TERRAIN	445630.50N/1221738.80W	4881 (4900)		AS1500	6400
FEEDER	HOBGU	FLOWR	5. AAO	450712.00N/1222500.00W	1959 (4E)	2000	AT1041	5000
			6. TERRAIN	450751.00N/1222836.00W	1208 (1200)		AS1500	2700
FEEDER	BONVL	CUKIS	7. AAO	452957.00N/1215136.00W	4961 (4E)	2000		7000
			8. TERRAIN	452719.50N/1215713.10W	4261 (4300)		AS1500	5800
FEEDER	CUKIS	FLOWR	9. AAO	451448.00N/1222636.00W	1703 (4E)	2000	AT1297	5000
			10. TERRAIN	451448.00N/1222636.00W	1503 (1500)		AS1500	3000
FEEDER	PDX VOR/DME	MULES	11. TOWER (41-000042)	452710.00N/1223249.00W	1488 (4D)	2000	AT512	4000
			12. TERRAIN	452715.00N/1223306.00W	1168 (1200)		AS1500	2700
INITIAL	MULES	NNIKE	13. AAO	452615.00N/1224321.00W	1273 (4E)	1000	AT1727	4000
			14. TERRAIN	452615.00N/1224321.00W	1073 (1100)		AS1500	2600
2. PROCEDURE TURN	NA							
3. MISSED APPROACH MAP:	DA / DA / RW31	DUCKA	23. TREE (KHIOL061)	453127.28N/1225608.81W	337 (2C)	ASC	AC20	3700
			24. AAO	454425.30N/1230748.00W	2417 (6A)	1000		3500
ELEV:	339/369/410		25. TERRAIN	454425.30N/1230748.00W	2217 (2200)		AS1500	3700

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT. REQUIRED	HT. ABV. ARPT. ACTUAL							
CATEGORY A	1.3 NM	350	472	26. TREE (KHIO0051)	453352.81N/1225811.36W	363 (1A)	300		680
CATEGORY B	1.5 NM	450	472	26. TREE (KHIO0051)	453352.81N/1225811.36W	363 (1A)	300		680
CATEGORY C	1.7 NM	450	472	26. TREE (KHIO0051)	453352.81N/1225811.36W	363 (1A)	300		680
CATEGORY D	2.3 NM	550	552	26. TREE (KHIO0051)	453352.81N/1225811.36W	363 (1A)	300	HAA	760
CATEGORY E	4.5 NM	550							

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: RW31

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
360-360	AAO	271/ 26.5	3906 (6A)	5000					

CITY AND STATE	ELEVATION: 208 / AIRPORT NAME:	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
PORTLAND, OR	PORTLAND-HILLSBORO	RNAV	RNAV (GPS) RWY 31, ORIG-A	ANM

QUALITY CHECKED

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE			3. ALTIMETER SETTING
IO TOWER DX TRACON SE ARTCC		N W S	OTHER: ATIS	SOURCE: KHIO / KPDX
		F A A		DISTANCE: 0 / 15.17
		A / C		HOURS REMOTE OPERATION:
ATISFACTORY ON:				
: V H F X U H F H F	LOCATION: KHIO			ADJUSTMENT: 0 / 60

4. MONITOR STATUS	PRIMARY NAVAID:	
	MONITOR POINT:	
	HRS OPTN: CAT 1	
	HRS OPTN: CAT 3	
5. APPROACH & RUNWAY LIGHTING		ALS
		(S) SALS
	X	MALSR 13 (PCL)
	X	HIRL 31, 13
	X	MIRL 02, 20
	X	REIL 31
		TDZ
		C/LINE
	X	OTHER (SPECIFY) PAPI-4L 31, 13 VASI-4L 02, 20

6. RUNWAY MARKINGS	BASIC	BSC-F 02, 20
	ALL WEATHER	PIR-G 13
	INSTRUMENT	NPI-G 31
7. RUNWAY VISUAL RANGE	APPROACH	13
	MIDFIELD	
	ROLL OUT	

8. GLIDE PATH	GP ANGLE: 3.00	ELEV RWY THRESHOLD: 198.0
	DISTANCE FROM RWY:	ELEV GP ANTENNA:
		THRESHOLD CROSSING HEIGHT: 52.0

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

10. WAIVERS: NONE

PART D - PREPARED BY: VICTOR BOONE	DATE: 07/17/2012
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AJV-354

PART C - REMARKS:

PARA 251, 34:1 PENETRATION.

RASS PRESSURE PATTERNS SAME
KHIO 208, KPDX 31
RA=59.91
KHIO ASOS IS ON SERVICE A.
KPDX ASOS IS ON SERVICE A.
VGSI DATA 3.00/50
ISA DEVIATION -30

NO ADDITIONAL AIRSPACE REQUIRED.

TAA NOT DEVELOPED PER ATC REQUEST.

LPV SLOPE 34:1
LNAV/VNAV INNER SLOPE 23.4:1
LNAV/VNAV OUTER SLOPE 34:1

TERPS, VOLUME 1, "VISUAL PORTION OF FINAL" PENETRATIONS:
34:1
348 TREE (KHIOL067) 453120.20N-1225603.24W (1.11)
337 TREE (KHIOL061) 453127.28N-1225608.81W (14.00)
327 TREE (KHIOL060) 453134.55N-1225606.81W (18.94)
331 TREE (KHIOL059) 453135.27N-1225606.58W (24.38)
333 TREE (KHIOL058) 453135.56N-1225607.20W (27.84)
311 TREE (KHIOL057) 453138.67N-1225606.49W (12.41)
326 TREE (KHIOL056) 453135.24N-1225615.29W (30.13)
322 TREE (KHIOL055) 453135.03N-1225616.60W (27.25)
315 TREE (KHIOL054) 453738.50N-1225612.68W (23.70)
316 TREE (KHIOL053) 453138.73N-1225612.94W (25.57)
290 TREE (KHIOL051) 453144.87N-1225613.83W (15.39)
283 TREE (KHIOL050) 453144.03N-1225619.03W (12.84)
274 TREE (KHIOL048) 453149.39N-1225610.91W (6.60)
313 TREE (KHIO0039) 453134.50N-1225614.35W (14.19)
313 TREE (KHIO0037) 453134.55N-1225606.81W (4.94)
324 TREE (KHIO0035) 453139.89N-1225600.13W (20.44)

TERPS, VOLUME 1, "VISUAL PORTION OF FINAL" PENETRATIONS:
20:1 (RWY 2, FPO NOTIFIED)
311 TREE (KHIOL027) 453141.92N-1225727.03W (2.07)

NIGHT OPERATIONS TO RWY 2 NOT RESTRICTED PENDING AIRPORT NOTIFICATION OF 20:1 PENETRATIONS

INTERMEDIATE CONTROLLING OBSTACLE THE SAME FOR ALL FINAL TYPES.

QUALITY 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.
INITIAL	FLOWR	NNIKE	15. AAO	452039.00N/1224139.00W	1181 (4E)	1000	AT1819	4000
			16. TERRAIN	452039.00N/1224139.00W	981 (1000)		AS1500	2500
INTERMEDIATE	NNIKE	INTLL	17. AAO	452709.00N/1225145.00W	1165 (4E)	500	AC98	1800
			18. TERRAIN	452709.00N/1225145.00W	965 (1000)		AS1000	2000
FINAL: LPV	INTLL	RW31	19. TREE (KHIOL058)	453135.56N/1225607.20W	333 (1B)	34:1	AC10 MA70	589/385
FINAL: LNAV/VNAV	INTLL	RW31	20. TREE (KHIOL067)	453120.20N/1225603.24W	348 (2C)	23.4:1	AC20	657/453
FINAL: LNAV	INTLL	ZABAX/2.00 NM TO RW31	21. AAO	452754.09N/1225330.74W	499 (2C)	250	DG71 RA60	880
FINAL: LNAV STEPDOWN	ZABAX/2.00 NM TO RW31	RW31	22. TOWER (41-001074)	453157.92N/1225604.79W	352 (5D)	250	AC50	660

3. MISSED APPROACH	
MAP:	
ELEV:	

4. CIRCLING AREA	DISTANCE	REQUIRED HT. ABV. ARPT.	ACTUAL HT. ABV. ARPT.
CATEGORY A	1.3 NM	350	
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

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
PORTLAND, OR	ELEVATION: 208 AIRPORT NAME: PORTLAND-HILLSBORO	RNAV	RNAV (GPS) RWY 31, ORIG-A	ANM

QUALITY CHECKED

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE	3. ALTIMETER SETTING
ATISFACTORY ON:	N W S / F A A / A / C / OTHER:	SOURCE: / DISTANCE: / HOURS REMOTE OPERATION:
V H F / U H F / H F	LOCATION:	ADJUSTMENT:

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

QUALITY CHECKED