

**ZSSS AD 2.1 机场地名代码和名称 Aerodrome location indicator and name**

ZSSS- 上海/虹桥 SHANGHAI/Hongqiao

**ZSSS AD 2.2 机场地理位置和管理资料 Aerodrome geographical and administrative data**

1	机场基准点坐标及其在机场的位置 ARP coordinates and site at AD	N31° 11.8' E121° 20.1' Center of RWY 18L/36R
2	方向、距离 Direction and distance from city	253° GEO, 13.3km from Renmin square
3	标高 / 参考气温 Elevation/Reference temperature	3m/ 32.8° C (JUL)
4	机场标高位置 / 高程异常 AD ELEV PSN/ geoid undulation	RWY 18L/36R center/ -
5	磁差 / 年变率 MAG VAR/Annual change	5° W(1999)/ 0'42"W(1970)
6	机场管理部门、地址、电话、传真、 AFS、电子邮箱、网址 AD administration, address, telephone, telefax, AFS, E-mail, website	Hongqiao International Airport Corporation of SAA (Shanghai Aerodrome Authority). Nr.300 of Konggang 1st Road, Shanghai, China. Post code: 200335. TEL: 86-21-22342063/22369728 E-mail:hqhzxywk@shairport.com AFS: ZSSSYDYX
7	允许飞行种类 Types of traffic permitted(IFR/VFR)	IFR/VFR
8	机场性质 / 飞行区指标 Military or civil airport & Reference code	Civil/4E
9	备注 Remarks	Nil

**ZSSS AD 2.3 工作时间 Operational hours**

1	机场当局 (机场开放时间) AD Administration (AD operational hours)	H24
2	海关和移民 Customs and immigration	HS or O/R
3	卫生健康部门 Health and sanitation	HS or O/R
4	航行情报服务讲解室 AIS Briefing Office	HS or O/R
5	空中交通服务报告室 ATS Reporting Office (ARO)	HS or O/R
6	气象讲解室 MET Briefing Office	HS or O/R
7	空中交通服务 ATS	HS or O/R
8	加油 Fuelling	HS or O/R
9	地勤服务 Handling	HS or O/R
10	保安 Security	HS or O/R
11	除冰 De-icing	HS or O/R
12	备注 Remarks	Nil

**ZSSS AD 2.4 地勤服务和设施 Handling services and facilities**

1	货物装卸设施 Cargo-handling facilities	Platform lift, fork-lift, Baggage transporter
2	燃油 / 滑油牌号 Fuel/oil types	Jet A-1/Nr.3 jet fuel
3	加油设施 / 能力 Fuelling facilities/capacity	Tank vehicles: 65000 liters and 47000 liters; hydrant dispensers: 63.3 liters/s and 58.3 liters/s; apron refueling well
4	除冰设施 De-icing facilities	De-icers, de-icing fluid
5	过站航空器机库 Hangar space for visiting aircraft	Small hangar: one A300 below; Big hangar: two B747-400 and two narrow body aircraft; China Eastern airlines hangar: two B747-400 and one narrow body aircraft; Business aircraft hangar Nr.1: one B737-300 and one Gulf V; Business aircraft hangar Nr.2: one B737-300 and one Gulf V.
6	过站航空器的维修设施 Repair facilities for visiting aircraft	Line maintenance for: A300-600, A319/320/321, A330-200/300, A340-300/600, ATR-72, B737-300/500/700/800, B757-200, B767-200/300, B777-200, MD-11F, MD-82, MD-90, B747-400F.
7	备注 Remarks	Oxygen and related service(oxygen-charging equipment, nondestructive testing capabilities)

**ZSSS AD 2.5 旅客设施 Passenger facilities**

1	宾馆 Hotels	At AD
2	餐馆 Restaurants	At AD
3	交通工具 Transportation	Passenger's coaches, taxis
4	医疗设施 Medical facilities	First-aid equipment, 6 ambulances and medical center at AD
5	银行和邮局 Bank and Post Office	At AD
6	旅行社 Tourist Office	At AD TEL: 86-21-68346452
7	备注 Remarks	Nil

**ZSSS AD 2.6 援救与消防服务 Rescue and fire fighting services**

1	机场消防等级 AD category for fire fighting	CAT 9
2	援救设备 Rescue equipment	Fire fighting facilities: rapid intervention vehicle, foam tender, water tank truck, illumination truck, command car, rescue car, patrol car Rescue equipments: uplift air cushion
3	搬移受损航空器的能力 Capability for removal of disabled aircraft	MTWA up to B747
4	备注 Remarks	Nil

**ZSSS AD 2.7 可用季节 - 扫雪 Seasonal availability-clearing**

1	扫雪设备类型 Types of clearing equipment	All seasons Snow blowers, ice spreading car, ramp snow vehicles
2	扫雪顺序 Clearance priorities	RWY , TWY, Apron be opened synchronously
3	备注 Remarks	Nil

**ZSSS AD 2.8 停机坪、滑行道及校正位置数据 Aprons, taxiways and check locations data**

1	停机坪道面和强度 Apron surface and strength	Surface:	Cement concrete
		Strength:	PCN 104/R/B/W/T(Apron Nr.4, Nr.6) PCN 96/R/B/W/T(Other stands of apron Nr.2) PCN 80/R/B/W/T (Apron G, H; stands Nr.112-114) PCN 78/R/B/W/T(Stands Nr.101,102,109-111) PCN 72/R/B/W/T (Apron I) PCN 71/R/B/W/T (Cargo apron) PCN 70/R/B/W/T(Stands Nr.218-225, 231-236, 261-266, 272-279 of apron Nr.2) PCN 67/R/B/W/T (Apron J, K) PCN 63/R/B/W/T (Stands Nr.313-342) PCN 58/R/B/W/T (Stands Nr.301-312)
2	滑行道宽度、道面和强度 Taxiway width, surface and strength	Width:	45 m: K1; 40 m: H7(east of TWY A); 35 m: K2, K4; 34 m: K6, K7; 32 m: K5; 28.5 m: A1, A2, A3, A4; 25 m: K0; 23 m: others.
		Surface:	Cement concrete
3	高度表校正点的位置及其标高 ACL location and elevation	Nil	
		Nil	
4	VOR/INS 校正点 VOR/INS checkpoints	Nil	
5	备注 Remarks	Aircraft ACN ≤ 63/R/B/W/T, when stands Nr.313-315 for CAT E.	

**ZSSS AD 2.9 地面活动引导和管制系统与标识  
Surface movement guidance and control system and markings**

1	航空器机位号码标记牌、滑行道引导线、航空器目视停靠 / 停放位置引导系统的使用 Use of aircraft stand ID signs, TWY guide lines and visual docking/parking guidance system of aircraft stands	Taxiing guidance signs at all intersections of TWY and RWY and at all holding positions. Guide lines at all aprons and TWYs. Aircraft stand identification sign boards at all stands (except stands Nr.323-337,339,512-514,517-519,604B,605,606). Visual docking Guidance System for aircraft stands at Nr.221-237,238A,239-275, instructions refer AD1.1. Visual docking Guidance System for aircraft stands at Nr.112, instructions refer AD2.24-2B, 2C, 2D, 2E,2F. Visual docking Guidance System for aircraft stands at Nr.101, 102, 109, 110, 111, 113-115,120,121,126,127,instructions refer AD2.24-2G, 2H, 2J, 2K, 2L. Marshaller guidance shall be used to parking stands Nr.301-342,401-413 ,501 ,502 ,504 ,506 ,508 ,510 ,511 -514 ,517 -525 , 601-603,604A,604B,605-608,212-220,276-290.

2	跑道和滑行道标志及灯光 RWY and TWY marking and LGT	RWY markings	Displaced THR, RWY designation, TDZ, centerline, center circle, edge line, aiming point
		RWY lights	Center line, edge line, THR, RWY end, THR wing bar(18L/36R, 18R/36L)
		TWY markings	Center line, enhanced TWY center line, edge line, intermediate holding position, RWY holding positions, TWY shoulder, NO ENTRY marking
		TWY lights	Edge line, center line(not available for H4(BTN TWY A&RWY36R/18L)), intermediate holding position, RWY guard lights, rapid exit taxiway indicator, No-entry lights
3	停止排灯 Stop bars	Nil	
4	备注 Remarks	RWY holding positions(Pattern B) established at both end of TWY A.	

**ZSSS AD 2.10 机场障碍物 Aerodrome obstacles**

Obstacles within a circle with a radius of 15km centered on RWY 18L/36R center					
序号 Serial Nr.	障碍物类型 (* 代表有灯光) Obstacle type (*Lighted)	磁方位 BRG (MAG)(degree)	距离 DIST(m)	海拔高度 Elevation(m)	影响的飞行程序及起飞航径区 Flight procedure/take-off flight path area affected
1	Antenna	001	2960	26.3	RWY 36L/R/ Take-off flight path
2	Light pole	002	3047	22.4	
3	TWR	002	5383	48.7	RWY 36L/R/ Take-off flight path
4	*Light	003	2937	22.1	RWY 36R/ Take-off flight path
5	TWR	004	2671	15.6	RWY 36R/ Take-off flight path
6	*BLDG	005	5846	46.0	
7	BLDG	006	3064	24.3	RWY 36R/ Take-off flight path
8	BLDG	006	7159	68.2	RWY 36L/ Take-off flight path
9	Antenna	007	1301	17	RWY 18L/ ILS/DME final approach
10	Light pole	007	3025	23.3	
11	BLDG	008	3592	33	
12	BLDG	009	6881	65	RWY 18L/R/ GP INOP
13	*BLDG	014	5808	55	
14	*TWR	021	2700	46	RWY 18L/ VOR/DME final approach
15	BLDG	024	5422	76	RWY 18L/ VOR/DME final approach
16	BLDG	030	4856	63	
17	BLDG	031	4331	57	
18	BLDG	034	5538	63	

Obstacles within a circle with a radius of 15km centered on RWY 18L/36R center					
序号 Serial Nr.	障碍物类型 (* 代表有灯光) Obstacle type (*Lighted)	磁方位 BRG (MAG)(degree)	距离 DIST(m)	海拔高度 Elevation(m)	影响的飞行程序及起飞航径区 Flight procedure/take-off flight path area affected
19	BLDG	041	6459	112	Minimum surveillance altitude sector
20	*BLDG	047	5583	103	
21	*BLDG	070	5539	114.0	
22	*BLDG	075	5689	122	
23	*BLDG	076	7684	265	Sector
24	*BLDG	077	11358	284	Minimum surveillance altitude sector
25	BLDG	077	13546	335	
26	BLDG	079	4258	99	
27	*BLDG	083	5810	145	
28	BLDG	086	5940	152.0	
29	BLDG	089	5640	148	
30	*New Control TWR	110	520	47	
31	*BLDG	119	5085	97	
32	*BLDG	121	892	52	
33	*BLDG	127	5792	125	
34	BLDG	128	14218	222.0	
35	*BLDG	139	5599	84	
36	*BLDG	139	3232	64	
37	TWR	144	1022	48	
38	BLDG	147	2056	52	
39	BLDG	150	1435	51	
40	*BLDG	160	1566	49.0	
41	BLDG	169	3319	52.0	RWY 36L/ VOR/DME final approach
42	BLDG	172	4860	44	
43	BLDG	175	4511	45	
44	Antenna	176	1301	17.7	RWY 36R/ ILS/DME final approach
45	BLDG	176	6530	64	RWY 36L/ GP INOP RWY 18L/ Take-off flight path
46	BLDG	178	3840	45	RWY 18L/ Take-off flight path
47	BLDG	178	4741	42	RWY 18L/ Take-off flight path
48	BLDG	180	2551	20.6	RWY 18L/ Take-off flight path
49	BLDG	180	3522	34	RWY 18L/ Take-off flight path
50	BLDG	182	4982	43	RWY 18R/ Take-off flight path

Obstacles within a circle with a radius of 15km centered on RWY 18L/36R center					
序号 Serial Nr.	障碍物类型 (* 代表有灯光 ) Obstacle type (*Lighted)	磁方位 BRG (MAG)(degree)	距离 DIST(m)	海拔高度 Elevation(m)	影响的飞行程序及起飞航径区 Flight procedure/take-off flight path area affected
51	BLDG	182	4438	47	RWY 18L/R/ Take-off flight path
52	Light pole	184	3011	18.8	
53	BLDG	184	3688	35.3	RWY 18L/R/ Take-off flight path
54	BLDG	184	4107	41.5	RWY 18R/ Take-off flight path
55	BLDG	184	6647	62.5	RWY 18L/R/ Take-off flight path
56	Pole	185	2969	18.9	
57	Light pole	185	2975	17.5	
58	Light pole	185	3048	21.1	
59	Light pole	186	3086	23.8	RWY 18L/R/ Take-off flight path
60	Light pole	187	3003	20.2	
61	Light pole	187	3088	22.2	
62	Light pole	188	2958	22.4	
63	Light pole	188	3060	23.8	RWY 18R/ Take-off flight path
64	*BLDG	188	3972	41	RWY 18R/ Take-off flight path
65	Light pole	189	2881	20.6	
66	Light pole	189	2952	20.1	
67	Pole	190	2842	22.1	RWY 18R/ Take-off flight path
68	BLDG	191	2752	23.5	RWY 18R/ Take-off flight path
69	Light pole	191	2773	18.7	
70	Light pole	191	2789	21.1	RWY 18R/ Take-off flight path
71	BLDG	192	6707	62	RWY 36L/ GP INOP
72	Light pole	193	2683	19.4	RWY 18R/ Take-off flight path
73	Light pole	194	2639	18.9	RWY 18R/ Take-off flight path
74	Antenna	195	1019	17.8	RWY 36L/ ILS/DME final approach
75	Light pole	195	2581	17.5	
76	Light pole	197	2497	15.5	
77	*BLDG	202	4809	51	
78	BLDG	204	5246	64.0	
79	*BLDG	206	5743	63	
80	*BLDG	210	5851	89	1. CAT B, C, D Circling 2. RWY 36L/ VOR/DME final approach
81	BLDG	212	5419	61	

Obstacles within a circle with a radius of 15km centered on RWY 18L/36R center					
序号 Serial Nr.	障碍物类型 (* 代表有灯光) Obstacle type (*Lighted)	磁方位 BRG (MAG)(degree)	距离 DIST(m)	海拔高度 Elevation(m)	影响的飞行程序及起飞航径区 Flight procedure/take-off flight path area affected
82	BLDG	214	5722	63	
83	*BLDG	239	3966	50	
84	*TWR	279	2476	44	CAT A Circling
85	*TWR	322	2159	44.0	
86	Antenna	348	1116	17.8	RWY 18R/ ILS/DME final approach
87	*BLDG	349	5647	49	
88	Light pole	351	3063	20.9	
89	BLDG	351	3482	42	RWY 18L/VOR/DME final approach RWY 36L/Take-off flight path
90	BLDG	352	2834	22	RWY 36L/ Take-off flight path
91	BLDG	352	5167	46.2	RWY36L/Take-off flight path
92	BLDG	354	5117	46.2	RWY36L/Take-off flight path
93	BLDG	355	4854	45	
94	Light pole	356	3056	23.2	RWY 36L/R Take-off flight path
95	BLDG	357	4821	46	RWY 36L/R Take-off flight path
96	BLDG	359	3835	36.4	RWY 36R Take-off flight path
Remarks:					

Obstacles between two circles with the radius of 15km and 50km centered on the RWY 18L/36R center					
序号 Serial Nr.	障碍物类型 (* 代表有灯光) Obstacle type (*Lighted)	磁方位 BRG (MAG)(degree)	距离 DIST(m)	海拔高度 Elevation(m)	影响的飞行程序及起飞航径区 Flight procedure/take-off flight path area affected
1	BLDG	018	30231	244	
2	BLDG	060	30315	245	Minimum surveillance altitude sector
3	*BLDG	076	20476	231	
4	*Antenna	077	15909	469	
5	*BLDG	079	16325	424	
6	BLDG	080	12212	252	
7	BLDG	080	16182	632	Sector Minimum surveillance altitude sector
8	*BLDG	080	16486	495	
9	BLDG	081	10857	262	
10	BLDG	146	19609	215	
11	*TWR	162	33334	173	

Obstacles between two circles with the radius of 15km and 50km centered on the RWY 18L/36R center					
序号 Serial Nr.	障碍物类型 (* 代表有灯光) Obstacle type (*Lighted)	磁方位 BRG (MAG)(degree)	距离 DIST(m)	海拔高度 Elevation(m)	影响的飞行程序及起飞航径区 Flight procedure/take-off flight path area affected
12	BLDG	176	23378	183	RWY 36L/R ILS/DME, VOR/DME initial approach
13	*TWR	262	20434	171	
14	MT	280	87910	343	Minimum surveillance altitude sector
15	*TWR	340	21886	154	RWY 18L/R/ ILS/DME, VOR/DME initial approach Minimum surveillance altitude sector
16	Chimney	357	43264	244	
Remark:					

### ZSSS AD 2.11 提供的气象信息、机场观测与报告

#### Meteorological information provided & aerodrome observations and reports

1	相关气象室的名称 Associated MET Office	MET Center of Shanghai Hongqiao Aerodrome MET Office
2	气象服务时间、服务时间以外的责任 气象室 Hours of service, MET Office outside hours	H24 --
3	负责编发 TAF 的办公室；有效期 Office responsible for TAF preparation, Periods of validity	MET Center of Shanghai Hongqiao Aerodrome MET Office 9 HR, 24 HR
4	着陆预报类型、发布间隔 Type of landing forecast, Interval of issuance	Trend 30 MIN
5	所提供的讲解 / 咨询服务 Briefing/consultation provided	P, T
6	飞行文件及其使用语言 Flight documentation, Languages used	Chart, International MET Codes, Abbreviated Plain Language Text Ch, En
7	讲解 / 咨询服务时可利用的图表和其他信息 Charts and other information available for briefing or consultation	Synoptic charts, real-time data, forecast, satellite and radar material, data forecast product
8	提供信息的辅助设备 Supplementary equipment available for providing information	MET Service Terminal
9	接收气象信息的空中交通服务单位 ATIS units provided with information	Hongqiao Tower, Shanghai Approach, Shanghai ACC
10	观测类型与频率 / 自动观测设备 Type & frequency of observation/ Automatic observation equipment	Half hourly plus special observation/Yes
11	气象报告类型及所包含的补充资料 Type of MET Report & supplementary information included	METAR, SPECI, TEND

12	观测系统及位置 Observation System & Site(s)	SFC wind sensors: RWY18L: 115m W of RCL, 405m inward THR18L; RWY36R: 125m W of RCL, 430m inward THR36R; RWY18R/36L center: 115m E of RCL, 1730m inward THR36L; RWY18R: 115m E of RCL, 641m inward THR18R; RWY36L: 115m E of RCL, 651m inward THR36L; RVR EQPT: A: 120m W of RWY18L/36R RCL, 460m inward THR18L; B: 120m W of RWY18L/36R RCL, 1750m inward THR36R; C: 120m W of RWY18L/36R RCL, 440m inward THR36R; D: 100m E of RWY18R/36L RCL, 651m inward THR18R; E: 100m E of RWY18R/36L RCL, 1730m inward THR36L; F: 100m E of RWY18R/36L RCL, 621m inward THR36L; Ceilometer: RWY18L: near RVR; RWY36R: near RVR; RWY18R: 115m E of RCL extension, 631m inward THR18R; RWY36L: 115m E of RCL extension, 631m inward THR36L
13	气象观测系统的工作时间 Hours of operation for meteorological observation system	H24
14	气候资料 Climatological information	Climatological tables AVBL
15	其他信息 Additional information	Nil

## ZSSS AD 2.12 跑道物理特征 Runway physical characteristics

跑道号码 Designation s RWY NR	真方位和磁方 位 TRUE & MAG BRG	跑道长宽 Dimensions of RWY (m)	跑道强度 (PCN), 跑道 道面 / 停止道道面 RWY strength (PCN), RWY surface/SWY surface	着陆入口坐标及 高程异常 THR coordinates and geoid undulation	跑道着陆入口标高 , 精密进近跑道接 地地带最高标高 THR elevation and highest elevation of TDZ of precision APP RWY
1	2	3	4	5	6
18L	176° GEO 181° MAG	3400 × 45	130/F/C/W/T Asphalt	Nil	THR 2.0m TDZ 2.3m
36R	356° GEO 001° MAG	3400 × 45	130/F/C/W/T Asphalt	Nil	THR 2.7m TDZ 2.8m
18R	176° GEO 181° MAG	3300 × 60	104/R/B/W/T Concrete	Nil	THR 2.8m
36L	356° GEO 001° MAG	3300 × 60	104/R/B/W/T Concrete	Nil	THR 2.8m
跑道 - 停止 道坡度 Slope of RWY-SWY	停止道长宽 SWY dimensions (m)	净空道长宽 CWY dimensions (m)	升降带长宽 Strip dimensions (m)	无障碍物地带 OFZ	跑道端安全区长宽 RWY end safety area dimensions (m)
7	8	9	10	11	12
See AOC	Nil	Nil	3520 × 300	Nil	140m × 120m
See AOC	Nil	Nil	3520 × 300	Nil	130m × 120m
See AOC	Nil	Nil	3420 × 300	Nil	240m × 150m
See AOC	Nil	Nil	3420 × 300	Nil	240m × 150m

跑道 - 停止道坡度 Slope of RWY-SWY	停止道长宽 SWY dimensions (m)	净空道长宽 CWY dimensions (m)	升降带长宽 Strip dimensions (m)	无障碍物地带 OFZ	跑道端安全区长宽 RWY end safety area dimensions (m)
Remarks:					
1. Distance between RCL of RWY18L/36R and RCL of RWY18R/36L is 365m; RWY36L THR is 100m north of RWY36R THR;					
2. THR and END of RWY 18L/36R displaced 100m inwards, surface of displaced parts is concrete; anti-blast pad dimension 60 × 60m;					
3. THR of RWY 18R/36L displaced 300m inwards, surface of displaced part is concrete; anti-blast pad dimension 120 × 75m;					
4. RWY36L/18R grooved at full length, width 60m; rapid exit TWYs B7-B8, C1-C4 grooved at full length, width 23m.					
5. RWY18L/36R and 18R/36L shoulder: 7.5m on each side.					

**ZSSS AD 2.13 公布距离 Declared distances**

跑道代号 RWY Designator	可用起飞滑跑 距离 TORA (m)	可用起飞距离 TODA (m)	可用加速停止距离 ASDA (m)	可用着陆距离 LDA (m)	备注 Remarks
18L	3300	3300	3300	3200	THR & END displaced 100m inwards
18L	3188	3188	3188		Enter from T1
36R	3300	3300	3300	3200	THR & END displaced 100m inwards
36R	3188	3188	3188		Enter from H7
18R	3300	3300	3300	3000	THR displaced 300m inwards
18R	3138	3138	3138		Enter from H2
36L	3300	3300	3300	3000	THR displaced 300m inwards
36L	3138	3138	3138		Enter from H6
Remarks:					

## ZSSS AD 2.14 进近和跑道灯光 Approach and runway lighting

跑道 代号 RWY Designator	进近灯 类型、 长度、 强度 APCH LGT type LEN INTST	入口灯 颜色、 翼排灯 THR LGT colour WBAR	目视进近坡 度指示系统 ( 跑道入口最 低眼高 ), 精 密进近航道 指示器 VASIS (MEHT) PAPI	接地地带 灯长度 TDZ LGT LEN	跑道中心线灯 长度、间隔、 颜色、强度 RWY Center line LGT LEN, spacing, colour, INTST	跑道边灯长 度、间隔、颜 色、强度 RWY edge LGT LEN, spacing, colour, INTST	跑道末端 灯颜色 RWY end LGT colour	停止道灯 长度、颜 色 SWY LGT LEN, colour
1	2	3	4	5	6	7	8	9
18L	CAT I 900m* LIH	Green Yes	PAPI Left/3°	Nil	3200m** spacing 30m	3400m*** spacing 60m	Red	Nil
36R	CAT I 900m* LIH	Green Yes	PAPI Right/3°	Nil	3200m** spacing 30m	3400m*** spacing 60m	Red	Nil
18R	CAT I 900m* LIH	Green Yes	PAPI Left/3°	Nil	3000m**** spacing 30m	3300m***** spacing 60m	Red	Nil
36L	CAT I 900m* LIH	Green Yes	PAPI Right/3°	Nil	3000m**** spacing 30m	3300m***** spacing 60m	Red	Nil

Remarks:  
\* AFL  
\*\* 0-100m APCH LGT, 100-2400m White LIH, 2400-3000m Red/White LIH, 3000-3300m Red LIH, 3300m-3400m APCH LGT.  
\*\*\* 0-100m Red LIH, 100-2700m White LIH, 2700-3300m Yellow LIH, 3300-3400m Red LIH.  
\*\*\*\* 0-300m APCH LGT, 300-2400m White LIH, 2400-3000m Red/White LIH, 3000-3300m Red LIH.  
\*\*\*\*\* 0-300m Red LIH, 300-2700m White LIH, 2700-3300m Yellow LIH.

## ZSSS AD 2.15 其它灯光 , 备份电源 Other lighting, secondary power supply

1	机场灯标 / 识别灯标位置、特性和工 作时间 ABN/IBN location, characteristics and hours of operation	Nil
2	着陆方向指示器位置和灯光 ; 风速表 位置和灯光 LDI location and LGT, Anemometer location and LGT	WDI: 18L: 90m E of RCL, 450m inward THR18L; 36R: 90m E of RCL, 450m inward THR36R; 18R: 120m E of RCL, 380m inward THR18R; 36L: 120m E of RCL, 380m inward THR36L;
3	滑行道边灯和中心线灯光 TWY edge and center line lighting	Blue TWY edge line lights and Green/Green, Green/Yellow, unidirectional Green or Yellow rapid exit TWY lights.
4	备份电源 / 转换时间 Secondary power supply/switch-over time	Dual feed, diesel engine driven generator/15sec

5	备注 Remarks	Nil
---	---------------	-----

**ZSSS AD 2.16 直升机着陆区域 Helicopter landing area**

1	TLOF 坐标或 FATO 入口坐标及高程异常 Coordinates TLOF or THR of FATO Geoid undulation	Nil
2	TLOF 和 / 或 FATO 标高 (m) TLOF and/or FATO elevation (m)	Nil
3	TLOF 和 FATO 区域范围、道面、强度和标志 TLOF and FATO area dimensions,surface, strength, marking	Nil
4	FATO 的真方位和磁方位 True and MAG BRG of FATO	Nil
5	公布距离 Declared distance available	Nil
6	进近灯光和 FATO 灯光 APP and FATO lighting	Nil
7	备注 Remarks	Nil

**ZSSS AD 2.17 空中交通服务空域 ATS airspace**

名称 Designation	横向界限 Lateral limits	垂直界限 Vertical limits	备注 Remarks
Shanghai/Hongqiao tower control area	By ATC	SFC-600m MSL	
Fuel Dumping Area	N3113.0E12300.0- N3130.0E12400.0- N3110.0E12400.0- N3100.0E12300.0- N3113.0E12300.0	3000m and above	See Fuel Dumping Area Chart
Altimeter setting region and TL/TA	SASAN-PIKAS-Nantong VOR-BUNVA-UDOXI- IBEGI-N314611 E1224630 - EMSAN - DUMET - N311241 E1224630 - BONGI - PONAB - RUXIL - N301500 E1221200 - Andong VOR-Nanxun VOR-SASAN	TL: 3600m TA: 3000m 3300m(QNH $\geq$ 1031hPa) 2700m(QNH $\leq$ 979hPa)	1. Above 900m: use Pudong QNH; 2. 900m or below: use QNH of departure or landing aerodrome.

**ZSSS AD 2.18 空中交通服务通信设施 ATS communication facilities**

服务名称 Service Designation	呼号 Call sign	频率 Frequency (MHz)	工作时间 Hours of operation	备注 Remarks
1	2	3	4	5
ATIS		132.25	H24	D-ATIS available
APP	Shanghai Approach	120.3 (119.75) AP01	H24	Nil
APP	Shanghai Approach	125.4 (124.05) AP02	H24	Nil
APP	Shanghai Approach	125.85 (119.2) AP03	BY ATC	Nil
APP	Shanghai Approach	123.8 (119.2) AP04	BY ATC	Nil
APP	Shanghai Approach	126.65 (128.05) AP05	BY ATC	Nil
APP	Shanghai Approach	126.3 (120.65) AP06	BY ATC	Nil
APP	Shanghai Approach	121.1 (119.75) AP07	BY ATC	Nil
APP	Shanghai Approach	121.375 (128.05) AP09	BY ATC	Nil
APP	Shanghai Approach	125.625 (120.65) AP10	BY ATC	Nil
TWR	Hongqiao Tower	118.1(124.3) for east sector	H24	Nil
TWR	Hongqiao Tower	118.65(118.25) for west sector	H24	Nil
GND	Hongqiao Ground	121.6(118.1) for east sector	H24	Nil
GND	Hongqiao Ground	121.85(121.9) for west sector	H24	Nil
GND	Hongqiao Delivery	121.75	0001-1200	DCL available (repeat RWY designation and initial climb altitude to ATC)
EMG		121.50	H24	Nil

**ZSSS AD 2.19 无线电导航和着陆设施 Radio navigation and landing aids**

设施名称和类型 Name and type of aid	识别 ID	频率 Frequency	发射天线位置、坐标 Antenna site coordinates	DME 发射天线标高 Elevation of DME transmitting antenna	备注 Remarks
1	2	3	4	5	6
Jiuting VOR/DME	JTN	109.6MHz CH 33X	N31° 07.4' E121° 20.5' 181° MAG/ 6800m FM displaced THR RWY 36R		
SHANGHAI/ Hongqiao VOR/DME	SHA	117.2MHz CH 119X	31° 12.9' 121° 20.0'	9m	66m W of RWY18L/36R RCL, 445m outside displaced THR18L

设施名称和类型 Name and type of aid	识别 ID Identifier	频率 Frequency MHz	发射天线位置、坐标 Antenna site coordinates	DME 发射天线标高 Elevation of DME transmitting antenna	备注 Remarks
Chonggu VOR/DME	CGT	112.5MHz CH 72X	31° 12.6' 121° 11.6'	24m	280° MAG/ 13.4km FM ARP
Liuzao VOR/DME	PDL	109.4MHz CH 31X	31° 07.8' 121° 40.3'		
Nanxiang NDB	PK	208kHz	N31° 17.0' E121° 19.8'		BTN 7.5-9NM on BRG 264° U/S; beyond 6NM on BRG 243° U/S; beyond 6NM on BRG 302 ° U/S; BTN 4-7NM on BRG 001° U/S; BTN 3.5-5NM on BRG 350° U/S.
LOC 18L ILS CAT I	IPK	111.3MHz	181° MAG/ 400m FM displaced end RWY 18L		
GP 18L		332.3MHz	125m E of RCL18L, 305m FM displaced THR		Angle 3° , RDH 15m
DME	IPK	CH 50X (111.3MHz)		10m	Co-located with GP
OM 36R		75MHz	181° MAG/ 8400m FM RWY18L/36R center		
MM 36R		75MHz	181° MAG/ 1090m FM displaced THR 36R		
LOC 36R ILS CAT I	IWB	110.3MHz	001° MAG/ 351m FM displaced end RWY 36R		
GP 36R		335.0MHz	115m east of RCL 36R, 305m FM displace THR36R		Angle 3° , RDH 15m
DME	IWB	CH 40X (110.3MHz)		10m	Co-located with GP
LOC 18R ILS CAT I	IHQ	110.9MHz	181° MAG/ 287m from RWY 18R end		
GP 18R		330.8MHz	120m east of RCL 18R, 311m FM displaced THR18R		Angle 3° , RDH 15m
DME	IHQ	CH 46X (110.9MHz)		10m	Co-located with GP

设施名称和类型 Name and type of aid	识别 ID Identifier	频率 Frequency	发射天线位置、坐标 Antenna site coordinates	DME 发射天线标高 Elevation of DME transmitting antenna	备注 Remarks
LOC 36L ILS CAT I	ISH	111.7MHz	001° MAG/ 290m FM RWY36L end		
GP 36L		333.5MHz	120m east of RCL36L, 311m FM displaced THR36L		Angle 3° , RDH 15m
DME	ISH	CH 54X (111.7MHz)		10m	Co-located with GP
Remarks:					

**ZSSS AD 2.20 本场飞行规定****1. 机场使用规定**

1.1 禁止未安装二次雷达应答机的航空器起降;

1.2 所有技术试飞需事先申请，并在得到空中交通管制部门批准后方可进行;

1.3 可使用最大机型：B747及同类机型。

**ZSSS AD 2.20 Local traffic regulations****1. Airport operations regulations**

1.1 Takeoff/landing of aircraft without SSR transponder are forbidden;

1.2 Each and every technical test flight shall be filed in advance and shall be made only after clearance has been obtained from ATC;

1.3 Maximum aircraft to be available: B747 and equivalent.

**2. 跑道和滑行道的使用**

2.1 可以通过地面管制申请引导车和拖车服务;

2.2 禁止任何航空器在跑道和滑行道上做大于 90° 的转弯;

**2.3 B747-8 航空器本场运行规则**

2.3.1 运行跑道：18R/36L(离场主用);  
18L/36R(进场主用);

2.3.2 B747-8 可在除 B2, B5, B7, B8, D3, D6-D13, D17, H4 (A滑与C滑之间), B滑 (H1 与 H2 之间, H2 与 H3 之间, H3 与 H5 之间, H5 与 H6 之间, H6 与 H7 之间), C滑 (H1 与 H2 之间, H2 与 D4 之间, H3 与 D4 之间, D5 与 H3 之间, D5 与 D14 之间, D14 与 D15 之间, D15 与 H5 之间, H5 与 D16 之间, D16 与 H6 之间, H6 与 H7 之间) 之外的滑行道滑行，具体滑行路线须听从塔台管制员指挥;

**2. Use of runways and taxiways**

2.1 Follow-me vehicle service and towing service are available via Ground Control;

2.2 Turnaround exceeding 90° on RWY or TWY is forbidden;

2.3 Operation rules for B747-8

2.3.1 RWY: 18R/36L(Mainly used for departure);  
18L/36R(Mainly used for arrival);

2.3.2 Following TWYs not available for B747-8: B2,B5,B7,B8,D3,D6-D13,D17,H4(BTN A and C),B(BTN H1 and H2,H2 and H3,H3 and H5,H5 and H6,H6 and H7),C(BTN H1 and H2,H2 and D4,H3 and D4,D5 and H3,D5 and D14, D14 and D15, D15 and H5, H5 and D16, D16 and H6, H6 and H7), and pilot shall follow controller instructions for taxi routes;

2.3.3 B747-8航空器正常使用248号停机位，或限制条件下使用508、511、250和411停机位。

2.3.4 在B747-8航空器起降过程中，B滑行道和C滑行道只允许翼展小于65米的航空器滑行；

2.3.5 不能与B747-8航空器同时使用的机位 / Stands forbidden to use simultaneously with B747-8:

B747-8 使用机位 /The stand in use for B747-8	不能同时使用的机位 /The stands forbidden to be used
511	510(aircraft with wingspan not less than 52m)
508	506(aircraft with wingspan not less than 52m), 510(aircraft with wingspan not less than 52m)
411	410, service vehicle lane BTN stands Nr.411 and Nr.412
250	256(aircraft with wingspan not less than 61m)

2.3.6 为保证航空器主起落架外轮胎边缘与承重道面边线间保持至少4.5米的净距且航空器外侧发动机的中心轴落在道肩边线之内，B747-8航空器在如下滑行转弯口将不能沿滑行道中心线滑行，而须飞行员自行判断采用大角度转弯：A1与A, A2与A, A3与A, A4与A, H1与A, H7与A, T1与A, T6与A, K6与A, K7与A, H1与RWY 18L/36R, T1与RWY 18L/36R, H7与RWY 18L/36R, T6与RWY 18L/36R, L01与K6, L01与K7。

2.3.7 B747-8航空器须由Follow-me引导入位。

#### 2.4 跑道运行规则

2.4.1 跑道运行规则 /General rules for the use of runways

RWY 18R /36L	Mainly used for departure
RWY 18L /36R	Mainly used for arrival, and could be used for departure by ATC clearance

2.4.2 更换跑道运行方向过程中，当跑道顺风分量超过3米/秒但不大于5米/秒时，管制员可以短时指挥航空器顺风起飞或着陆，当航空器驾驶员根据机型性能或者运行手册不能执行顺风跑道起飞或者着陆时，应明确告知管制员；

2.4.3 着陆航空器落地许可的最晚发布时机可以在着陆航空器飞越跑道入口前。

2.4.4 穿越跑道规定 /RWY crossing rules:

穿越跑道时使用的滑行道 TWYs used for crossing	RWY 18R /36L:	TWYs H1-H7
	RWY 18L /36R:	TWYs H1, H4, H7

2.3.3 B747-8 can normally use stand Nr.248 or use stand Nr.508,511,250,411 with restrictions.

2.3.4 While B747-8 is taking-off or landing, TWY B and TWY C are only available for aircraft with wing span less than 65m;

2.3.6 At the corner section of following TWYs, when nose gear of B747-8 follows those taxiway centerline, a clearance between the wheel of wing gear and the edge of TWY is less than 4.5m, so pilots of B747-8 are requested to use judgmental steering at the following TWYs.TWY required to use judgmental steering: A1 and A, A2 and A, A3 and A, A4 and A, H1 and A, H7 and A, T1 and A, T6 and A, K6 and A, K7 and A, H1 and RWY 18L/36R, T1 and RWY 18L/36R, H7 and RWY 18L/36R, T6 and RWY 18L/36R, L01 and K6, L01 and K7.

2.3.7 B747-8 shall be guided by Follow-me vehicle into stands.

#### 2.4 General rules for the use of runways

2.4.2 During changing the direction of RWY in use, if downwind speed is more than 3m/s and not exceeding 5m/s, ATC may instruct aircraft downwind take-off or downwind landing for short time. Pilot shall inform controller if decide not to take-off or landing on downwind RWY allocated according to aircraft performance or operation handbook;

2.4.3 The latest time to issue landing clearance before aircrafts flying over RWY THR is available.

穿越程序 Procedures for crossing	<p>按照管制员指挥滑行至跑道等待点外等待； Taxi following the instructions of controller to the holding position and hold short of RWY;</p> <p>收到穿越指令后，需尽快实施穿越； Cross the runway immediately upon receiving the crossing clearance;</p> <p>机组应完整复诵管制员有关穿越跑道和跑道外等待的指令，如有疑问，请在穿越前证实； Repeat all the ATC instructions concerning “hold short of RWY or cross the RWY” ; Any questions shall be clarified before crossing RWY;</p> <p>穿越跑道时，机组应注意监听其他有关跑道的指令或信息通报，并注意观察跑道及附近的活动； Pilots shall monitor the ATC instructions or information about RWY and watch the activities on and around RWY;</p> <p>穿越结束后，机组需报告“已脱离跑道”。 Finally, report to controller ‘RWY vacated’ .</p> <p>紧跟在起飞航空器后穿越跑道时，机组自行负责其与起飞航空器之间的距离以免受起飞航空器喷流的影响； While crossing RWY after the take-off aircraft, pilots shall be responsible for the safety distance with the aircraft to avoid the effect of wake turbulence;</p>
穿越限制 Limits for crossing	每天 2200-1600 之间禁止拖拽航空器穿越跑道； Towing aircraft to cross RWYs is strictly forbidden during 2200-1600(UTC)

2.4.5 为调整飞行次序，管制员可以指挥航空器从 H2 进入 18R 跑道起飞或从 H6 进入 36L 跑道起飞，如航空器驾驶员不能执行，须在进跑道之前报告管制员。

#### 2.5 虹桥机场 HOT SPOT

##### 2.5.1 HS01-HS04 的范围

2.4.5 ATC may instruct aircraft to enter RWY18R via H2, or enter RWY36L via H6 for take-off . If not available, pilots shall inform ATC before entering the RWY.

#### 2.5 ZSSS AD HOT SPOT

##### 2.5.1 Area of HS01-HS04

HS1	TWY H4 connected area of TWY L01 and RWY 18L/36R
HS2	TWY H4 connected area of RWY 18L/36R and 18R/36L
HS3	Connected area of TWY H3 and TWY D
HS4	Connected area of TWY H5 and TWY D

2.5.2 HS1：航空器穿越 18L/36R 跑道主用区域。  
穿越跑道期间，飞行员应加强对穿越跑道目视观察，扫视穿越跑道的相关飞行动态。当对穿越指令有疑义时，应及时询问管制人员。该区域也是穿越跑道滑行道与主滑行道的交叉区域，航空器滑行频繁。

2.5.3 HS2：起飞航空器自东向西穿越 18L/36R 跑道后，飞行员应注意守听指令，避免滑错。

2.5.2 HS1: RWY 18L/36R crossing area. Pilot must be careful when crossing the RWY. Follow ATC instructions strictly when crossing the RWY.Taxiing busy area.

2.5.3 HS2: Follow ATC instructions strictly when vacated RWY18L/36R.

2.5.4 HS3、HS4: 落地航空器自东向西穿越 18R/36L 跑道后，航空器滑行频繁，飞行员应注意守听指令，加强目视观察。

2.5.5 HS05-HS7 的内容参见 3.2.4

2.5.6 HS08-HS11 的范围

2.5.4 HS3, HS4: Taxiing busy area. Follow ATC instructions strictly when vacated RWY18L/36L.

2.5.5 HS05-HS07 refer to 3.2.4

2.5.6 Area of HS08-HS11

HS8	Taxiway H2 connected area of B and 18R/36L
HS9	Taxiway H3 connected area of B and 18R/36L
HS10	Taxiway H5 connected area of B and 18R/36L
HS11	Taxiway H6 connected area of B and 18R/36L

2.5.7 HS8-HS11: 航空器穿越 18R/36L 跑道频繁区域。穿越跑道期间，飞行员应加强对穿越跑道目视观察，扫视穿越跑道的相关飞行动态。当对穿越指令有疑义时，应及时询问管制人员。

2.6 仪表着陆系统敏感区保护程序

2.6.1 当启用仪表着陆系统敏感区保护程序时，航空器驾驶员必须严格按照管制员的指令在 B 型等待位置等待；

2.6.2 当天气条件符合运行标准时，为加速飞行流量，将不启用仪表着陆系统敏感区保护程序。起飞航空器在跑道外等待，着陆航空器进近方式改变为仪表着陆系统下滑台不工作，即航道进近方式或目视进近，但不表示设备故障。参见 ZSSS AD2.24-1A；

2.7 着陆航空器快速脱离跑道程序

2.7.1 落地航空器应就近选择快速出口滑行道，并及时报告塔台管制员；

2.7.2 落地航空器从接地到脱离跑道的时间应控制在 50 秒以内（湿跑道或污染跑道除外）；

2.7.3 如航空器不能使用快速出口滑行道脱离跑道，应提前报告管制员；

2.8 起飞航空器从等待位置到对正跑道的时间应控制在 60 秒以内，如不能满足要求应在进跑道前报告塔台管制员（湿跑道或污染跑道除外）。

2.9 18R/36L 跑道每日 1600-2300 (UTC) 不接收航空器降落（紧急备降除外）。

2.5.7 HS8-HS11: RWY 18R/36L crossing area. Follow ATC instructions strictly when crossing the RWY.

2.6 Protection Procedures for ILS Sensitive Area

2.6.1 When the Protection Procedures are implemented, the pilot shall follow the ATC instructions and hold at the holding position pattern B;

2.6.2 In order to accelerate the traffic flows, the Protection Procedures will not be implemented upon the weather condition meets the operational standard. Under this condition, the departure aircraft shall hold short of RWY and the landing aircraft shall adopt ILS approach procedures with GP INOP (which does not mean the GP is failure) or visual approach. Refer to ZSSS AD2.24-1A;

2.7 Procedure for Rapidly vacating RWY

2.7.1 Landing aircraft shall vacate runway rapidly using the appropriate rapid exit TWY and report to the TWR Control immediately after vacating RWY;

2.7.2 All landing aircraft shall fully vacate RWY within 50s after touchdown(except for wet or contaminated RWY);

2.7.3 If the aircraft can not use the rapid exit TWY, pilot shall inform the controller in advance;

2.8 Departure aircraft shall finish RWY alignment within 60s from holding position. If flight crew considers that they can not fulfill the process within the required time, pilot shall inform TWR ATC before entering the RWY.

2.9 Aircraft were forbidden to land on RWY18R/36L from 1600 to 2300(UTC) daily ( except emergency alternate).

### 3. 机坪和机位的使用

### 3. Use of aprons and parking stands

### 3.1 地面管制要求

3.1.1 虹桥机场运行指挥中心 (AOC) 联系频率: 130.75MHz, 呼号: 浦江;

3.1.2 地面管制向塔台管制移交航空器或东西塔台之间移交航空器时, 塔台管制将使用“守听”或“联系”两种管制指令。

3.2 未经 AOC 同意, 严禁航空器利用自身动力倒滑;

3.3 在远机位、专机位、货机位、维修机位停靠的航空器由地面人员指挥其进、出机位;

### 3.4 航空器试车规定

#### 3.4.1 通则

3.4.1.1 航空器试车必须向虹桥机场运行指挥中心 AOC 申请。

3.4.1.2 航空器营运人或代理人必须派专人负责试车作业的安全监控, 设置“试车危险区”警示标志和隔离设施。试车期间, 发动机危险区域内(进气口和排气区域等)禁止人员或车辆通过, 禁止放置其他设备。

3.4.1.3 安全监控中发现任何问题, 应立即终止试车, 并向塔台和虹桥机场 AOC 通报。

#### 3.4.2 试车位置及要求

##### 3.4.2.1 冷转测试

所有机位可进行冷转测试。

##### 3.4.2.2 慢车测试

3.4.2.2.1 401-413、286-290、601-603、604A、604B、605-608、501、502、504、506、508、510、511-514、517-525、313-327、338-342 机位可供航空器慢车测试, 测试期间: 相邻机位上禁止航空器进出; 禁止其它物体(航空器、车辆、人员等)沿机坪滑行道从试车机位尾部通过。

3.4.2.2.2 101、102、109-115、120、121、126、127、212-237、238A、239-285、301-312、328-332 机位上的航空器必须推出至对应的推出等待点上进行慢车测试。333-337 机位上的航空器必须推出至 L20 机坪滑行道上进行慢车测试。

3.4.2.2.3 发动机位于尾部的航空器必须推出至对应的推出等待点上进行慢车测试。

### 3.1 Ground Control Requirements

3.1.1 The Aerodrome Operation Center (AOC): contact frequency is 130.75MHz, call sign for AOC is PUJIANG;

3.1.2 Two ATC instructions will be used when aircraft is transferred from GND to TWR or between the East TWR and West TWR, they are “Monitor” and “Contact”.

3.2 Aircraft is strictly forbidden to taxi backward on its own power without AOC permission;

3.3 Aircraft parking/docking on stand-off stand, VIP flight parking stand, cargo aircraft parking stand or maintenance parking stand will be guided by a marshal for entry/exit;

#### 3.4 Engine run-ups.

##### 3.4.1 General rules for engine run-ups.

3.4.1.1 Engine run-ups are subject to AOC permission and TWR clearance.

3.4.1.2 During engine run-ups, people and vehicles are forbidden to pass through engine danger area. Engine run-ups must be monitored by specialized officer. Engine run-ups area must have clear markings to keep irrelevant people and vehicles away from this area.

3.4.1.3 Engine run-ups must stop immediately if there comes out any safety hazard. Specialized officer shall contact AOC and TWR and ask for another AOC permission and TWR clearance before going.

##### 3.4.2 Location and operation.

###### 3.4.2.1 Cool running test.

All parking stands are available for cool running test.

###### 3.4.2.2 Engine idle test.

3.4.2.2.1 Parking stands Nr.401-413, 286-290, 601-603, 604A, 604B, 605-608, 501, 502, 504, 506, 508, 510, 511-514, 517-525, 313-327, 338-342 are available for engine idle test. During the period of engine idle test, near-by stands are forbidden for aircraft to taxi in or out. The TWY behind engine run-ups operating aircraft not allowed to (ACFT, vehicle, people) pass through.

3.4.2.2.2 Aircraft parking on stands Nr.101, 102, 109-115, 120, 121, 126, 127, 212-237, 238A, 239-285, 301-312, 328-332 shall be pushed back to the corresponding holding point for engine idle test. Aircraft parking on stands Nr.333-337 shall be pushed back to TWY L20 for engine idle test.

3.4.2.2.3 Aircraft with engine on the tail part shall be pushed back to the corresponding holding point for engine idle test.

### 3.4.2.3 大功率测试

原则 上于 4 号机坪试车位进行，该试车位位于 D 滑行道中心线以西 83 米、402 与 405 机位之间，使用限制如下：

3.4.2.3.1 401-407 机位之间的 L11 机坪滑行道禁止使用期间，方可启用 4 号机坪试车位；

3.4.2.3.2 仅供一架 B747-8 或翼展小于 65 米的航空器大功率测试，机头朝南；

3.4.2.3.3 B747-8 使用 4 号机坪试车位前，还必须清空 401-406 机位的航空器。

3.4.2.4 当因天气或机位安排等因素时，可安排至跑道上进行（当日航班结束之后至次日航班开始前一小时之间）。

### 3.5 机场桥载设备代替 APU 管理规定

3.5.1 为降低碳排放及噪音，所有停靠廊桥机位的航空器必须关闭 APU，使用 400Hz 桥载电源及飞机专用空调设备。以下特殊情况除外：

- a. 桥载设备发生故障，不能提供服务。
- b. 航空器因启动发动机而需要开启 APU。
- c. 航空器进行 APU 的维修检测活动。
- d. 遇到影响航班安全、正常运行的特殊情形，例如极端天气、专机保障、航班过站时间不足等有关情况。

3.5.2 如航空器公司希望使用 APU，必须致电上海虹桥国际机场公司机电信息保障部现场管理中心（电话：021-22381500）进行申请，申请被批准后方可使用 APU。

3.6 相邻机位禁止两架航空器同时运行，包括同时进入，同时推出或滑出，同时一进一出。

3.7 进港航空器和引导车应在机位滑行道上转入机位引入线之前停止，观察确认安全的情况下减速慢行入位。

### 3.8 滑行限制 /Taxiing limits:

滑行线 /Taxi lane	航空器翼展限制 / Wing span limits for aircraft	相关机位限制 /Relative stands limits
TWY L01, L10, L16, L18, L19, Y1-Y3, M1-M6	< 65m(except B747-8)	

### 3.4.2.3 Fast engine run-ups.

Engine run-ups stand installed on apron Nr.4, 83m west of TWY D center line, between parking stands Nr.402 and Nr.405.

3.4.2.3.1 Engine run-ups stand on apron Nr.4 can be used only while TWY L11 between stands Nr.401 &407 is not in use.

3.4.2.3.2 Only a B747-8 or an aircraft with wing span less than 65m on engine run-ups stand can carry out, aircraft nose to south.

3.4.2.3.3 Stands Nr.401-406 must be vacated before B747-8 operates engine run-ups on apron Nr.4.

3.4.2.4 If weather or stands not permit, fast engine run-ups could be operated on RWY. Fast engine run-ups on RWY must be implemented between finishing the last flight and 1 hour before the first flight (next day).

### 3.5 Bridge equipment replace APU

3.5.1 All aircrafts parking on boarding bridge stands shall turn off APU and use bridge equipment (400Hz) and special air conditioning. Except for the following circumstances:

- a. Bridge equipment is unavailable;
- b. Aircraft needs APU to start up engine;
- c. APU is under maintenance;
- d. In case of exceptional circumstances influencing the operation safety, such as extreme weather, special plane support, insufficient flight transition time.

3.5.2 If aircraft requires to use APU, airlines shall contact Airport Equipment and Information (TEL: 86-21-22381500).

3.6 On adjacent parking stands, two ACFT forbidden to move(including taxi into/out by own power, pushed back) simultaneously.

3.7 Arrival ACFT and follow-me vehicle shall stop on TWYs before turning into stands lead-in lines, then observe and keep slow speed to stands.

TWY L11	< 52m	<p>1. Stands Nr.401-413: push back to holding point on L11, then start up and taxi to TWY D.</p> <p>2. Stands Nr.406 and 411: aircraft with wing span no less than 52m shall be pushed back to TWY D directly;</p> <p>3. Engine run-up stands on apron Nr.4 can only be used while TWY L11 between stands Nr.406 and 407 is not in use.</p> <p>4. ACFT exit parking Stands Nr.412 and Nr.413 shall with nose to south and be pushed back to TWY L11 holding point. If ACFT need change direction after be pushed back shall get ATC clearance and be pushed to TWY D by ATC instructions.</p>
TWY L15,L17, L20	< 36m	
TWY L12	< 36m	<p>1. Stands Nr.232-235: push back to holding points on L12, then start up and taxi to TWY D.</p> <p>2. In order to prevent aircraft wake turbulence: If aircraft nose to south parking on L12, stand 232 is forbidden to enter or exit. If aircraft nose to north parking on L12, stand 235 is forbidden to enter or exit.</p>
TWY L13	< 36m	<p>1. Stands Nr.262-265: push back to holding points on L13, then start up and taxi to TWY D.</p> <p>2. If aircraft nose to south parking on L13, stand 262 is forbidden to enter or exit. If aircraft nose to north parking on L13, stand 265 is forbidden to enter or exit.</p>
TWY L14	< 36m	<p>1. Stands Nr.286-290: push back to holding point on L14, then start up and taxi to TWY D.</p> <p>2. Stands Nr.601-603,604A,605-608:aircraft shall be pushed back to holding points on L14, then start up and taxi to TWY D.</p> <p>3. Stands Nr.602, 603, 605, 606: aircraft with wing span no less than 36m shall be pushed back to TWY D directly.</p> <p>4. Stands Nr.604B: aircraft shall be pushed back to the holding points for TWYD.</p>
TWY L08	< 24m	<p>1. Stands Nr.301-312: push back to holding point on L08.</p> <p>2. Stand Nr.301:taxi in from TWY L08 via TWY K1.</p>

## 3.9 组合机位的使用模式 /Use of combined stands:

组合机位群 / combined stands	组合模式 / combined mode	停机位 / stands	翼展限制 / Wing span limits	进出方式 / entry/exit
2 3 8 A , 2 3 9 , 240,240A	238A(CAT C),239,240	238A	<36m	taxi in and push back
		239	≤ 35.79m	taxi in and push back
		240	≤ 35.79m	taxi in and push back
	238A(CAT E),240A	238A	≤ 60.96m	taxi in and push back
		240A	≤ 60.96m	taxi in and push back

257, 258, 259, 259A	257(CAT E),259A	257	≤ 60.96m	taxi in and push back
		259A	≤ 64.92m	taxi in and push back
	257(CAT C),258,259	257	≤ 35.79m	taxi in and push back
		258	≤ 35.79m	taxi in and push back
		259	≤ 35.79m	taxi in and push back

## 3.10 机位限制 / Limits for aircraft parking on the following stands:

停机位 /Stands	航空器翼展限制 / Wing span limits	进出方式 / entry/exit by
248	≤ 68.4m	taxi in and push back
102,111,112,126,127,250,313-315,406,411,501,502,603,606	<65m	taxi in and push back
246,256	≤ 64.92m	taxi in and push back
212	≤ 64.8m	taxi in and push back
504,506,508,510,511	<64.5m	taxi in and push back
109	≤ 64m	taxi in and push back
110,113,121	≤ 61m	taxi in and push back
213,214,229,230,237,260,267,268,283,284	≤ 60.96m	taxi in and push back
120	≤ 60.4m	taxi in and push back
231,266,285,402,403,407-409,602,605	<52m	taxi in and push back
101,115	≤ 47.6m	taxi in and push back
114	≤ 45m	taxi in and push back
226-228,232-236,261-265,272,273,286-290, 401,404,405,410,412,413,601,604A,604B, 607,608,316-342,518-525	<36m	taxi in and push back
215-217,222,223,277-279	≤ 35.80m	taxi in and push back
218-221,224-225,269-271,274-276,280-282	≤ 35.79m	taxi in and push back
517	≤ 28.5m	taxi in and push back
301-312,512-514	<24m	taxi in and push back
Note:		
1. When towing aircraft taxi in/out hanger of China Eastern Airlines on apron NR.6, aircraft parking on stand Nr.604A are forbidden to push back nose to north, aircraft parking on stands Nr.604B,605-608 are forbidden to push back.		
2. Stands Nr.604B,605 and 606 not available for parking except emergency flight and shall be guided by follow-me vehicle.		
3. ACFT shall be guided by follow-me vehicle to taxi into stands on apron Nr.2 except stands Nr.232-235, 262-265 and 286-290.		
4. Business jet on Stands Nr.301-312,512-514 shall park on corresponding stop lines firstly, on similar stop lines secondly. Parking on other stands shall satisfy the requirements of apron safety lines.		
5. B747-8 instruction refer AD2.20 2.3.5.		

3.11 301-342 机位航空器出港推出后机头朝向要求如下表。特殊情况下，301-314机位需要改变航空器推出后机头朝向时，应听从塔台指令。

3.11 Nose direction of Aircraft parking on stands Nr.301-342 as follow. If nose direction need to be changed, aircraft parking on stands Nr.301-314 shall by ATC instructions.

Stands Nr.	Nose direction of Aircraft
301,306,307,313,314	North
302-305, 308-312	Sorth
315,339	North or South
316-320, 323-337	East or West
321, 322, 338	East or North
340-342	South

3.12 公务机位使用限制 /Limits for business stands:

停机位 /Stands	机身长度限制 /Fuselage limits	航空器翼展限制 /Wing span limits for aircraft
Nr.301-312	<32.5m	< 24m
Nr.512-514	< 28m	< 24m

3.13 2 号机坪新增航空器进港等待位置 AH01-AH03 和航空器推出等待点 EOP01-EOP06, 详见 ZSSS AD2.24-2。

3.13 Arrival holding positions AH01-AH03 and end of push points EOP01-EOP06 established on Apron Nr.2, details refer ZSSS AD2.24-2.

3.14 2号机坪设 HOT SPOT(HS05-HS07)

3.14 HS (HS05-HS07)established on apron Nr.2

3.14.1 HS05-HS07的范围

3.14.1 Area of HS05-HS07

HS05	The area of stands Nr.216-228
HS06	The area of stands Nr.238A-259
HS07	The area of stands Nr.269-281
Remark:	
Arrival ACFT and follow-me vehicle shall stop at AH01-AH03 before taxiing into HS05-HS07, then observe and keep slow speed to taxi into parking stand.	

3.14.2 以下 HS 或 HS 与其相邻机位, 同一时间段只允许一架航空器运行:

3.14.2 Two or more ACFT forbidden to operate simultaneously in follow HS, or in the HS and adjacent parking stands:

HS05	Two or more ACFT forbidden to operate simultaneously
HS05、 215	
HS05、 229	

HS06	Two or more ACFT forbidden to operate simultaneously
HS06、237	
HS06、260	
HS07	Two or more ACFT forbidden to operate simultaneously
HS07、268	
HS07、282	

3.15 HS8-HS11: 航空器穿越跑道频繁区域。  
航空器穿越跑道期间，需特别注意管制指令。

3.15 HS8-HS11: RWY crossing area.  
When crossing RWYs, strictly follows ATC clearance.

### 3.16 停机位推出鼻轮等待点 / End of push points to be used for parking stands

Stands	End of push points
212-216	Tangency point BTN push-back lines and TWY M1
217-221	EOP01
222-227	EOP02
228-231	Tangency point BTN push-back lines and TWY M2
236,238A	Tangency point BTN push-back lines and TWY M3
239-248	EOP03
250-257	EOP04
258-261	Tangency point BTN push-back lines and TWY M4
266-270	Tangency point BTN push-back lines and TWY M5
271-275	EOP05
276-280	EOP06
281-285	Tangency point BTN push-back lines and TWY M6

3.17 TP01-TP08 为临时机位，其中 TP01-TP05 最大翼展限制 <36m，TP06-TP08 最大翼展限制 <65，停放时 TP01，TP02 机头朝北；TP03-TP08 机头朝南。

3.17 TP01-TP08 are temporary stands, TP01-TP05 wing span limits <36m, TP06-TP08 wing span limits <65m, The aircraft's head orientation: TP01,TP02: North; TP03-TP08: South.

### 3.18 除冰规则 / De-icing rules:

除冰位置 / De-icing position	滑入 / Entry	滑出 / Exit	备注 / Remarks

①	TWY D	TWY D — H7	De-icing position ① ② ④ ⑤ ⑥ can be used independently;
②	(nose to South)	TWY D — H6	
③	TWY D — de-icing guide line(blue) (nose to South)	De-icing guide line—H7	Aircraft de-icing on ③ can only taxi out until ① without any aircraft;
④		De-icing guide line—H6 or H7	
⑤	TWY D (nose to North)	TWY D — H1	Aircraft de-icing on ③ ④ :Stands Nr.601-603,604A,604B,
⑥		TWY D — H2 or H1	
⑦	L01 (nose to South)	L01—H7	605-608 are forbidden to use; aircraft entering or exiting from China Eastern Airlines hangar are forbidden; L14(south of stand Nr.601) is forbidden to use.
⑧	L01 (nose to North)	L01—K1	

Remark: Refer to ZSSS AD2.24-2 for the specific location of ① - ⑧ .

#### 4. 进、离场管制规定

- 4.1 离场航空器应在预计开车前 10 分钟内联系放行管制，取得放行许可；
- 4.2 离场航空器应在推出开车前联络地面管制，取得开车许可并在 5 分钟内执行，否则，重新申请此许可；
- 4.3 地面管制将在适当时通知航空器联络塔台管制，获取后续管制指令；
- 4.4 为减少波道占用时间，航空器起飞离地后自动与塔台管制席位脱波（不需要通话脱波），脱波后，航空器应该联系 ATC 放行许可中指定的的离场管制频率。

#### 4. Air traffic control regulations

- 4.1 Departing aircraft shall contact Delivery Control for delivery clearance within 10 minutes prior to the start-up;
- 4.2 Before push-back and start-up, departing aircraft shall contact GND Control for push-back and start-up clearance and conduct within 5 minutes, otherwise, apply the clearance once more;
- 4.3 GND control will notify the aircraft at appropriate time to contact TWR control for further ATC instructions;
- 4.4 In order to avoid frequency congestion, pilot shall leave TWR frequency without radiotelephony instruction from controller as soon as airborne and contact the frequency assigned in the Delivery clearance immediately.

#### 5. 机场的 II/III 类运行

无

#### 5. CAT II/III operations at AD

Nil

#### 6. 除冰规则

无

#### 6. Rules for deicing

Nil

**7. 平行跑道同时仪表运行**

无

**7. Simultaneous operations on parallel runways**

Nil

**8. 警告**

所有飞行切勿误入虹桥机场东面的ZS(R) 559(上海市区)限制区。

**8. Warning**

All aircraft shall by no means fly into the Restricted Area ZS(R) 559 (urban area of ) by mistake, which is to the east of Hongqiao Airport.

**9. 直升机飞行限制, 直升机停靠区**

无

**9. Helicopter operation restrictions and helicopter parking/docking area**

Nil

**ZSSS AD 2.21 噪音限制规定及减噪程序**

在保证安全超障和飞行程序最低爬升梯度的条件下，执行如下起飞减噪程序。由于非管制原因不执行减噪程序，飞行员必须在起飞前告知管制员并说明原因。

- a. 在飞机起飞性能允许的情况下，尽可能使用减推力起飞；
- b. 在高度450米(1500英尺)时，调整和保持发动机爬升功率/推力，保持爬升速度V2+20km/h(10海里/小时)，保持起飞襟翼和缝翼继续爬升；
- c. 高度910米(3000英尺)以上时，转为正常航路爬升速度并按规定收襟翼/缝翼。

**ZSSS AD 2.21 Noise restrictions and Noise abatement procedures**

In condition of complying with the requirements of obstacle clearance and climb gradient required by flight procedure, the following noise abatement climb procedures shall be implemented. If the procedures can not be implemented due to any reason except ATC, pilot shall inform the controller with a reasonable explanation.

- a. The derated take-off is strongly recommended if the take-off performance of aircraft permit;
- b. At altitude 450m (1500ft), adjust engine power/thrust to climb power/thrust and maintain it, maintain climbing speed at V2+20km/h(10kt) with flaps and slats in the take-off configuration;
- c. At altitude 910m (3000ft), maintain a positive rate of climb, accelerate to normal en-route climb speed and retract flaps/slats on schedule.

**ZSSS AD 2.22 飞行程序****1. 总则**

除经上海进近或虹桥塔台特殊许可外，在上海进近管制区和虹桥塔台管制区内的飞行，必须按照仪表飞行规则进行。

**ZSSS AD 2.22 Flight procedures****1. General**

Flights within Shanghai Approach Control Area and Hongqiao Tower Control Area shall operate under IFR unless special clearance has been obtained from Shanghai Approach Control or Tower Control.

## 2. 起落航线

起落航线在跑道西侧进行，C、D类航空器高度450 (QNH) 米，A、B类航空器高度300 (QNH) 米。

## 2. Traffic circuits

Traffic circuits shall be made to the west of RWY, at the altitude of 450m for aircraft CAT C/D, and 300m for aircraft CAT A/B.

## 3. 仪表飞行程序

3.1 严格按照航图中公布的进、离场程序和ENR2.2.3中公布的有关规定飞行。如果需要，航空器可在空中交通管制部门指定的航路、导航台或定位点上空等待或做机动飞行。

3.2 等待程序见标准仪表进、离场图

3.3 优先着陆程序

实施优先着陆的航空器，经ATC许可，应保持高度直飞“PK”(“JTN”)，过台后，保持磁航迹181度(001度)并平飞60秒。下降高度至原高度加起始高度和的一半，然后右转(左转)至磁航迹001度(181度)，继续下降至起始高度，正切“PK”(“JTN”)后，加入仪表进近程序着陆。

3.4 当指令高度与进离场程序中各类限制高度有冲突时以ATC部门的指定高度为准。

## 3. IFR flight procedures

3.1 Strict adherence is required to the relevant arrival/departure procedures published in the aeronautical charts and the relevant regulations published in subsection ENR2.2.3. Aircraft may, if necessary, hold or maneuver on an airway, over a navigation facility or a fix designated by ATC.

3.2 Holding procedures refer to SID/STAR.

3.3 Priority for landing

Aircraft having obtained the ATC clearance to conduct priority landing, shall keep altitude to and fly over “PK” (“JTN”), then keep altitude and fly on track 181 degree(001 degree) for 60 seconds. Descend to the altitude which is the half of the sum of original altitude and IAP initial altitude, then turn RIGHT(LEFT) to track 001 degree(181 degree), keep descending to IAP initial altitude and abeam “PK” (“JTN”), then following IAP.

3.4 Follow ATC instructions when the instructions have a conflict with the height limits in the charts.

## 4. 雷达程序和 / 或 ADS-B 程序

4.1 上海进近管制区域内实施雷达管制。航空器最小水平间隔为6千米。

4.2 距进近跑道末端18.5千米(10海里)范围内，向同一跑道做最后进近的航空器之间无尾流间隔要求且接地后能在50秒内脱离跑道时，航空器之间的最小雷达间隔缩短为5千米(湿跑道或污染跑道除外)。

4.3 通常情况下航空器接地后占用跑道的时间应控制在50秒以内。如不能执行上述要求，驾驶员应在不晚于接地前5分钟通报管制员，管制员将根据空中和地面交通情况视情指挥航空器中止进近或复飞(湿跑道或污染跑道除外)。

## 4. Radar procedures and/or ADS-B procedures

4.1 Radar control within Shanghai APP has been implemented. The minimum horizontal radar separation is 6km.

4.2 Within 18.5km(10nm) from approaching RWY end, if there is no wake turbulence between two aircrafts approaching to the same RWY in final approach, and the preceding aircraft is able to vacate RWY within 50s after touchdown, the minimum radar separation can be reduced to 5km (except for wet or contaminated runway).

4.3 The RWY occupation time for aircraft after touchdown should be within 50s. If can not meet such standards, pilot should inform ATC no later than 5 minutes before touchdown. Controller will direct the aircraft to abort approach or go around according to actual traffic situation(except for wet or contaminated runway).

**4.4 雷达引导与排序:** 通常, 航空器从庵东 VOR (AND)、SASAN、横沙VOR (HSH) 等导航台得到雷达引导和排序, 直至最后进近航迹 (ILS、PAR、VOR/DME), 以加速空中交通流量。考虑到航空器的性能, 按需要发出雷达引导和飞行高度层/高度指令, 使航空器之间有一定的距离, 以保持正确的着陆间隔。

#### 4.5 最低监视引导高度图

**4.4 Radar vectoring and sequencing:** Normally, aircraft will be vectored and sequenced from Andong VOR (AND), SASAN and Hengsha VOR (HSH) to the appropriate final approach track (ILS, PAR, VOR/DME), so as to ensure an expeditious flow of traffic. Instructions about radar vectors and flight levels/altitudes will be issued, as required, for spacing and separating the aircraft so that correct landing intervals are maintained, taking into account aircraft characteristics.

#### 4.5 Surveillance Minimum Altitude Sectors

Sector 1	ALT limit:450m or above N312900E1205141-N313021E1211316-N312344E1212327-N311730E1212357-N311535E1205250-N312900E1205141
Sector 2	ALT limit:500m or above A circle with a radius of 7km centered on N312236E1211422
Sector 3	ALT limit:600m or above N311717E1212021-N311730E1212357-N310821E1212441-N310808E1212106-N311717E1212021
Sector 4	ALT limit:950m or above N311730E1212357-N311937E1213324-N311527E1213731-N310907E1213215-N310821E1212441-N311730E1212357
Sector 5	ALT limit:550m or above N313021E1211316-N313558E1214759-N313309E1221316-N310603E1222313-N304247E1220917-N304219E1205541-N311535E1205250-N311730E1212357-N312344E1212327- N313021E1211316
Sector 6	ALT limit:900 or above N321000E1204400-N315236E1214712-N314611E1224630-N311241E1224630-N301500E1221200-N301518E1211311-N305310E1202500-N313521E1201944-N321000E1204400, except                    N312900E1205141-N313021E1211316-N313558E1214759-N313309E1221316-N310603E1222313-N304247E1220917-N304219E1205541-N312900E1205141

## 5. 无线电通信失效程序

### 5.1 航空器通信失效

5.1.1 如果航空器具备信号接收能力, 根据接收到的管制指令继续飞行;

5.1.2 如果航空器不具备信号接收能力, 航空器应按照进近程序继续进近并尽快落地; 如果本场不具备落地条件, 飞行员可自行决定返航或者备降;

#### a. 向北着陆

航空器按照最后接收到的管制员指令高度 (如果低于 1500 米则上升至 1500 米) 飞向 JTN, 进入等待程序, 下降至起始进近高度 900 米, 然后按 36R 跑道仪表进近图着陆;

#### b. 向南着陆

### 5. Radio communication failure procedures

#### 5.1 Aircraft communication failure

5.1.1 If the radio receiver available, aircraft shall follow the instruction from it;

5.1.2 If the radio receiver not available, aircraft shall continue to landing with approach procedure as soon as possible; If condition of airportis not available for landing, the flight crew should decide to return or alternate by themselves;

#### a. landing to north

Aircraft fly to JTNAccording to the lastcommand ALT (climb to 1500m if not reached), then join the holding procedure, descend to the initial approach altitude(900m), and then approach and land according to RWY 36R instrument approach procedure;

#### b. landing to south

航空器按照最后接收到的管制员指令高度(如果低于1500米则上升至1500米)飞向PK,进入等待程序,下降至起始进近高度900米,然后按18L跑道仪表进近图着陆;

### 5.2 本场通信失效

本场无线电收发功能失效,航空器无法与管制单位建立有效的通讯联系时,航空器应联系上一管制单位,并按照接收管制单位的管制指令继续飞行;

### 5.3 无线电通信恢复

失去通信联络的航空器已经着陆,或者已经恢复联络的,可恢复正常管制运行,并立即通知相关管制单位。

Aircraft fly to PK according to the last command ALT (climb to 1500m if not reached), join the holding procedure, descend to the initial approach altitude(900m), and then approach and land according to RWY18L instrument approach procedure;

### 5.2 Aerodrome communication failure

If aircraft cannot establish communication with the aerodrome control unit, aircraft shall contact the previous control unit, and follow the instruction to continue;

### 5.3 Radio communication resume to normal

It is available to resume activities when the aircraft that lose touch via Communication Channel has landed or get in touch again. Inform the ATC office immediately.

## 6. 目视飞行程序

**6.1 等待:** 目视飞行在跑道西侧,按起落航线进行等待。

**6.2 目视飞行规定仪表进近程序的最后进近阶段,**使用目视间隔时,航空器驾驶员应按照仪表程序进近,并保持目视判断与其他相关航空器的安全间隔,当航空器进近至决断高度或最低下降高度时,可能会遇到在同一条跑道上前面落地的航空器正在脱离,或者正在起飞的航空器即将离地的情况。当航空器驾驶员认为必要时,随时可以复飞,并立即通知管制员。

**6.3 航空器驾驶员得到仪表进近的指令后,**尽可能根据机载设备监控周边航空器的运行状态,并尽最大可能建立目视间隔;同时在管制员通报其它航空器的相对位置时,向管制员报告已建立目视间隔。若不能目视相关航空器,管制员将视情况指挥该航空器中止进近或复飞。

**6.4 机场实施目视进近,**航空器应遵守目视间隔飞行规定

### 6. Procedures for VFR flights

**6.1 Holding:** Visual flight on the west side of RWY, wait according to the traffic circuits.

**6.2 Visual flight rules** When using VFR separation on the final approach phase of instrument approach procedures, pilot shall follow the instrument approach procedures and keep watching to ensure a safety separation with other aircraft. When the aircraft descends to DA or MDA, some situations may be observed, such as the preceding aircraft is vacating the same RWY, or the departure aircraft is lifting off. Under such situation, pilot can make a missed approach at any moment if it is considered to be necessary and notify the controller immediately.

**6.3 Upon receipt of approaching clearance,** the pilot shall monitor the operating situations of other aircraft in the vicinity using airborne equipment and establish the visual separation as practicable, then report 'visual separation established' when the controller notifies the relative positions of other aircraft. If pilot can not visual the relative aircraft, controller will direct the aircraft to abort approach or go around according to actual traffic situation.

**6.4 Visual approach implemented in airport,** aircraft shall obey flight rules of visual separation.

## 7. 目视飞行航线

无

### 7. VFR route

Nil

## 8. 目视参考点

### 8. Visual reference point

无

Nil

**9. 其它规定**

9.1 本场RNAV飞行程序为主用程序，无特殊原因  
机组应该执行这些程序。

**9. Other regulations**

9.1 RNAV flight procedures are primary procedures, pilot  
shall execute these procedures without special reasons.

**10. 区域导航飞行程序相关数据****10. Data for RNAV flight procedures**

Waypoint list

ID	COORDINATES(WGS-84)	ID	COORDINATES(WGS-84)
SS001	N310203 E1212043	SS502	N312046 E1211928
SS002	N305814 E1212055	SS601	N310341 E1212037
SS003	N305003 E1211802	SS602	N310340 E1212024
SS004	N303254 E1211540	AND	N301524 E1211318
SS005	N305043 E1212148	HSH	N312206 E1215048
SS006	N303436 E1212342	JTN	N310724 E1212030
SS007	N302301 E1212503	NXD	N305348 E1202548
SS008	N310148 E1211408	PDL	N310748 E1214018
SS009	N311225 E1211332	PUD	N311018 E1214700
SS010	N311905 E1211314	XSY	N305554 E1215224
SS011	N312400 E1205701	AKARA	N313000 E1233000
SS012	N310203 E1212029	ALDAP	N313730 E1222212
SS013	N305828 E1212659	BOLEX	N310000 E1230000
SS014	N310218 E1212646	BONGI	N310000 E1223854
SS015	N311140 E1212617		
SS017	N312223 E1211936	DADAT	N302700 E1211448
SS018	N312148 E1211305	EKIMU	N312106 E1210636
SS019	N312223 E1211923	EMSAN	N314042 E1224630
SS020	N312752 E1211919	IBEGI	N314924 E1221636
SS021	N312807 E1212524	LAMEN	N313636 E1240000
SS022	N312243 E1212541	LASAN	N310000 E1222530
SS023	N311720 E1212559	NINAS	N310000 E1221500
SS025	N311705 E1211940		
SS026	N311650 E1211322	PIKAS	N321000 E1204400
SS027	N311257 E1210702	POMOK	N312700 E1210700
SS028	N310404 E1210737	PONAB	N303518 E1222406

SS031	N305254 E1211837	SASAN	N313524 E1201912
SS032	N312551 E1205104	SURAK	N314624 E1232930
SS033	N303746 E1211620	TONIX	N311954 E1233236
SS034	N305758 E1211420	UNTOP	N304400 E1221636
SS035	N304240 E1211657		
SS501	N312046 E1211942		

Path Terminator	Waypoint ID	Fly over	Magnetic Course (°)	Turn Direction	Altitude (m)	IAS (km/h)	VPA/TCH	Navigation Specification
RWY18L/18R Departure PIK-1X								
VA					150			RNAV1
DF	SS012							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS027							RNAV1
TF	POMOK							RNAV1
TF	PIKAS							RNAV1
RWY18L/18R PIK-3X(BY ATC)								
VA					150			RNAV1
DF	SS012							RNAV1
TF	SS014							RNAV1
TF	SS015				↑ 2100 or by ATC			RNAV1
TF	SS025							RNAV1
TF	POMOK							RNAV1
TF	PIKAS							RNAV1
RWY18L/18R Departure SAS-1X								
VA					150			RNAV1
DF	SS012							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS027							RNAV1
TF	EKIMU				1500			RNAV1
TF	SS011				↑ 1500			RNAV1
TF	SASAN							RNAV1
RWY18L/18R Departure NXD-1X								
VA					150			RNAV1
DF	SS012							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	NXD				↑ 3900			RNAV1

RWY18L/18R Departure AND-1X							
VA					150		RNAV1
DF	SS012						RNAV1
TF	SS031				1800		RNAV1
TF	AND						RNAV1
RWY18L/18R Departure AND-3X(BY ATC)							
VA					150		RNAV1
DF	SS012						RNAV1
TF	SS007						RNAV1
TF	AND						RNAV1
RWY18L/18R Departure PON-1X							
VA					150		RNAV1
DF	SS012						RNAV1
TF	SS014						RNAV1
TF	PDL						RNAV1
TF	NINAS						RNAV1
TF	PONAB						RNAV1
RWY18L/18R Departure BOL-1X							
VA					150		RNAV1
DF	SS012						RNAV1
TF	SS014						RNAV1
TF	PDL						RNAV1
TF	NINAS						RNAV1
TF	LASAN						RNAV1
TF	BONGI						RNAV1
TF	BOLEX						RNAV1
RWY18L/18R Departure LAM-1X							
VA					150		RNAV1
DF	SS012						RNAV1
TF	SS014						RNAV1
TF	PDL						RNAV1
TF	HSH						RNAV1
TF	ALDAP						RNAV1
TF	EMSAN						RNAV1
TF	SURAK						RNAV1
TF	LAMEN						RNAV1
RWY18L/18R Departure LAM-3X							
VA					150		RNAV1

DF	SS012							RNAV1
TF	SS014							RNAV1
TF	PDL							RNAV1
TF	NINAS							RNAV1
TF	LASAN							RNAV1
TF	BONGI							RNAV1
TF	BOLEX							RNAV1
TF	TONIX							RNAV1
TF	LAMEN							RNAV1
RWY18L/18R Departure IBE-1X								
VA					150			RNAV1
DF	SS012							RNAV1
TF	SS014							RNAV1
TF	PDL							RNAV1
TF	HSH							RNAV1
TF	ALDAP							RNAV1
TF	IBEGI							RNAV1
RWY18L/18R Departure SUR-1X								
VA					150			RNAV1
DF	SS012							RNAV1
TF	SS014							RNAV1
TF	PDL							RNAV1
TF	HSH							RNAV1
TF	ALDAP							RNAV1
TF	EMSAN							RNAV1
TF	SURAK							RNAV1
RWY18L/18R Departure SUR-3X								
VA					150			RNAV1
DF	SS012							RNAV1
TF	SS014							RNAV1
TF	PDL							RNAV1
TF	NINAS							RNAV1
TF	LASAN							RNAV1
TF	BONGI							RNAV1
TF	BOLEX							RNAV1
TF	TONIX							RNAV1
TF	AKARA							RNAV1
TF	SURAK							RNAV1

RWY36L/36R Departure PIK-2X								
VA					200			RNAV1
DF	POMOK							RNAV1
TF	PIKAS							RNAV1
RWY36L/36R Departure PIK-4X								
CF	SS025							RNAV1
TF	POMOK							RNAV1
TF	PIKAS							RNAV1
RWY36L/36R Departure SAS-2X								
VA					200			RNAV1
DF	EKIMU				1500			RNAV1
TF	SS011				↑ 1500			RNAV1
TF	SASAN							RNAV1
RWY36L/36R Departure SAS-4X								
CF	SS025							RNAV1
TF	EKIMU				1500			RNAV1
TF	SS011				↑ 1500			RNAV1
TF	SASAN							RNAV1
RWY36L/36R Departure NXD-2X								
VA					200			RNAV1
DF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	NXD				↑ 3900			RNAV1
RWY36L/36R Departure NXD-4X								
CF	SS025							RNAV1
TF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	NXD				↑ 3900			RNAV1
RWY36L/36R Departure AND-2X								
CF	SS025							RNAV1
TF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	SS031				1800			RNAV1
TF	AND							RNAV1

RWY36L/36R Departure AND-4X(BY ATC)								
CF	SS025							RNAV1
TF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	SS007							RNAV1
TF	AND							RNAV1
RWY36L/36R Departure AND-6X								
VA					200			RNAV1
DF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	SS031				1800			RNAV1
TF	AND							RNAV1
RWY36L/36R Departure AND-8X(BY ATC)								
VA					200			RNAV1
DF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	SS007							RNAV1
TF	AND							RNAV1
RWY36L/36R Departure PON-2X								
CF	SS025							RNAV1
TF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	XSY				by ATC			RNAV1
TF	UNTOP							RNAV1
TF	PONAB							RNAV1
RWY36L/36R Departure PON-4X								
VA					200			RNAV1
DF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1

TF	SS012							RNAV1
TF	XSY				by ATC			RNAV1
TF	UNTOP							RNAV1
TF	PONAB							RNAV1
RWY36L/36R Departure PON-6X(BY ATC)								
VA					200			RNAV1
DF	SS019							RNAV1
TF	SS022							RNAV1
TF	SS023				2100 or by ATC			RNAV1
TF	SS014							RNAV1
TF	XSY				by ATC			RNAV1
TF	UNTOP							RNAV1
TF	PONAB							RNAV1
RWY36L/36R Departure BOL-2X								
CF	SS025							RNAV1
TF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	XSY				by ATC			RNAV1
TF	NINAS							RNAV1
TF	LASAN							RNAV1
TF	BONGI							RNAV1
TF	BOLEX							RNAV1
RWY36L/36R Departure BOL-4X								
VA					200			RNAV1
DF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	XSY				by ATC			RNAV1
TF	NINAS							RNAV1
TF	LASAN							RNAV1
TF	BONGI							RNAV1
TF	BOLEX							RNAV1
RWY36L/36R Departure BOL-6X(BY ATC)								
VA					200			RNAV1

DF	SS019							RNAV1
TF	SS022							RNAV1
TF	SS023				2100 or by ATC			RNAV1
TF	SS014							RNAV1
TF	XSY				by ATC			RNAV1
TF	NINAS							RNAV1
TF	LASAN							RNAV1
TF	BONGI							RNAV1
TF	BOLEX							RNAV1
RWY36L/36R Departure LAM-2X								
CF	SS025							RNAV1
TF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	XSY				by ATC			RNAV1
TF	NINAS							RNAV1
TF	LASAN							RNAV1
TF	BONGI							RNAV1
TF	BOLEX							RNAV1
TF	TONIX							RNAV1
TF	LAMEN							RNAV1
RWY36L/36R Departure LAM-4X								
VA					200			RNAV1
DF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	PDL							RNAV1
TF	HSH				by ATC			RNAV1
TF	ALDAP							RNAV1
TF	EMSAN							RNAV1
TF	SURAK							RNAV1
TF	LAMEN							RNAV1
RWY36L/36R Departure LAM-6X								
CF	SS025							RNAV1
TF	SS026							RNAV1

TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	PDL							RNAV1
TF	HSH				by ATC			RNAV1
TF	ALDAP							RNAV1
TF	EMSAN							RNAV1
TF	SURAK							RNAV1
TF	LAMEN							RNAV1

RWY36L/36R Departure LAM-8X

VA					200			RNAV1
DF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	XSY				by ATC			RNAV1
TF	NINAS							RNAV1
TF	LASAN							RNAV1
TF	BONGI							RNAV1
TF	BOLEX							RNAV1
TF	TONIX							RNAV1
TF	LAMEN							RNAV1

RWY36L/36R Departure LAM-52X(BY ATC)

VA					200			RNAV1
DF	SS019							RNAV1
TF	SS022							RNAV1
TF	HSH				by ATC			RNAV1
TF	ALDAP							RNAV1
TF	EMSAN							RNAV1
TF	SURAK							RNAV1
TF	LAMEN							RNAV1

RWY36L/36R Departure LAM-56X(BY ATC)

VA					200			RNAV1
DF	SS019							RNAV1
TF	SS022							RNAV1
TF	SS023				2100 or by ATC			RNAV1
TF	SS014							RNAV1

TF	XSY				by ATC			RNAV1
TF	NINAS							RNAV1
TF	LASAN							RNAV1
TF	BONGI							RNAV1
TF	BOLEX							RNAV1
TF	TONIX							RNAV1
TF	LAMEN							RNAV1
RWY36L/36R Departure IBE-2X								
CF	SS025							RNAV1
TF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	PDL							RNAV1
TF	HSH				by ATC			RNAV1
TF	ALDAP							RNAV1
TF	IBEGI							RNAV1
RWY36L/36R Departure IBE-4X								
VA					200			RNAV1
DF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	PDL							RNAV1
TF	HSH				by ATC			RNAV1
TF	ALDAP							RNAV1
TF	IBEGI							RNAV1
RWY36L/36R Departure IBE-6X(BY ATC)								
VA					200			RNAV1
DF	SS019							RNAV1
TF	SS022							RNAV1
TF	HSH				by ATC			RNAV1
TF	ALDAP							RNAV1
TF	IBEGI							RNAV1
RWY36L/36R Departure SUR-2X								
VA					200			RNAV1
DF	SS026							RNAV1
TF	SS027							RNAV1

TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	XSY				by ATC			RNAV1
TF	NINAS							RNAV1
TF	LASAN							RNAV1
TF	BONGI							RNAV1
TF	BOLEX							RNAV1
TF	TONIX							RNAV1
TF	AKARA							RNAV1
TF	SURAK							RNAV1
RWY36L/36R Departure SUR-4X								
VA					200			RNAV1
DF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	PDL							RNAV1
TF	HSH				by ATC			RNAV1
TF	ALDAP							RNAV1
TF	EMSAN							RNAV1
TF	SURAK							RNAV1
RWY36L/36R Departure SUR-6X(BY ATC)								
VA					200			RNAV1
DF	SS019							RNAV1
TF	SS022							RNAV1
TF	SS023				2100 or by ATC			RNAV1
TF	SS014							RNAV1
TF	XSY				by ATC			RNAV1
TF	NINAS							RNAV1
TF	LASAN							RNAV1
TF	BONGI							RNAV1
TF	BOLEX							RNAV1
TF	TONIX							RNAV1
TF	AKARA							RNAV1
TF	SURAK							RNAV1
RWY36L/36R Departure SUR-8X(BY ATC)								
VA					200			RNAV1

DF	SS019							RNAV1
TF	SS022							RNAV1
TF	HSH				by ATC			RNAV1
TF	ALDAP							RNAV1
TF	EMSAN							RNAV1
TF	SURAK							RNAV1
RWY36L/36R Departure SUR-10X								
CF	SS025							RNAV1
TF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	XSY				by ATC			RNAV1
TF	NINAS							RNAV1
TF	LASAN							RNAV1
TF	BONGI							RNAV1
TF	BOLEX							RNAV1
TF	TONIX							RNAV1
TF	AKARA							RNAV1
TF	SURAK							RNAV1
RWY36L/36R Departure SUR-16X								
CF	SS025							RNAV1
TF	SS026							RNAV1
TF	SS027							RNAV1
TF	SS028				↑ 1500			RNAV1
TF	SS012							RNAV1
TF	PDL							RNAV1
TF	HSH				by ATC			RNAV1
TF	ALDAP							RNAV1
TF	EMSAN							RNAV1
TF	SURAK							RNAV1
RWY18L/18R Arrival SAS-2F								
IF	SASAN							RNAV1
TF	SS032				↑ 1500			RNAV1
TF	SS011				↑ 1500			RNAV1
TF	EKIMU				1200	MAX380		RNAV1
RWY18L/18R Arrival SAS-4F(BY ATC)								
IF	SASAN							RNAV1

TF	SS032				↑ 1500	MAX380		RNAV1
RWY18L/18R Arrival AND-2F								
IF	AND							RNAV1
TF	DADAT				↓ 3500			RNAV1
TF	SS004				↓ 2700			RNAV1
TF	SS033							RNAV1
TF	SS035							RNAV1
TF	JTN							RNAV1
TF	SS009				1500	MAX380		RNAV1
RWY18L/18R Arrival AND-6F(BY ATC)								
IF	AND							RNAV1
TF	SS007							RNAV1
TF	SS006				↓ 2700			RNAV1
TF	JTN							RNAV1
TF	SS009				1500	MAX380		RNAV1
RWY18L/18R Arrival PUD-2F								
IF	PUD							RNAV1
TF	SS015				1800			RNAV1
TF	SS009				1500	MAX380		RNAV1
RWY18L/18R Arrival PUD-4F(BY ATC)								
IF	PUD							RNAV1
TF	SS015				1800			RNAV1
TF	SS023				1500	MAX380		RNAV1
RWY18L Approach transition via EKIMU								
IF	EKIMU				1200	MAX380		RNAV1
TF	SS018				900			RNAV1
TF	SS017							RNAV1
TF	SS501							RNAV1
RWY18R Approach transition via EKIMU								
IF	EKIMU				1200	MAX380		RNAV1
TF	SS018				900			RNAV1
TF	SS019							RNAV1
TF	SS502							RNAV1
RWY18L Approach transition via SS032								
IF	SS032				↑ 1500			RNAV1
TF	SS020				900			RNAV1
TF	SS017							RNAV1
TF	SS501							RNAV1

RWY18R Approach transition via SS032								
IF	SS032				↑ 1500	MAX380		RNAV1
TF	SS020				900			RNAV1
TF	SS019							RNAV1
TF	SS502							RNAV1
RWY18L Approach transition via SS009								
IF	SS009				1500	MAX380		RNAV1
TF	SS018				900			RNAV1
TF	SS017							RNAV1
TF	SS501							RNAV1
RWY18R Approach transition via SS009								
IF	SS009				1500	MAX380		RNAV1
TF	SS018				900			RNAV1
TF	SS019							RNAV1
TF	SS502							RNAV1
RWY18L Approach transition via SS023								
IF	SS023				1500	MAX380		RNAV1
TF	SS022							RNAV1
TF	SS021							RNAV1
TF	SS020				900			RNAV1
TF	SS017							RNAV1
TF	SS501							RNAV1
RWY18R Approach transition via SS023								
IF	SS023				1500	MAX380		RNAV1
TF	SS022							RNAV1
TF	SS021							RNAV1
TF	SS020				900			RNAV1
TF	SS019							RNAV1
TF	SS502							RNAV1
RWY36L/36R Arrival SAS-1F								
IF	SASAN							RNAV1
TF	SS032							RNAV1
TF	SS011				↑ 1500			RNAV1
TF	EKIMU							RNAV1
TF	SS010							RNAV1
TF	SS009				1500	MAX380		RNAV1
RWY36L/36R Arrival SAS-3F(BY ATC)								
IF	SASAN							RNAV1

TF	SS032							RNAV1
TF	SS011				↑ 1500			RNAV1
TF	EKIMU							RNAV1
TF	SS010							RNAV1
TF	SS009				1500			RNAV1
TF	SS008				900			RNAV1
TF	SS034							RNAV1
TF	SS002				900	MAX380		RNAV1
RWY36L/36R Arrival AND-1F								
IF	AND							RNAV1
TF	DADAT				↓ 3500			RNAV1
TF	SS004				↓ 2700			RNAV1
TF	SS033							RNAV1
TF	SS035							RNAV1
TF	SS003							RNAV1
TF	SS002				900	MAX380		RNAV1
RWY36L/36R Arrival AND-5F(BY ATC)								
IF	AND							RNAV1
TF	SS007							RNAV1
TF	SS006				↓ 2700			RNAV1
TF	SS005							RNAV1
TF	SS002				900	MAX380		RNAV1
RWY36L/36R Arrival PUD-1F								
IF	PUD							RNAV1
TF	SS015				1800			RNAV1
TF	SS009				1500	MAX380		RNAV1
RWY36L/36R Arrival PUD-3F								
IF	PUD							RNAV1
TF	SS015				1800	MAX380		RNAV1
RWY36L/36R Arrival PUD-5F(BY ATC)								
IF	PUD							RNAV1
TF	SS015				1800			RNAV1
TF	SS009				1500			RNAV1
TF	SS008				900			RNAV1
TF	SS034							RNAV1
TF	SS002				900	MAX380		RNAV1
RWY36L Approach transition via SS009								
IF	SS009				1500	MAX380		RNAV1

TF	SS008				900			RNAV1
TF	SS012							RNAV1
TF	SS602							RNAV1
RWY36R Approach transition via SS009								
IF	SS009				1500	MAX380		RNAV1
TF	SS008				900			RNAV1
TF	SS001							RNAV1
TF	SS601							RNAV1
RWY36L Approach transition via SS002								
IF	SS002				900	MAX380		RNAV1
TF	SS012							RNAV1
TF	SS602							RNAV1
RWY36R Approach transition via SS002								
IF	SS002				900	MAX380		RNAV1
TF	SS001							RNAV1
TF	SS601							RNAV1
RWY36L Approach transition via SS015								
IF	SS015				1800	MAX380		RNAV1
TF	SS014							RNAV1
TF	SS013							RNAV1
TF	SS002				900			RNAV1
TF	SS012							RNAV1
TF	SS602							RNAV1
RWY36R Approach transition via SS015								
IF	SS015				1800	MAX 380		RNAV1
TF	SS014							RNAV1
TF	SS013							RNAV1
TF	SS002				900			RNAV1
TF	SS001							RNAV1
TF	SS601							RNAV1
RWY18L/18R Holding(outbound time 1 min)								
HM	SS009	Y	001	R	1800	MAX390		RNAV1
HM	SS032	Y	115	R	↓ 6000 ↑ 3000	MAX390		RNAV1
HM	SS033	Y	012	L	↓ 6000 ↑ 1500 or by ATC	MAX390		RNAV1
HM	SS035	Y	012	R	↓ 5100 ↑ 2700	MAX390		RNAV1

SS035 Holding outbound time 1.5 min								
RWY36L/36R Holding(outbound time 1 min)								
HM	SS002	Y	001	R	1200	MAX390		RNAV1
HM	SS009	Y	181	L	1800	MAX390		RNAV1
HM	SS032	Y	115	R	↓ 6000 ↑ 3000	MAX390		RNAV1
HM	SS033	Y	012	L	↓ 6000 ↑ 1500	MAX390		RNAV1
HM	SS035	Y	012	R	↓ 5100 ↑ 2700	MAX390		RNAV1
SS035 Holding outbound time 1.5 min								

**ZSSS AD 2.23 其它资料****ZSSS AD 2.23 Other information**

全年有鸟类活动，机场当局采取了驱赶措施，以减少鸟群活动。

Activities of bird flocks are found all the year round, Aerodrome Authority resorts to dispersal methods to reduce bird activities.

Type of bird	Activity	Flight altitude(m)
pigeon	The whole year	2-20
ringdove	The whole year	5-7
night heron	May-December	50-80
cattle egret	April-October	30-50
hawk	January, August-December	30-50
barn swallow	March-September	2-10