

GEN 3.5 - METEOROLOGICAL SERVICES**1. Responsible Services**

- 1.1. The Meteorological Services for civil aviation are provided by the India Meteorological Department, Ministry of Earth Sciences (MoES), Government of India.

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2. Area of responsibility

- 2.1. Meteorological service is provided within the Chennai, Delhi, Kolkata, and Mumbai FIR

3. Meteorological observations and reports

- 3.1. Meteorological observations and reports provided are listed at page GEN 3.5-4.

4. Abbreviation and Legend

Abbreviation	Legend
A	Current Weather Instrument System (CWIS), Skopograph, Ceilometer
A ₁	Current Weather Instrument System (CWIS), Skopograph
A ₂	Current Weather Instrument System (CWIS), Ceilometer
A ₃	Current Weather Instrument System (CWIS)
A/R	As & when required
AMO	Aerodrome Meteorological Office (Formerly Class I Met Office)
AMS	Aerodrome Meteorological Station (Formerly Class III Met Office)
B	Distance Indicating Wind Equipment (DIWE), Ceiling Balloon, Search Light, Stevenson Screen
C	Wind vane, Cup anemometer, Stevenson Screen
HJ	Observation from sun-rise to sun-set
H24	Continuous day and night service
HO	Service available to meet operational requirements
HS	Service available during hours of scheduled service
METAR	Local routine report (in coded form)
MWO	Meteorological Watch Office
P30	Prognostic Upper air chart at constant pressure of 300hPa
P25	Prognostic Upper air chart at constant pressure of 250hPa
P20	Prognostic Upper air chart at constant pressure of 200hPa
S	Synoptic surface chart
SPECI	Local Special Report (in coded form)
SW	Prognostic significant weather chart
TREND	Landing forecast appended to aviation weather reports

Abbreviation	Legend
U85	Synoptic Upper air chart at constant pressure of 850hPa
U70	Synoptic Upper air chart at constant pressure of 700hPa
U50	Synoptic Upper air chart at constant pressure of 500hPa
U30	Synoptic Upper air chart at constant pressure of 300hPa
U25	Synoptic Upper air chart at constant pressure of 250hPa
U20	Synoptic Upper air chart at constant pressure of 200hPa
U15	Synoptic Upper air chart at constant pressure of 150hPa

5. Types of services

5.1. Area Forecast

- 5.1.1. Under the World Area Forecast system, WAFC London is responsible for the forecast of upper winds, upper-air temperatures, direction, speed and height of maximum winds and tropopause heights and temperatures. The products are valid for 6, 12, 18, 24, 30 and 36 hours after the time of synoptic data (0000, 0600, 1200 and 1800 UTC) on which the forecasts are based. The grid point data for upper wind and temperature are available for flight levels 50 (850hPa), 100 (700hPa), 140 (600hPa), 180 (500hPa), 240 (400hPa), 300 (300hPa), 340 (250hPa), 390 (200hPa) and 450 (150hPa).
- 5.1.2. Forecast of significant weather phenomena are also prepared by WAFC London, four times a day for fixed valid times of 0000, 0600, 1200 and 1800 UTC. Significant weather charts for FL250-FL630 is being used in India for the documentation of international flights as well as national long-haul flights.
- 5.1.3. These charts are received by a Satellite Distribution System (SADIS) receive only antenna installed at IMD-Delhi and disseminated through IMD's communication channel to forecasting offices.
- 5.1.4. In addition, national SIGWX charts and prognostic charts are also being prepared by the four Extended Analysis and Prognosis Center (EAPC) functioning at Chennai, Delhi, Kolkata and Mumbai for the documentation of national short-haul flights.

5.2. Route and Aerodrome Forecasts

- 5.2.1. Route Forecast, aerodrome forecast, local forecasts and trend forecasts are issued by Aerodrome Meteorological Office (Offices having forecasting facilities). During the closed hours of watch of the offices with restricted forecasting hours, the necessary forecasts are issued by the meteorological offices at state/regional centers. These forecasts for the Aeronautical Meteorological Stations (offices not having forecasting facilities) are issued by associated AMOs.

5.3. Aerodrome Warning/Wind Shear Warnings

- 5.3.1. Aerodrome warnings are issued by Aerodrome Meteorological Offices functioning during the hours of forecasting watch and give concise information of meteorological condition, which could adversely affect aircraft on the ground, including parked aircraft and the aerodrome facilities and services. In cases of aerodromes with Aeronautical Meteorological Stations, the associated Aerodrome Meteorological Office, at the state centers or regional centers, issue these warnings, if there is prior requisition.
- 5.3.2. These warnings are supplied to ATS units of Airports Authority of India for further dissemination over the aerodrome to operators and other agencies.
- 5.3.3. Aerodrome warnings are issued for strong surface winds, tropical cyclones, thunderstorms, squall, dust storm/sand storm, hail, frost, snow, freezing precipitation etc.
- 5.3.4. In addition, warnings for gliders and light aircraft and helicopters are issued and appended to the Local forecast when the wind speed is expected to reach 17 knot or more.

6. Briefing and Display

- 6.1. In all Aerodrome Meteorological Office which are having forecasting facility, briefing is available to the pilots and/or flight operations personnel about the prevailing and anticipated weather conditions. Latest surface and upper-air synoptic charts, meteorological reports and forecasts of destination and its alternate(s), SIGMET information, AIREP, prognostic charts, ground based weather radar information

and satellite cloud imagery are normally displayed in meteorological offices and are available for consultation and briefing. Depending on the weather situation, the meteorological officer may insist that the pilot in command of a flight be present personally for briefing. Briefing is also provided at Aeronautical Meteorological Stations (where forecasting facility is not available) after obtaining the same from its associated AMO.

7. Documentation

7.1. Documentation consists of –

7.1.1. Flight forecast in tabular form/pictorial cross sectional form/chart form

7.1.2. Terminal aerodrome forecasts of destination and alternate aerodrome

7.1.3. Take-off and ascent/descent data (wherever necessary) are provided to flights taking off from airports within the country.

7.2. The chart form of forecast for domestic short-haul flights consists of prognostic significant weather charts below FL460 and prognostic upper wind and temperature charts for the level 300hPa, 250hPa and 200hPa prepared by four MWOs. The chart form of forecast for international and national long-haul flights consists of charts obtained from WAFC as per para 5.1.1. Chart form of documentation is prepared at Chennai, Delhi, Kolkata and Mumbai and the same are made available for briefing at all AMOs and AMSs concerned. Forecasts are normally given up to the next halt where a meteorological forecasting office exists, when the duration of the halt is more than seventy-five minutes.

7.3. Return forecasts are provided for flights when the halt at the destination is less than 75 minutes and there is no change of crew. If sufficient notice is given, arrangements are also made to provide documentation even at airports without meteorological forecasting facility. If planned halt(s) at intermediate airports are for long periods, a decision whether fresh forecasts will be required at intermediate halt(s), will have to be taken by mutual consultation between the pilot and the meteorological office at the original departure aerodrome taking into consideration the expected weather developments.

7.4. A fresh forecast has to be obtained at intermediate halts when the period of validity of the route and/or aerodrome forecasts supplied has elapsed or is expected to elapse before the completion of the flights due to changes in the original plan. In such cases, the operator has to make arrangements to obtain fresh forecast from the Aviation Meteorological Office at the original departure aerodrome or from the nearest Aviation Meteorological Office. The responsibility for the collection and transmission of the forecasts to the pilot at intermediate halts rests with the operator.

8. In-flight services

8.1. **SIGMET**: Significant Meteorological Information pertaining to the FIRs are issued by the Meteorological Watch Office (MWO) at Chennai, Delhi, Kolkata & Mumbai and are known as SIGMET. These are supplied to the ATS units at the Flight Information Center (FIC) and Area Control Center (ACC) for the transmission to aircraft in flight (Refer Para 12)

8.2. **VOLMET BROADCASTS**: Current Weather Reports and Aerodrome Forecasts and SIGMETs of certain stations are broadcast on HF from Kolkata and Mumbai at half hourly intervals. Details of these broadcast are given in Para 12.

8.3. **ATIS BROADCAST**: Latest Weather Report of the airport, together with trend forecast valid for the next 2 hours, is included in the Automatic Terminal Information Service (ATIS) broadcast from Chennai, Delhi, Kolkata & Mumbai.

8.4. AD 2.11 of each aerodrome described in Part 3–Aerodrome (AD), Volume II gives metrological information provided by each aerodrome.

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9. Meteorological Observatories and Reports

Name of station/Location Indicator	Type and frequency of observatories/Automatic Observing Equipment	Type of Met reports and supp. information included	Observing system & site(s)	Hours of operation	Climatological Information
Agartala/VEAT	Hourly + Half hourly from 2300-0730hrs	METAR/SPECI/TREND	A	H24	NIL
Agatti/VOAT	Hourly + Half hourly during HO	METAR/SPECI	C	HO	NIL
Ahmedabad/VAAH	Half hourly	METAR/SPECI/TREND	A	H24	Available
Amritsar/VIAR	Hourly + Half hourly from 0530-1130hrs	METAR/SPECI	B	HJ	Nil
Aurangabad/VAAU	Hourly + Half hourly from 0030-0530hrs	METAR/SPECI	B	H24	Nil
Bangalore/VOBG	Hourly + Half hourly	METAR/SPECI/TREND	A	H24	Available
Belgaum/VABM	Hourly + Half hourly during HO	METAR/SPECI	B	HJ	Nil
Bhavnagar/VABN	Hourly + Half hourly from 0630-0800hrs	METRA/SPECI	B	HJ	Nil
Bhopal /VABP (Baigarh)	Hourly + Half hourly during HO	METAR/SPECI	B	H24	Nil
Bhubneswar/VEBS	Hourly + Half hourly during HO	METAR/SPECI/TREND	B	H24	Nil
Cochin Intl / VOCI	Half hourly	METAR/SPECI	A	H24	Nil
Mumbai/VABB	Half hourly	METAR/SPECI/TREND	A	H24	Available
Mumbai (Juhu)/VAJJ	Hourly + Half hourly during HO	METAR/SPECI	B	HJ	Nil
Calcutta/VECC	Half hourly	METAR/SPECI/TREND	A	H24	Available
Coimbatore/VOCB	Hourly + Half hourly during HO	METAR/SPECI	B	HO + Night flights	Available
Calicut/VOCL	Hourly + Half hourly during HO	METAR/SPECI	B	H24	Nil
Cooch Behar/VECO	Hourly + Half hourly	METAR/SPECI	B	HJ	Nil
Dehradun/VIDN	As & when required (A/R)	METAR/SPECI	C	HJ	Nil
Delhi/VIDP	Half hourly	METAR/SPECI/TREND	A	H24	Available
Safdarjung-Delhi/VIDD	Hourly + Half hourly	METAR/SPECI	B	HJ	Available
Dimapur/VEMR	Hourly + Half hourly	METAR/SPECI	C	HJ	Nil
Fursatgunj/VIRB	As & when required (A/R)	METAR/SPECI	C	HJ	Nil
Guwahati/VEGT	Hourly + Half hourly	METAR/SPECI/TREND	A	HO	Nil

Name of station/Location Indicator	Type and frequency of observatories/Automatic Observing Equipment	Type of Met reports and supp. information included	Observing system & site(s)	Hours of operation	Climatological Information
Hyderabad/VOHY	Hourly + Half hourly	METAR/SPECI/TREND	A	H24	Available
Imphal/VEIM	Hourly + Half hourly during HO	METAR/SPECI	A	HJ	Nil
Indore /VAID	Hourly + Half hourly during HO	METAR/SPECI	B	H24	NIL
Jabalpur/VAJB	Hourly	METAR/SPECI	B	HS	NIL
Jaipur /VIJP	Hourly + Half hourly during HO	METAR/SPECI	A	H24	Nil
Jamshedpur VEJS	Hourly + Half hourly during HO	METAR/SPECI	B	HJ	Nil
Jharsuguda	--	--	B	--	Nil
Kailashahar/VEKR	Hourly + Half hourly during HO	METAR/SPECI	B	HJ	Nil
Kandla/VAKE	As & when required (A/R)	METAR/SPECI	C	HJ	Nil
Keshod /VAKS	Hourly + Half hourly during HO	METAR/SPECI	B	HJ	Nil
Khajuraho/VAKJ	Hourly	METRA/SPECI	C	HJ	Nil
Kota/VIKO	Hourly	METAR/SPECI	C	HJ	Nil
Kulu/Bhuntar /VIBR	Hourly	METAR/SPECI	B	HJ	Nil
North Lakhimpur/VELR	Hourly + Half hourly during HO	METAR/SPECI	C	HJ	Nil
Ludhiana/VILD	As & when required (A/R)	METAR/SPECI	C	HJ	Nil
Lucknow/VILK	Hourly + Half hourly during HO	METAR/SPECI/TREND	A	H24	Available
Chennai/VOMM	Half hourly	METAR/SPECI/TREND	A	H24	Available
Madurai/VOMD	Hourly + Half hourly during HO	METAR/SPECI	B	HO	Nil
Mangalore(Bajpe)/ VOML	Hourly + Half hourly during HO	METAR/SPECI	B	HJ	Nil
Mohanbari/VEMN	Half hourly	METAR/SPECI/TREND	A	H24	Nil
Nagpur/VANP	Hourly + Half hourly to meet ops requirements	METAR/SPECI/TREND	A	H24	Available
Pantnagar /VIPT	As & when required (A/R)	METAR/SPECI	C	HJ	Nil
Passighat/VEPG	Hourly + Half hourly	METAR/SPECI	C	HJ	Nil
Patna/VEPT	Hourly + Half hourly during HO	METAR/SPECI/TREND	A	H24	Available
Pondicherry/VOPC	Hourly + Half hourly during HO	METAR/SPECI	C	HO	Nil

Name of station/Location Indicator	Type and frequency of observatories/Automatic Observing Equipment	Type of Met reports and supp. information included	Observing system & site(s)	Hours of operation	Climatological Information
Porbandar/VAPR	Hourly + Half hourly during HO	METAR/SPECI	B	HJ	Nil
Raipur/VARP	Hourly + Half hourly during HO	METAR/SPECI	C	0300--1230	Nil
Rajamundry/VORJ	Hourly + Half hourly during HO	METAR/SPECI	C	HO	Nil
Rajkot/VARK	Hourly + Half hourly during HO	METAR/SPECI	B	H24	Nil
Ranchi/ VERC	Hourly + Half hourly during HO	METAR/SPECI	B	HJ	Nil
Ratnagiri/VARG	As & when required (A/R)	METAR/SPECI	C	HJ	Nil
Shillong/Barapani/VEBI	Hourly + Half hourly during HO	METAR/SPECI	C	HJ	NIL
Surat/VASU	As & when required (A/R)	METAR/SPECI	C	HJ	NIL
Tiruchirapalli/VOTI	Hourly + Half hourly during HO	METAR/SPECI	B	H24	Available
Tirupati/VOTP	Hourly + Half hourly during HO	METAR/SPECI	B	HO	Nil
Trivandrum/VOTV	Hourly + Half hourly	METAR/SPECI/TREND	A	H24	Available
Tuticorin/VOTK	As & when required (A/R)	METAR/SPECI	C	HO	Nil
Udaipur/VAUD	Hourly + Half hourly during HO	METAR/SPECI	B	HJ	Nil
Vadodara/VABO	Hourly + Half hourly during HO	METAR/SPECI	B	HJ	Nil
Varanasi/VIBN	Hourly + Half hourly during HO	METAR/SPECI	B	H24	Nil
Vijaywada/VOBZ	Hourly + Half hourly during HO	METAR/SPECI	B	HJ	Nil
Sri Satya Sai/VOPN	As & when required (A/R)	METAR/ SPECI	C	HO	As required

Notes:

1. Observations are recorded at:

- | | |
|--|---------------------------|
| a. Ahmadabad, Chennai, Hyderabad, Mumbai, Nagpur, Tiruchirapalli and Thiruvananthapuram..... | HH + 10 min & HH + 40 min |
| b. Kolkata, Kochi, Kozhikode & Patna | HH + 20 min & HH + 50 min |
| c. Amritsar, Delhi, Jaipur, Lucknow & Varanasi | HH + 00 min & HH + 30 min |
| d. At all other stations | HH + 00 min & HH + 30 min |
- [HH = Full hour UTC]

2. SPECIs and additional reports are prepared whenever warranted, throughout the hours of watch.

10. Notification required from operators

10.1. Notification from operators for flight documentation and other meteorological service or for a change in the existing requirements should be received by the concerned Meteorological Office(s) sufficiently in advance. Normally the minimum notice required for non-scheduled flights are as follows:

For National flights	At AMOs (offices having forecasting facilities)	3 hours before ETD
	At AMS (offices without forecasting facilities)	18 to 24 hours before ETD
For International flights	AMOs at Bangalore, Chennai, Delhi, Guwahati, Hyderabad, Kolkata, Mumbai, Nagpur & Thiruvananthapuram	3 hours before ETD
	At other AMOs	12 hours before ETD
	At AMSs	18-24 hours before ETD

11. Aircraft reports

11.1. Routine air reports at the following designated MET reporting points (as given on para 11.4 & 11.5) shall be made by all aircraft.

11.2. Special observations shall be made whenever the following weather phenomenon are encountered or observed-

- i) severe turbulence; or
- ii) severe icing; or
- iii) severe mountain wave; or
- iv) thunderstorm without hail, that are obscured, embedded, widespread or in squall lines; or
- v) thunderstorm with hail, that are obscured, embedded, widespread or in squall lines; or
- vi) heavy dust storm or heavy sandstorm; or
- vii) volcanic ash cloud; or
- viii) pre-eruption activity or a volcanic eruption

11.3. The meteorological office shall make arrangements with the appropriate ATS unit to ensure that –

- i) Routine and special air-reports by voice communications, the ATS units relay them without delay to their associated meteorological watch office
- ii) Routine air-reports by data-link communications, the ATS units relay them without delay to WAFCS; and
- iii) Special air-reports by data-link communications, the ATS units relay them without delay to their associated meteorological watch office and WAFCS.

11.4. Meteorological reporting points on National ATS routes

ATS Route	Reporting points
Kolkata - Chennai	SANON
Kolkata - Port Blair	Crossing G472
Delhi - Kolkata	KUSMI
Delhi - Chennai	BHOPAL & GULBARGA
Delhi - Hyderabad - Bangalore	BHOPAL
Delhi - Srinagar	PATHANKOT
Mumbai - Chennai	BELLARY
Mumbai - Cochin	DABOLIM/GOA
Mumbai - Delhi	PRATAPGARH
Mumbai - Kolkata	AURANGABAD & NIPAD
Mumbai - Thiruvananthapuram	DABOLIM/GOA

11.5. Meteorological reporting points on International ATS routes

ATS Route	FIR	Reporting point designator/ Five letter name code
A451	Mumbai	ANGAL
A451	Mumbai	LEMAX
A452/G465	Mumbai	ELKEL
A456	Delhi	RABAN
A462	Kolkata	BEMAK
A466	Delhi	SAMAR
A474	Mumbai	MURUS
A474/G465	Mumbai	MONTO
A599	Kolkata	CHILA
A791E/G208W/G472W	Mumbai	SASRO
A791W	Mumbai/Delhi	TASOP
A791W/A791E/A474	Mumbai	PRATAPGARH
B459	Mumbai	CLAVA
B459	Mumbai	ATEMA
B459	Mumbai	UBDOR
B466	Chennai	ANOKO
B466	Chennai	APASI
B466	Chennai	AVNOS
B466W/B466E	Chennai	BELLARY
G208E/G472E	Mumbai	VASLA
G424	Mumbai	VUTAS
G424/G450	Mumbai	ALATO
G450	Mumbai/Kolkata	NIPAD
G450	Mumbai	ORLID
G452	Delhi	TIGER
G472	Kolkata	SAGOD
G472/N895	Kolkata	SAGOD
G472/N895	Kolkata	BUBKO
L301	Kolkata	RINDA
L301	Mumbai	RASKI
M770	Kolkata	MEPEL
N563	Chennai	MEMAK
P628	Chennai	IGREX
P762	Chennai	LULDA
R456	Mumbai	KITAL
R456	Mumbai	DONSA
R456	Mumbai	ESMIT
R460	Delhi	VARANASI
R472	Kolkata	ATOGA

12. VOLMET service

Name of Station	Call-sign Ident	Freq (KHz)	Broadcast Period	Hours of Service	Aerodromes/ Heliports included	Content of report, forecast & remarks
Mumbai	Mumbai Radio (A3J)	11387 6676	H+25 to H+30	0300 to 1300	Mumbai, Chennai	SIGMET
					Mumbai, Colombo, Chennai, Karachi, Male, Ahmedabad	METAR SPECI TREND
		2965	H+55 to H+60	1300 to 0300	Mumbai, Colombo, Male	TAF
Kolkata	Kolkata Radio (A3J)	11387 6676	H-05 to H+10	0300 to 1300	Kolkata, Delhi	SIGMET
					Kolkata, Delhi, Dhaka, Yangon, Katmandu	METAR SPECI TREND
		2965	H+35 to H+40	1300 to 0300	Kolkata, Delhi, Ho-Chi-Minh	TAF

13. SIGMET Service

Name of MWO/ Location Indicators	Hours	FIR or CTA Served	Validity of SIGMET	ATS Unit Served
Chennai VOMM	H24	Chennai FIR	4 hour	FIC/ACC
Delhi VIDP	H24	Delhi FIR	4 hour	FIC/ACC
Kolkata VECC	H24	Kolkata FIR	4 hour	FIC/ACC
Mumbai VABB	H24	Mumbai FIR	4 hour	FIC/ACC

14. General

For the safety of air traffic, the meteorological offices maintain an Area Meteorological Watch and Warning Service. This service consists partly of a continuous weather watch within the FIR and the issuance of appropriate information (SIGMET) by Meteorological Watch Offices and partly of the issuing of warning for the respective aerodrome by all aviation forecasting offices.

15. Area Meteorological Watch Service

15.1. The Area Meteorological Watch Service is performed by the following Meteorological Watch Offices (MWO); Chennai, Delhi, Kolkata & Mumbai.

15.2. The MWO issue information in the form of SIGMET messages about the occurrence and/or expected occurrence of one or more of the following phenomena within the FIR served by the MWO:

- i) Thunderstorms
- ii) Tropical Cyclone
- iii) Turbulence
- iv) Icing
- v) Mountain waves

-
- vi) Dust storm
 - vii) Sandstorm
 - viii) Volcanic ash cloud
 - ix) Cumulonimbus
 - x) Hail

15.3. The SIGMET are issued in abbreviations and plain language using ICAO abbreviations and are numbered consecutively for each day commencing at 0001UTC. The period of validity of a SIGMET message shall be not more than 6 hours and preferably not more than 4 hours.

15.4. The MWO transmit SIGMET issued by them, as well as SIGMET of adjacent MWO and also SIGMET of other MWO to the Flight Information Centre (FIC) for the FIR concerned.

15.5. In addition to the issuance of SIGMET, the MWO inform the local FIC about the occurrence or expected occurrence of thunderstorms, moderate icing, light to moderate hail, or moderate turbulence within the FIR concerned. The information is intended for lower air-space.

16. Warning Services

16.1. Aerodrome warnings are issued by all forecasting offices and give the concise information of meteorological conditions, which would adversely affect aircraft on the ground, including parked aircraft and the aerodrome facilities and services, if one or several of the following phenomena are expected to occur at the airport -

- i) Wind – speed expected to reach 30 knots or more even in gusts, direction changing rapidly by 45° or more, wind speed before and after expected to be 20 knot or more
- ii) Squall
- iii) Tropical Cyclone
- iv) Dust storm
- v) Sandstorm
- vi) Thunderstorm
- vii) Hail
- viii) Frost
- ix) Hoar Frost or rime
- x) Snow (including the expected or observed snow accumulation)
- xi) Freezing precipitation
- xii) Rising sand or dust
- xiii) Volcanic ash

16.2. Warning for gliders and light aircraft and helicopters are issued when wind speed is expected to reach 17Kt or more.

16.3. Wind shear warning provide concise information of the observed or expected existence of wind shear which could adversely affect aircraft on the approach path or take-off path or during circling approach between runway level and 500 M above the level and aircraft on the runway during the landing roll or take-off run.

16.4. These warning are issued in English and are issued only for the local aerodrome and are passed on to local ATS units for further dissemination over the aerodrome to the operators etc.

17. Others automated meteorological services

17.1. Automated meteorological briefing is available through Automatic Self Briefing System (ASBS) at Chennai airport.

18. ICAO documents

18.1. The standards and recommended practices and procedures contained in the following ICAO documents are applicable to the meteorological practice in India.

- i) Annex 3 Meteorological services for International Air Navigation
- ii) Doc 7030 Regional Supplementary Procedures

- iii) Doc 8400 PANS-ICAO Abbreviations and Codes
- iv) Doc 8700 Air Navigation Plan - Mild - Asia Region
- v) ROBEX Handbook

19. Departmental publications

19.1. The following publication issued by India Meteorological Department contained National Regulations/Practices.

- i) Manual on Meteorological Service for Aviation in India, 3rd Edition, 2006
- ii) Aviation Weather Codes 1994

20. Differences from ICAO Standard and Recommended Practices (SARP)

The following differences exist between National Regulations/Practices and the provisions of Annex 3

Paragraphs	Differences
3.4.2	AIRMET services are not provided
3.5.1, 3.5.2 3.6	Not applicable
4.1.5, 4.1.6, 4.1.7	Integrated automated system for dissemination in real-time not available
4.2	Agreement between AAI and IMD does not exist
4.6.33	RVR upto 2000M reported for national use
4.1.1.1. of Appendix 3	Wind instruments are not at a height of approximately 10M everywhere
4.1.3.1 of Appendix 3	Differentiation is made in averaging of winds. Done only at stations where digital systems are installed
4.2.4.4 of Appendix 3	Prevailing visibility is not reported. In addition to local routine and local special reports 'ADDITIONAL' reports are issued to local ATS units as a national practice and not disseminated outside the aerodrome.
4.6.51, 4.5.4.1 (d) of Appendix 3	Vertical visibility is reported only at airports where laser Ceilometer are functioning
4.7	No fully automatic observing system installed
5.3.1, 5.6	No report is being received. Reception of data through ADS is not implemented
1.2.2 of Appendix 5	Forecast of prevailing visibility is not given in TAF
1.2.5 of Appendix 5	Forecast temperature is not given in TAF
6.6.2, 7.2.1, 7.2.2, 7.2.3, 9.2.1(h)	These forecasts are not issued in support of AIRMET and are not prepared as a GAMET area forecast
9.4.6	Flight documentation is preserved for 180 days
9.5.1 to 9.5.3	Automated Pre-Flight Information System provided only at Chennai airport
4.3 to Appendix 8	The prognostic significant weather charts cover the layers from sea level to FL460 for national flights
11.1.3, 11.1.4 & 11.1.5	AFTN support not available for WAFC products. Direct speech at some aeronautical stations is not available
11.4, 11.5	Not applicable. Local forecast is issued for the area covering 50NM around, as a national practice