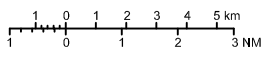
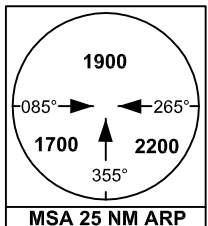
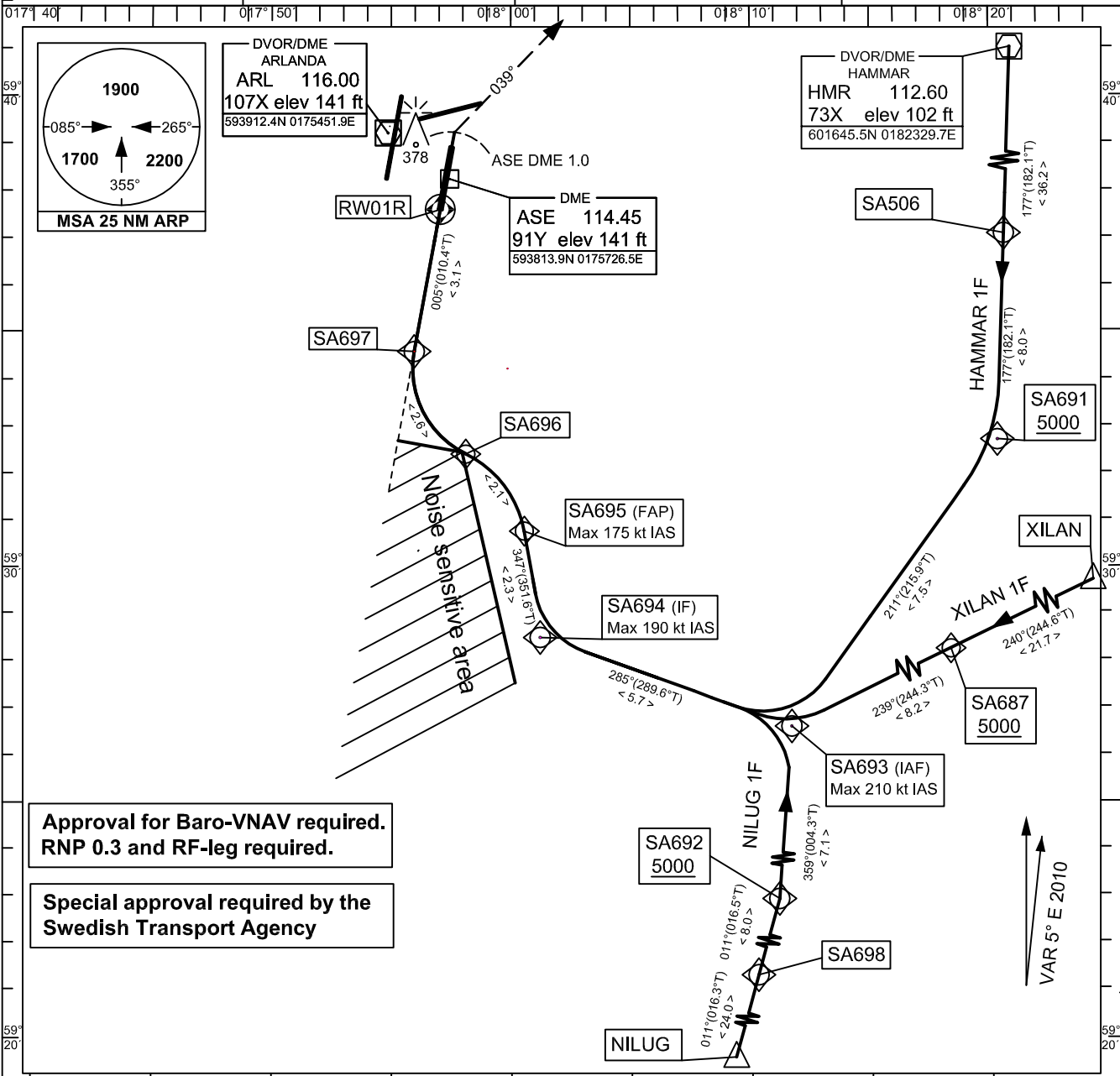
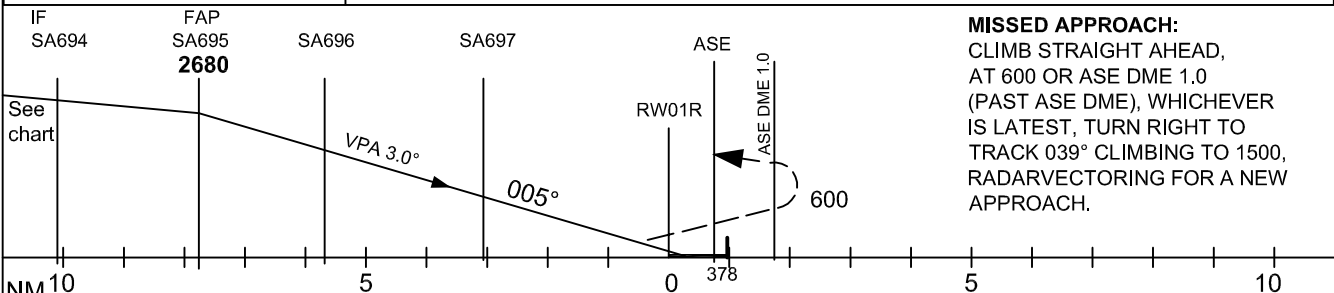


INSTRUMENT APPROACH CHART-ICAO 1:250 000 	THR ELEV 137 ft, AD ELEV 137 ft HGT are related to THR. BRG are MAG. ALT, HGT and ELEV in ft.	ARLANDA 118.500 TOWER 125.125 / 128.725 ATIS ARR 119.000 STOCKHOLM 123.750 CONTROL	AD 2-ESSA-5-9 RNAV (RNP) RWY 01R STOCKHOLM/ARLANDA SWEDEN
		MSA 25 NM ARP 	



TRANSITION ALTITUDE 5000 MSL | SPECIAL COM FAILURE PROCEDURES see ESSA AD 2.22 & COM FAILURE CHART AD2-ESSA 5-7



IF SA694	FAP SA695 2680	SA696	SA697	ASE	RW01R
See chart					
VPA 3.0°		005°		600	
NM 10 5 0 378 5 10					
OCA(H)	CAT C	CAT D			
RNP(0.3) LNAV/VNAV	600 (470)	600 (470)			
NA BELOW -25°C					

**RNP STAR HAMMAR 1F, NILUG 1F & XILAN 1F
RNAV(RNP) RWY 01R**
**STOCKHOLM/ARLANDA (ESSA)
RWY 01R**

Prescribed coding of RNP STAR HAMMAR 1F, NILUG 1F, XILAN 1F and RNP AR approach procedure to RWY 01R at STOCKHOLM/ARLANDA aerodrome.

RNP STAR HAMMAR 1F (HMR1F)	Path Term	To fix	Fly-over	Hdg/ Course	Turn Dir	Rest Alts	Max Speed Limit	Rec Nav	Vert Angle	Nav Perf.
	IF	HMR	-							RNP 1.0
	TF	SA506	-							RNP 1.0
	TF	SA691	-			+ 5000				RNP 1.0
	TF	SA693	-				210			RNP 1.0

WPT sequence: HMR – SA506 - SA691 (A5000+) – SA693 (K210-)

RNP STAR NILUG 1F (NILU1F)	Path Term	To fix	Fly-over	Hdg/ Course	Turn Dir	Rest Alts	Max Speed Limit	Rec Nav	Vert Angle	Nav Perf.
	IF	NILUG	-							RNP 1.0
	TF	SA698	-							RNP 1.0
	TF	SA692	-			+ 5000				RNP 1.0
	TF	SA693	-				210			RNP 1.0

WPT sequence: NILUG – SA698 - SA692 (A5000+) – SA693 (K210-)

RNP STAR XILAN 1F (XILA1F)	Path Term	To fix	Fly-over	Hdg/ Course	Turn Dir	Rest Alts	Max Speed Limit	Rec Nav	Vert Angle	Nav Perf.
	IF	XILAN	-							RNP 1.0
	TF	SA687	-			+ 5000				RNP 1.0
	TF	SA693	-				210			RNP 1.0

WPT sequence: XILAN – SA687 (A5000+) - SA693 (K210-)

Appr RNP/AR	Path Term	To fix	Fly-over	Hdg/ Course	Turn Dir	Rest Alts	Max Speed limit	ARC Radius	Vert Angle	Arc center	Nav Perf.
	IF	SA693	-				210				RNP 0.3
	TF	SA694	-				190				RNP 0.3
	TF	SA695	-			2680	175				RNP 0.3
	RF	SA696	-		L			2.300 NM	-3.00	ARC32	RNP 0.3
	RF	SA697	-		R			2.025 NM	-3.00	ARC42	RNP 0.3
	TF	RW01R	Y			188			-3.00		RNP 0.3

WPT sequence: SA693 (K210-) – SA694 (K190-) – SA695 (A2680, K175-) – SA696 - SA697 – RW01R

Remark: Following coding table replaces table above and is valid for Honeywell Pegasus FMS system only.

Appr RNP AR	Path Term	To fix	Fly-over	Hdg/ Course	Turn Dir	Rest Alts	Max Speed Limit	ARC Radius	Vert Angle	Arc center	Nav Perf.
	IF	SA693	-			+ 4350	210				RNP 0.3
	TF	SA694	-			+ 3000	190				RNP 0.3
	TF	SA695	-			2680	175				RNP 0.3
	RF	SA696	-		L	2000		2.300 NM	-3.00	ARC32	RNP 0.3
	RF	SA697	-		R	1170		2.025 NM	-3.00	ARC42	RNP 0.3
	TF	RW01R	Y			188			-3.00		RNP 0.3

WPT sequence: SA693 (A4350+, K210-) – SA694 (A3000+, K190-) – SA695 (A2680, K175-) – SA696 (A2000) - SA697(A1170) – RW01R

RNP STAR HAMMAR 1F, NILUG 1F and XILAN 1F and RNP AR (Authorization Required) approach procedure to RWY 01R at STOCKHOLM/ARLANDA aerodrome.

Note: This information must be included in Company Route Manuals.

GENERAL

The RNP AR procedure to RWY 01R is designed in order to minimize noise dispersion.

APPROVED USERS, EQUIPMENT AND OPERATIONS

1. The operator must have a Baro VNAV approval with an accuracy of RNP 0.3 by its Civil Aviation Authority. (Reference to AMC 20-27)
2. The operator must have a Special Authorization from the Swedish Civil Aviation Authority in order to use the RNP AR approach to RWY 01R. (Reference to AMC 20-26)
3. The RNP AR approach procedure requires a navigation accuracy of RNP 0.3 and RF-leg capability between SA695 – SA696 – SA697. The vertical guidance is based on Baro VNAV with GNSS and IRS and requires an RNAV equipment which uses barometric altimeter input.
4. The RNP STAR are based on the use of RNAV with RNP 1.0 and are designed to be used only in conjunction with the RNP AR procedure to RWY 01R.

CODING FOR HONEYWELL PEGASUS FMS

In order to adapt coding to Honeywell Pegasus FMS a special coding table is added which includes altitude information on all WPTs from IAF.

RAIM-CHECK

During flight planning the pilot shall perform a RAIM-check with mask angle 5°.

LIMITATIONS OF THE PROCEDURE

The procedure is designed for a temperature down to -25 degrees C. Temperature correction of the barometric altimeter is not required.

FMS/RNAV EQUIPMENT FAILURE

If the airborne FMS/RNAV equipment fails, ATS shall be informed as soon as practicable for radar vectors.

MISSED APPROACH PROCEDURE

The Missed Approach procedure is based on conventional navigation and is the same as Missed approach procedure for ILS 01R.

1. Missed approach, **before SA697**, continue the lateral navigation in accordance with the RNP AR procedure followed by Missed approach procedure.
2. Missed approach, **after SA697**, continue straight ahead followed by Missed approach procedure.
3. Missed approach and unable to follow lateral navigation due to FMS/RNAV equipment failure, inform ATS as soon as practicable for radar vectors.

COM FAILURE

In case of COM FAILURE, the SPECIAL COM FAILURE procedure to RWY 01R shall be used, see ESSA AD 2.22 and COM FAILURE chart AD2-ESSA 5-7.

CHARTED ALTITUDE/FLIGHT LEVEL

5000 "At or above" altitude/flight level

**Waypoint list (WGS84) for RNP STAR HAMMAR 1F, NILUG 1F and XILAN 1F
and RNP AR Approach to RWY 01R**

WPT	LAT	LONG
SA506	59 40 39.4 N	018 20 50.2 E
SA687	59 30 10.4 N	018 26 08.9 E
SA688	59 13 28.0 N	017 59 56.8 E
SA691	59 32 40.9 N	018 20 18.6 E
SA692	59 19 32.5 N	018 10 38.9 E
SA693	59 26 36.5 N	018 11 40.8 E
SA694	59 28 30.1 N	018 01 12.2 E
SA695	59 30 45.5 N	018 00 32.8 E
SA696	59 32 23.6 N	017 58 06.4 E
SA697	59 34 34.2 N	017 55 57.2 E
SA698	59 11 53.6 N	018 06 12.3 E
RW01R	59 37 35.03 N	017 57 02.67 E
NILUG	58 48 57.0 N	017 53 05.0 E
XILAN	59 39 33.5 N	019 04 33.8 E
ARC32	59 30 20.1 N	017 56 06.7 E
ARC42	59 34 12.2 N	017 59 52.1 E