भारतीय विमानपत्तन प्राधिकरण
AIRPORTS AUTHORITY OF INDIA

ATM CONTINGENCY PLAN

KOLKATA FIR

Version 2.01

JUNE 2011

PREPARED BY

Contingency Plan Project Team
AIRPORTS AUTHORITY OF INDIA
NSCBI AIRPORT, KOLKATA

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FOREWORD

This is the second edition of the Indian Air Traffic Management (ATM) Contingency Plan for Air Traffic Services (ATS) for the International En-route Flights in Kolkata Flight Information Region (FIR). The Contingency Plan will come into effect as and when a contingency arise due to partial or total disruption of Air Traffic Services. The Contingency Plan for Kolkata FIR aims at advance preparedness and instantaneous response to a contingency arising due to disruption of Air Traffic Services with an objective of providing safe and orderly passage to the over flying traffic through Kolkata FIR.

The contingency may arise at any time due to any of the reasons as a result of a Major Earthquake, Flood, Fire, Bomb Explosion or Terrorist Attack etc. These may cause serious damage to civil aviation and air navigation services, facilities and infrastructure. With four FIRs located in Indian airspace, it is considered highly unlikely that all facilities would be out of service simultaneously. However, in the event that one FIR becomes inoperable, and ATS becoming unavailable, it would take several days to relocate and operate ATS from the remaining FIRs and restore a more normal level of service. During this interim period, flight operations in Kolkata FIR would severely be restricted.

The Plan will be activated by promulgation of a NOTAM issued by the International NOTAM Office (NOF) of Chennai, Delhi, Mumbai or Kolkata as far in advance as is practicable. However, when such prior notification is impracticable for any reason, the Plan will be put into effect on notification by the designated authority, as authorized by the DGCA. It is expected that the civil aviation authorities concerned and the airline operators will fully cooperate to implement the Plan as soon as possible.

This Plan has been prepared in coordination with the International Civil Aviation Organization (ICAO) to meet the requirements in ICAO Annex 11 ─ *Air Traffic Services* to provide for the safe and orderly continuation of international flights through Indian airspace.

Any proposed amendments to this plan shall be forwarded to:

Executive Director (ATM)
I Floor, ATM Directorate
Airports Authority of India
Rajiv Gandhi Bhavan
Safdarjung, New Delhi
India - 110003
Tel: 91-11-24631684
Fax: 91-11-24611078
Email: edatm@aai.aero

RECORD OF AMENDMENTS

Amendment Number	Effective Date	Date Entered	Entered By	Paragraph/ Reference

1 OBJECTIVE

1.1 The Air Traffic Management (ATM) Contingency Plan contains arrangements to ensure the continued safety of air navigation in the event of partial or total disruption of air traffic services in the Kolkata FIR in accordance with ICAO Annex 11 - *Air Traffic Services,* Chapter 2, paragraph 2.30. The Contingency Plan provides the ATS procedures and contingency route structure using existing airways in most cases that will allow aircraft operators to transit the Kolkata FIR.

1.2 This Contingency Plan does not address arrangements for aircraft arriving and departing at airports or for domestic flight operations within the territory of Kolkata FIR.

2 STATES AND FIRS AFFECTED

2.1 In the event that the Chairman, Airports Authority of India activates this Contingency Plan, the civil aviation authorities of the adjacent FIRs will be notified in accordance with the Letter of Agreement (LOA) established between the States concerned. The adjacent States, FIRs and ACCs directly affected by this Contingency Plan are as follows:

- India
  - Delhi FIR
  - Mumbai FIR
  - Chennai FIR
  - Varanasi ACC
  - Nagpur ACC
- Bangladesh
  - Dhaka FIR (ACC)
- Malaysia
  - Kuala Lumpur FIR (ACC)
- Myanmar
  - Yangon FIR (ACC)
- Bhutan
  - Bhutan FIR
- Nepal
  - Kathmandu FIR

2.2 The contact details of the civil aviation authorities and organizations concerned are contained in Appendix A. These details should be kept up to date and relevant information provided to the AAI as soon as practicable**.**

3 MANAGEMENT OF THE CONTINGENCY PLAN

3.1 The contingency measures set out in this Plan are applicable in cases of foreseeable events caused by unexpected interruptions in ATS caused by natural occurrences or other

circumstances, which, in one way or another, may impair or totally disrupt the provision of ATS and/or of the related support services in the Kolkata FIR.

3.2 The following arrangements have been put in place to ensure that the management of the Contingency Plan provides for international flights to proceed in a safe and orderly fashion through Kolkata FIR.

Central Coordinating Committee

3.3 As soon as practicable in advance of, or after a contingency event has occurred, the Chairman, Airports Authority of India shall convene the Central Coordinating Committee (CCC) comprised of representatives as notified in Appendix B.

3.4 The CCC shall oversee the conduct of the Contingency Plan and in the event that the Kolkata ATS premises are out of service for an extended period, make arrangements for and facilitate the temporary relocation of the Kolkata ACC at Delhi & Chennai ACC and the restoration of ATS services. The terms of reference for the CCC will be determined by the Chairman, AAI.

3.5 Contact details of the members of the CCC are provided in Appendix B.

ATM Operational Contingency Group

3.6 The ATM Operational Contingency Group (AOCG) will be convened by the CCC with a primary responsibility to oversee the day to day operations under the contingency arrangements, and coordinate operational ATS activities, 24 hours a day, throughout the contingency period. The terms of reference of the AOCG will be determined by the CCC. The AOCG will include specialized personnel from the following disciplines:

- Air traffic services (ATS)
- Aeronautical telecommunication (COM)
- Aeronautical meteorology (MET)
- Aeronautical information services (AIS)

The mission of the AOCG shall include taking the following action:

a) To review and update of the Contingency Plan as required;
b) To keep up to date at all times of the contingency situation;
c) To organize contingency teams in each of the specialized areas;
d) To keep in contact with, and update the ICAO Asia and Pacific Regional office, operators and the IATA Regional Office;
e) To exchange up-to-date information with the adjacent ATS authorities concerned to coordinate contingency activities;
f) To notify the designated organizations in India of the contingency situation sufficiently in advance and/or as soon as possible thereafter;
g) To issue NOTAMs according to the corresponding contingency situation, this plan or as otherwise needed (example NOTAMS are provided in Appendix C). If the situation is foreseeable sufficiently in advance, a NOTAM will be issued 48 hours in advance.

4 CONTINGENCY ROUTE STRUCTURE

4.1 In the event of disruption of the ATC services provided by Kolkata ACC, contingency routes will be introduced to ensure safety of flight and to facilitate limited flight operations commensurate with the prevailing conditions. Existing ATS routes form the basis of the contingency routes to be used, and a flight level assignment scheme introduced to minimize potential points of conflict and to limit the number of aircraft operating simultaneously in the system under reduced air traffic services.

4.2 The contingency route structure for international flights is detailed in Appendix D. Additional contingency routes will be introduced as and when circumstances require, such as in the case of volcanic ash clouds forming.

4.3 In regard to domestic operations, if circumstances dictate, all flights to/from Kolkata shall be temporarily suspended until a full assessment of the prevailing conditions has been determined and sufficient air traffic services restored. A decision to curtail or restart domestic operations will be made by the CCC.

4.4 Aircraft on long-haul international flights and special operations (e.g. Search and Rescue (SAR), State aircraft, humanitarian flights, etc), shall be afforded priority for levels at FL290 and above. For flight planning purposes, domestic operators should plan on the basis that FL290 and above may not be available.

4.5 International operators affected by the suspension of all operations from affected airports in Kolkata FIR will be notified by the relevant airport authority when operations may be resumed, and flight planning information will be made available pertaining to that airport. International flights who have received such approval may be required to flight plan via domestic routes to join international contingency routes.

4.6 International operators may elect to avoid the Kolkata airspace and route to the east around the Kolkata FIR via the Mumbai, and Chennai FIRs and aircraft routing via west may elect to route via Chennai and Mumbai FIRs.

5 AIR TRAFFIC MANAGEMENT AND CONTINGENCY PROCEDURES

Reduced ATS and provision of flight information services (FIS)

5.1 During the contingency critical period, ATS including ATC may not be available, particularly with regard to availability of communications and radar services. In cases where service are not available, a NOTAM will be issued providing the relevant information, including an expected date and time of resumption of service. The contingency plan provides for limited flight information and alerting services to be provided by adjacent ACCs.

5.2 ***The** Kolkata **airspace will be divided into two parts along route P646:***
Part I: Portion South of ATS route P646 including ATS route P646 – designated ATS Authority Chennai.

Part II: Portion North of route P646 excluding ATS route P646 – designated ATS Authority Delhi.
FIS and flight monitoring will be provided by Chennai and Delhi ATC for the adjacent FIRs on the contingency routes on the designated air space that enter their respective FIRs. A chart depicting the airspace arrangement is provided in Appendix E.

5.3 The primary means of communication will be by VHF or HF radio. For aircraft operating Automatic Dependent Surveillance (ADS) and Controller/Pilot Data Link Communication (CPDLC) systems, CPDLC will be the primary means of communication with HF as secondary. In the case of ADS automatic position reporting, this replaces voice position reporting and CPDLC or HF will become the secondary means. Details of the communication requirements are provided in Appendix F.

ATS Responsibilities

5.4 During the early stages of a contingency event, ATC may be overloaded and tactical action taken to reroute aircraft on alternative routes not included in this Plan.

5.5 In the event that ATS cannot be provided in the Kolkata FIR a NOTAM shall be issued in concurrence with AOCG indicating the following:

- Time and date of the beginning of the contingency measures;
- Airspace/routes available for landing and over-flying traffic and airspace/routes to be avoided;
- details of the facilities and services available or not available and any limits on ATS provision (e.g. ACC, APPROACH, TOWER and FIS), including an expected date of restoration of services if available;
- information on the provisions made for alternative services;
- Any changes to the ATS contingency routes contained in this Plan;
- Any special procedures to be followed by neighboring ATS units not covered by this Plan;
- Any special procedures to be followed by pilots; and
- Any other details with respect to the disruption and actions being taken that aircraft operators may find useful.
- In the event that the Kolkata International NOTAM Office is unable to issue the NOTAM, the (alternate) International NOTAM Office at Mumbai, Delhi or Chennai will take action to issue the NOTAM of closure airspace upon notification by the Chairman, AAI CHQ.

Aircraft Separation

5.6 In the event that the Kolkata International NOTAM Office is unable to issue the NOTAM, the (alternate) International NOTAM Office at Delhi or Chennai will take action to issue the NOTAM of closure airspace upon notification by the Chairman, AAI CHQ.

5.7 Aircraft separation criteria will be applied in accordance with the *Procedures for Air Navigation Services-Air Traffic Management* (PANS-ATM, Doc 4444) and the *Regional Supplementary Procedures* (Doc 7030).

5.8 The longitudinal separation will be 10 minutes in conjunction with application of the Mach number technique. Differential Mach number technique with faster aircraft behind slower aircraft will not be permitted.

5.9 The route structure provides for lateral separation of 100 NM and in cases where this is less, and for crossing routes, a minimum vertical separation of 2000 ft will be applied.

5.10 In the event that Kolkata ATC services are terminated, RVSM operations will be suspended and 2000 ft vertical separation minimum provided within Kolkata airspace using the RVSM flight levels contained in the table of cruising levels in ICAO Annex 2, Appendix 3. Details of the flight level assignment on the contingency routes are contained in Appendix D.

Flight level restrictions

5.11 Where possible, aircraft on long-haul international flights shall be given priority with respect to cruising levels.

Airspace Classifications

5.12 If ATC services become unavailable during the interruption of air traffic services, and depending on the level of service and anticipated outage of facilities, airspace classifications may be changed to reflect the reduced level of services. Changes to airspace classification will be notified by NOTAM.

Aircraft position reporting

5.13 Pilots will continue to make routine position reports in line with normal ATC reporting procedures.

VFR operations

5.14 VFR flights shall not operate in the Kolkata FIR if there are extensive disruptions to ATC facilities, except in special cases such as State aircraft, Medivac flights, and any other essential flights authorized by the AAI.

Procedures for ATS Units

5.15 The ATS units providing ATC services will follow their unit emergency operating procedures and activate the appropriate level of contingency procedures in line with the operational Letter of Agreement. These procedures include the following:

a) The Kolkata ACC on determining that ATS may be reduced or may be disrupted due to a contingency event, will inform pilots about the emergency condition and advise if it is likely that the ACC will be evacuated and ATS suspended. In the event of it becoming necessary to evacuate the ACC building, the unit evacuation procedures will be activated, and time

permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication;

b) During the period the contingency procedures are in effect, flight plan messages must continue to be transmitted by operators to the Kolkata FIC (VECFZQZX) and to the Delhi, Mumbai and Chennai FIC/OCC/ACC (VIDFZQZX, VABFZQZX, VOMFZQZX) via the AFTN using normal procedures;

    a. *Note: Depending on the phase of emergency and circumstances, the Kolkata NOF may be suspended and alternative AFTN service introduced, e.g. at the Mumbai OCC, Delhi ACC and Chennai OCC. Also, the NOF of Mumbai, Delhi and Chennai may be used to issue Kolkata NOTAMs.*

c) On notification by the Chairman, AAI, the ATS authorities operating the ACCs of the adjacent FIRs, viz. Delhi, Mumbai, Chennai, Kathmandu, Bangladesh, Myanmar, Malaysia and Bhutan will activate the contingency procedures in accordance with their respective operational Letter of Agreement;

d) Prior to entry to the Kolkata FIR under the contingency arrangement, authorization must be obtained by operators to over fly the Kolkata FIR, and ATC approval granted by Delhi ACC, Chennai OCC and Mumbai OCC as the case may be.

e) The adjacent ACC/ OCC responsible for aircraft entering for transit of the Kolkata FIR must communicate via ATS coordination circuits, and not less than 30 minutes beforehand, the estimated time over the reporting point for entry into the Kolkata FIR;

f) The ACC/ OCC responsible for aircraft entering the Kolkata will instruct pilots to maintain the last flight level assigned and speed (MACH number if applicable) while overflying the Kolkata FIR;

g) The ACC/ OCC responsible will not authorize any change in flight level or speed (Mach number, if applicable) later than 10 minutes before the aircraft enters the Kolkata FIR.

h) The ACC/ OCC responsible prior to aircraft entering the Kolkata FIR will inform aircraft that they must communicate with the next (downstream) ATC unit 10 minutes before the estimated time of entry into the next FIR; and

i) Operators may also chose to avoid the Kolkata airspace, and the controlling authorities of the FIRs concerned will provide alternative contingency routes as appropriate and these will be published by NOTAM.

Transition to contingency scheme

5.16 Alternate routes outlined in the Contingency Plan would be promulgated by India vide NOTAM or AIP for familiarization and information to operators. During times of

uncertainty when airspace closures seem possible, aircraft operators should be prepared for a possible change in routing while en-route.

5.17 In the event of airspace closure that has not been promulgated, ATC should, if possible, broadcast to all aircraft in their airspace, what airspace is being closed and to stand by for further instructions.

5.18 ATS providers should recognize that when closures of airspace or airports are promulgated, individual airlines might have different company requirements as to their alternative routings. ATC should be alert to respond to any request by aircraft and react commensurate with safety.

Transfer of control and coordination

5.19 The transfer of control and communication would be at the points specified in the Special LOA/Contingency Plan.

5.20 The ATS providers concerned will review the effectiveness of current coordination requirements and procedures in light of contingency operations or short notice of airspace closure, and make any necessary adjustments to the Contingency Plan and LOAs.

6 PILOTS AND OPERATOR PROCEDURES

Filing of flight plans

6.1 Flight planning requirements for the Kolkata FIR are to be followed in respect to normal flight planning requirements contained in the Aeronautical Information Publication (AIP-India) and as detailed at Appendix G.

Over flight approval

6.2 Aircraft operators must obtain over flight approval from the DGCA, India prior to operating flights through the Kolkata FIR. During the period of activation of this Contingency Plan, the designated ATS authority will approve aircraft to enter the Kolkata FIR on the basis that operators have obtained prior approval, and the responsibility remains with the operator to ensure such approval has been obtained.

Pilot operating procedures

6.3 Aircraft over flying the Kolkata FIR shall follow the following procedures:

a) all aircraft proceeding along the ATS routes established in this Contingency Plan will comply with the instrument flight rules (IFR) and will be assigned a flight level in accordance with the flight level allocation scheme applicable to the route(s) being flown as specified in Appendix D;
b) Flights are to flight plan using the Contingency Routes specified in Appendix D, according to their airport of origin and destination;

c) Aircraft are to operate as close as possible to the centre line of the assigned contingency route; the provisions of SLOP (Strategic lateral offset procedure) will continue to be operative over Indian Oceanic Airspace.
d) Pilots are to keep a continuous watch on the specified contingency frequency as specified in Appendix F and transmit the aircraft's position in line with normal ATC position reporting procedures;
e) Keep navigation and anti-collision lights on while overflying the Kolkata FIR;
f) Pilots are to maintain during their entire flight time within Kolkata FIR, the flight level last assigned by the last ACC responsible prior to the aircraft entering the Kolkata FIR, and under no circumstances change this level and Mach number, except in cases of emergency and for flight safety reasons. In addition, the last SSR transponder assigned shall be maintained or, if no transponder has been assigned, transmit on SSR code 2000;
g) Aircraft are to reach the flight level last assigned by the responsible ACC at least 10 minutes before entering the Kolkata FIR or as otherwise instructed by the ATC unit in accordance with the LOA with Kolkata;
h) Pilots are to include in their last position report prior to entering the Kolkata FIR, the estimated time over the entry point of the Kolkata FIR and the estimated time of arrival over the relevant exit point of the Kolkata FIR;
i) Pilots are to contact the next adjacent ACC as soon as possible, and at the latest, ten (10) minutes before the estimated time of arrival over the relevant exit point of Kolkata FIR;
j) Pilots are to strictly adhere to the ICAO Traffic Information Broadcasts by Aircraft (TIBA) (reproduced in Appendix H**)**, and maintain a continuous listening watch on the international air to air VHF frequency 123.45 MHz, as well as on the specified VHF and HF frequencies listed in Appendix 1F. When necessitated by emergency conditions, pilots are to transmit blind on these frequencies, their current circumstances and the commencement and completion of any climb and descent or deviation from the cleared contingency route;
k) Whenever emergencies and/or flight safety reasons make it impossible to maintain the flight level assigned for transit of Kolkata FIR, pilots are to climb or descend well to the right of the centerline of the contingency route, and if deviating outside the Kolkata FIR, to inform immediately the ACC responsible for that airspace. Pilots are to make blind broadcast on the IFBP VHF frequency 123.45 MHz of the relevant emergency level change message (comprising the aircraft call sign, the aircraft position, the flight levels being vacated and crossed, etc);
l) Pilots are to maintain own longitudinal separation of 10 minutes from preceding aircraft at the same cruising level; and
m) Not all operational circumstances can be addressed by this Contingency Plan and pilots are to maintain a high level of alertness when operating in the contingency airspace and take appropriate action to ensure safety of flight.

Interception of civil aircraft

6.4 Pilots need to be aware that in light of current international circumstances, a contingency routing requiring aircraft to operate off normal traffic flows, could result in an intercept by military aircraft. Aircraft operators must therefore be familiar with international

intercept procedures contained in ICAO Annex 2 –*Rules of the Air*, paragraph 3.8 and Appendix 2, Sections 2 and 3.

NOTE: The aircraft operating on Contingency route and prior to entry any ADIZ within Kolkata FIR shall ensure that ADC Number is obtained.

6.5 The Indian military authority in the interest of national security and safety may intercept civil aircraft over the territory of India in the event that a flight may not be known to and identified by the military authority. In such cases, the ICAO intercept procedures contained in Annex 11, Attachment C (reproduced in Appendix I) will be followed by the military authority, and pilots are to comply with instructions given by the pilot of the intercepting aircraft. In such circumstances, the pilot of the aircraft being intercepted shall broadcast information on the situation.

6.6 If circumstances lead to the closure of the Kolkata airspace and no contingency routes are available through the Kolkata FIR, aircraft will be required to route around the Kolkata airspace. As much warning as possible will be provided by the appropriate ATS authorities in the event of the complete closure of Kolkata airspace.

6.7 Pilots need to continuously guard the VHF emergency frequency 121.5 MHz and should operate their transponder at all times during flight, regardless of whether the aircraft is within or outside airspace where secondary surveillance radar (SSR) is used for ATS purposes. Transponders should be set on a discrete code assigned by ATC or select code 2000 if ATC has not assigned a code.

7 COMMUNICATION PROCEDURES

Degradation of Communication - Pilot Radio Procedures

7.1 When operating within the contingency airspace of the Kolkata FIR, pilots should use normal radio communication procedures where ATS services are available. These will be in accordance with the communication procedures in this Plan or as otherwise notified by NOTAM.

7.2 If communications are lost unexpectedly on the normal ATS frequencies, pilots should try the next applicable frequency, e.g. if en-route contact is lost then try the next appropriate frequency, that is, the next normal handover frequency. Pilots should also consider attempting to contact ATC on the last frequency where two-way communication had been established. In the absence of any communication with ATC, the pilot should continue to make routine position reports on the assigned frequency, and also broadcast positions in accordance with the ICAO TIBA.

Communication frequencies

7.3 A list of frequencies to be used for the contingency routes and the ATS units providing FIS and air-ground communication monitoring for the Kolkata FIR is detailed at Appendix F.

8 AERONAUTICAL SUPPORT SERVICES

Aeronautical Information Services (AIS)

8.1 It is not anticipated that there would any major disruption to the NOTAM service for the Kolkata FIR, as NOTAM services could be readily provided by Chennai/Mumbai/Delhi AIS.

Meteorological Services (MET)

8.2 The India Meteorological Department is the designated meteorological authority of India. IMD is also the provider of meteorological services for the international and domestic air navigation. In order to comply with the ICAO requirements on aeronautical meteorology specified in Annex 3, Meteorological Service for International Air Navigation and the ASIA/PAC Air Navigation Plan – Doc 9673, IMD would ensure regular provision of the following products and services:

a) Aerodrome observations and reports – local MET REPORT and SPECIAL, as well as WMO-coded METAR and SPECI; METAR and SPECI would be provided for all international aerodromes listed in the AIP India
b) Terminal aerodrome forecast - TAF as per the requirements indicated in AIP India;
c) SIGMET for the Kolkata FIR – Kolkata; SIGMET would be issued by the appropriate meteorological watch offices (MWO)
d) Information for the ATS units (TWR, APP, ACC) as agreed between the meteorological authority and the ATS units concerned;
e) Flight briefing and documentation as per Annex 3, Chapter 9.

8.3 It is expected that the India MET services would continue to be available in the event of an ATS contingency situation. However, should ATS services for the Kolkata FIR be withdrawn, timely MET information may not be immediately available to pilots in flight. Alternative means of obtaining up to date MET information concerning the Kolkata FIR will be provided to the extent possible through the adjacent ATS authorities through VOLMET Broadcast/making use of communication networks of communication service providers - SITA.

9 SEARCH AND RESCUE

9.1 ACCs involved in this Contingency Plan are required to assist as necessary to ensure that the Search and Rescue (SAR) authorities are provided with the information necessary to support downed aircraft or aircraft with an in-flight emergency in respect to the Kolkata FIR.

9.2 The SAR authority responsible for the Kolkata FIR is the Kolkata Rescue Coordination Centre (RCC).

9.3 Each ACC shall assist as necessary in the dissemination of INCERFA, ALERFA and DETRESFA in respect to incidents in the Kolkata FIR.

9.4 In the event that the Kolkata RCC is not available, the responsibility for coordinating with the Kolkata RCC for aircraft emergencies and incidents involving the Kolkata FIR will be undertaken by the Chennai/Mumbai/Delhi ACC. The CCC will take appropriate steps to ensure that SAR information is made available to the Chennai/Mumbai/Delhi RCC. The AOCG will also oversee SAR coordination and disseminate relevant contact information.

Annexure I

Contingency Plan- Requirements

The draft contingency plan for Kolkata FIR in the event of partial or total disruption of Air Traffic Services in accordance with ICAO Annex 11 – Chapter 2, paragraph 2.30 has been prepared.

The main objective of the contingency plan is to ensure the continued availability of Air Navigation using contingency routes and flight level allocation scheme for international over flights passing through Kolkata FIR. As Delhi and Chennai FIRs are adjacent FIRs to Kolkata FIR, it is prudent to continue the services through these FIRs instead of handing over airspace to other than Indian FIRs.

In order to provide such services through Delhi and Chennai FIRs and similar services for Delhi, Chennai and Mumbai through Kolkata FIR, there is a requirement to establish a contingency sector at Mumbai /Kolkatta/Delhi ACC respectively.

The following facilities are suggested at the contingency sector for a smooth transition:

1. Organization and manning of Contingency sector- **Four controllers to manage the designated airspace.**
2. One ATC console –with appropriate maps of the designated airspace
3. Dedicated ADS/CPDLC workstation.
4. FDD & strip printer to obtain FPS for the relevant routes.
5. VCCS with appropriate telephone numbers that may be required for coordination with relevant adjacent FIRs.
6. Additional HF position to manage contingency sector.
7. AMSS drop circuit to receive ATS messages to the contingency sector.
8. Inter connectivity of telephone numbers residing in VCCS of one FIR from VCCS system of another FIR.

Creation of one central network system for Initial Flight Plan Processing (IFPP unit) for all FIRs would help during such contingency as systems can be put in place to divert processed messages to designated area control centers.

Special LOAs need to be established between Kolkata and adjacent ATC control centers as necessary.

APPENDIX 1A

CONTACT DETAILS OF ADJACENT STATES AND INTERNATIONAL ORGANIZATIONS PARTICIPATING IN THE KOLKATA CONTINGENCY PLAN WITH ADDRESS TEL NO. FAX. NO. E-MAIL AFTN

No	Address	Tel NO.	FAX No.	E-Mail	AFTN
	INDIA				
1	Director General of Civil Aviation	+91-11-24620784	+91-11-24652760	dgoffice@nic.in	VIDDYAYG
2	Airports Authority of India CHQ	+91-11-24631684	+91-11-24611078	edatm@aai.aero	VIDDYDYX
3	Airports Authority of India Delhi ACC	+91-11-25653282	+91-11-25653283	gmatmpalam@aai.aero	VIDPYDYX
4	Airports Authority of India Chennai ACC	+91-44-22560894	+91-44-22561365	gmaerosr@aai.aero	VOMMYDYX
5	Airports Authority of India Mumbai ACC	+91-22-26828088	+91-22-26828066	gmatmmum@aai.aero	VABBYDYX
6	**BANGLADESH**				
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7	**YANGON**				
	Director ATS, Civil Aviation Authority, Yangon	+95-1-533040	+95-1-533016	dgdca@dca.gov.mm	VYYFYAYX
8	**NEPAL**				
	Director General of Civil Aviation Authority of Nepal, Baber Mahal, Kathmandu	+977-1-4113258 / 59	+977-1-4474108	planstat@tiairport.com.np **atsdr@caanepal.org.np** **dgca@caanepal.org.np**	VNKTYAYX
9	**BHUTAN**				
	Director General of Civil Aviation, Bhutan, Paro International Airport, Paro	009758271910	009758271909	phaladorji@yahoo.co.uk	
10	**ICAO**				
	Mr. Mukhtar Awan Regional Director Asia/Pacific Regional Office	+61 2 5378189 Ext 37	+61 2 537 8199	icao_apac@bangkok.icao.int	

	252/1 Vibhavadi Rangsit Rd, Chatuchak, Bangkok, 10110, Thailand				
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	International Air Transport Association 207-208 Kailash Building 26 Kasturba Gandhi Marg New Delhi - 110001, India	+91 11 41524673/ 4674	+91 11 41524675	SANGLIKARP@iata.org	
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भारतीय विमानपत्तन प्राधिकरण
AIRPORTS AUTHORITY OF INDIA

APPENDIX B

CENTRAL COORDINATING COMMITTEE

S. No.	Members	Telephone	Fax	email
1.	Director General of Civil Aviation	+91 11-24620784	+91 11-24652760	dgoffice@dgca.nic.in
2.	Chairman, Airports Authority of India	+91 11-24651047	+91 11-24641088	chairman@aai.aero
3.	Member (ANS), Airports Authority of India	+91 11-24631969	+91 11-24629567	memberans@aai.aero
4.	Executive Director (ATM), Airports Authority of India	+91 11-24631684	+91 1124611078	edatm@aai.aero
5.	Executive Director (COM), Airports Authority of India	+91 11-24652075	+91 11-24654142	edcom@aai.aero
6.	Executive Director (Avn. Safety), Airports Authority of India	+91 11-24653016	+91 11-24621504	edaschqaai@aai.aero
7.	Senior Representative of India Meteorological Department	+91 11-24615371	+91 11-24615371	bhatnagarmk1@gmail.com
8.	Any other member which is felt necessary at the time of Contingency			

KOLKATA (FIR) OPERATIONAL CONTINGENCY UNIT

S. No.	Members	Telephone	Fax	email
1.	Regional Executive Director, ER, Airports Authority of India	033-25119944	033-25118873	reder@aai.aero
2.	General Manager (Aero – Kolkata)	033-25119966	033-25119966	gmatmkol@aai.aero
3.	General Manager (Com – Kolkata)	033-25119955	033-25119955	dghosh@aai.aero
4.	Director, India Meteorological Department, Kolkata	033-25119239	033-25119434	mandal_deep@yahoo.com
5.	Airport Director, NSCBI Airport, Kolkata	033-25119977	033-25117435	apdkolkata@aai.aero

APPENDIX C

SAMPLE NOTAMS

a) **Avoidance of airspace**

NOTAM…….DUE TO DISRUPTION OF ATS IN KOLKATA FIR ALL ACFT ARE ADVISED TO AVOID THE FIR**.**

b) Airspace available with Limited ATS

NOTAM ……DUE TO ANTICIPATED DISRUPTION OF ATS IN THE KOLKATA FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE. .

c) **Contingency plan activated**

NOTAM …….DUE TO DISRUPTION OF ATS IN KOLKATA FIR ALL ACFT ARE ADVISED THAT THE INDIAN INTERNATIONAL CONTINGENCY PLAN FOR ACFT INTENDING TO OVERFLY KOLKATA FIR IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE CONTINGENCY ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICKLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY APPROVED INTERNATIONAL FLIGHTS ARE PERMITTED TO OVERFLY KOLKATA AIRSPACE.

d) **Non adherence to the Contingency Plan**

NOTAM ……..OPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE KOLKATA FIR. ----------

भारतीय विमानपत्तन प्राधिकरण
AIRPORTS AUTHORITY OF INDIA

Appendix - D

International Route Structure and Communication
For Transit of the KOLKATA FIR
During Contingency Situation

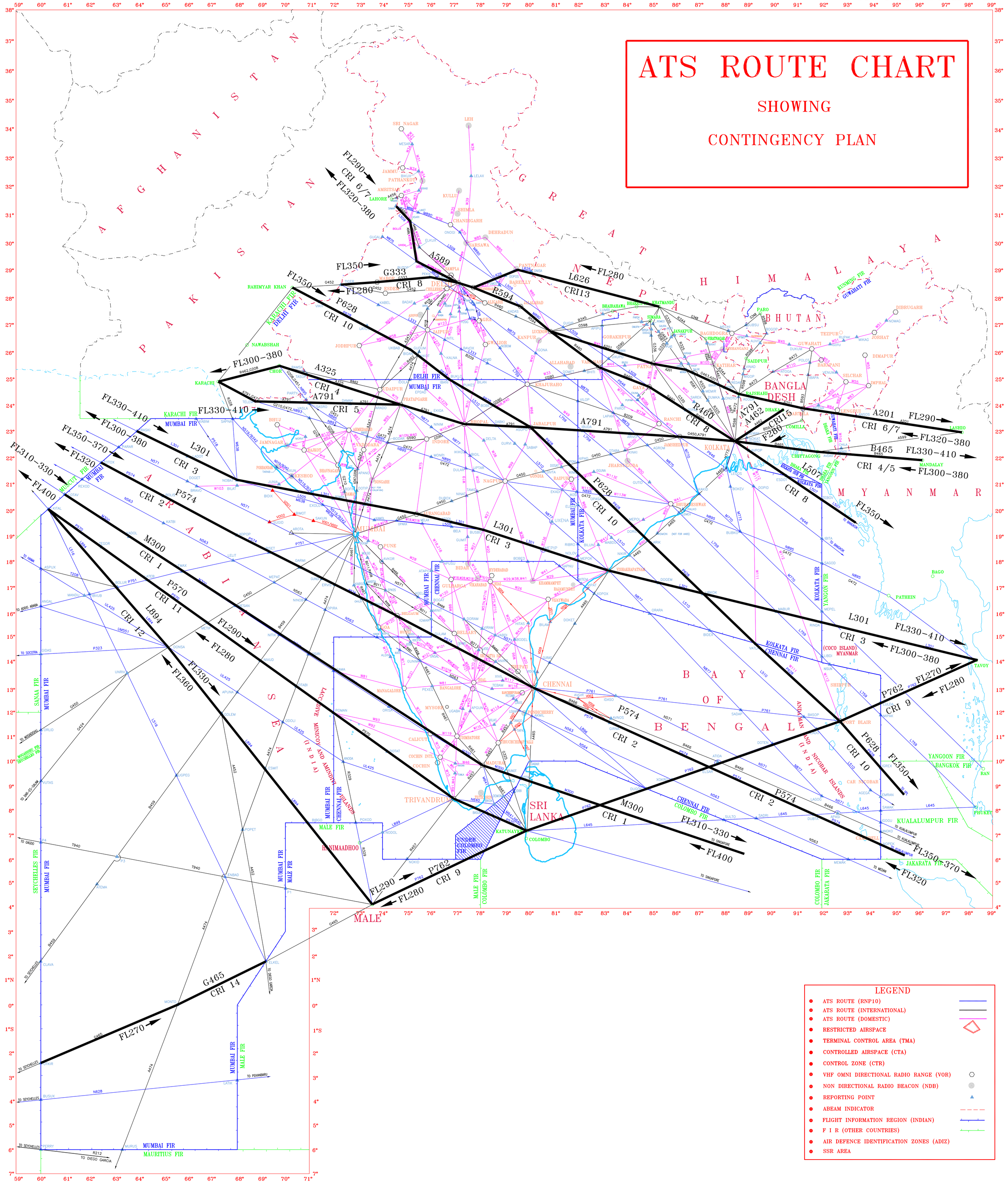
Contingency Route	ATS Route	Segment	Flight Level (Eastbound)	Flight Level (Westbound)	Remarks
CRI 3	L301	RINDA – MEPOK	FL330 – FL410	FL300 – FL380	
CRI 4 / 5	B465 / A791	APAGO – ARIVO	FL330 – FL410	FL300 – FL380	
CRI 6 / 7	A201	ANSOS – PPT	FL290	FL320 – FL380	
CRI 8	R460 / L507	GGC - TEBOV	FL350	---------	
CRI 10	P628	IKINA - VATLA	FL350	---------	
CRI 15	A 462 / A 791	BEMAK - ARIVO	--------	F 280	

ANNEXURE 'E'

ATS ROUTE CHART

SHOWING

CONTINGENCY PLAN



LEGEND

- ATS ROUTE (RNP10)
- ATS ROUTE (INTERNATIONAL)
- ATS ROUTE (DOMESTIC)
- RESTRICTED AIRSPACE
- TERMINAL CONTROL AREA (TMA)
- CONTROLLED AIRSPACE (CTA)
- CONTROL ZONE (CTR)
- VHF OMNI DIRECTIONAL RADIO RANGE (VOR)
- NON DIRECTIONAL RADIO BEACON (NDB)
- REPORTING POINT
- ABEAM INDICATOR
- FLIGHT INFORMATION REGION (INDIAN)
- F I R (OTHER COUNTRIES)
- AIR DEFENCE IDENTIFICATION ZONES (ADIZ)
- SSR AREA

PRODUCED BY AIRPORTS AUTHORITY OF INDIA
CARTOGRAPHY UNIT OF ATM DIRECTORATE

AERONAUTICAL INFORMATION UP TO 18/05/2011 (UPDATED AS ON 01-06-2011)

DRG.NO.AAI/NAD/1-ATS(INDIA)/CARTO/2001

Appendix - F

CONTINGENCY FREQUENCIES FOR CONTROL AND / OR MONITORING SERVICES FOR TRANSIT OF THE KOLKATA FIR

Contingency Route	ATS Route	ACCs	Communications
CRI 3	L301	YANGOON/ CHENNAI/ NAGPUR	YANGOON HF 10066/6556 VHF 128.75 CHENNAI HF 11285/6655/5670 VHF 119.3 CHENNAI CPDLC VOMF NAGPUR VHF 133.65/123.9 MUMBAI HF 13288/11300/10018/8879/5658/5634/4675 MUMBAI ADS-CPDLC VABF
CRI 4 / 5	B465 / A791	YANGOON/ DHAKA/ VARANASI	YANGOON HF 10066/6556 VHF 126.75 DHAKA VHF 125.7 VARANASI VHF 118.95/132.4 DELHI HF 10018/5658/3467 DELHI ADS-CPDLC VIDF
CRI 6 / 7	A201	YANGOON / DHAKA / VARANASI	YANGOON HF 10066/6556 VHF 126.75 DHAKA VHF 125.7 VARANASI VHF 132.4 DELHI HF 10018/5658/3467 DELHI ADS-CPDLC VIDF
CRI 8	L507 / R460	YANGOON/ DHAKA/ VARANASI	YANGOON HF 10066/6556 VHF 126.75 DHAKA VHF 125.7 VARANASI VHF 132.4 DELHI HF 10018/5658/3467 DELHI ADS-CPDLC VIDF
CRI 10	P628	CHENNAI/ NAGPUR	CHENNAI HF 11285/6655/5670 CHENNAI VHF 126.15/119.3 CHENNAI ADS-CPDLC VOMF NAGPUR VHF 123.9 MUMBAI HF 13288/11300/10018/8879/5658/5634/4675 MUMBAI ADS-CPDLC VABF
CRI 15	A 462 / A791	DHAKA/ VARANASI	DHAKA VHF 125.7 VARANASI VHF 132.4 DELHI HF 10018/5658/3467 DELHI ADS-CPDLC VIDF

APPENDIX G

FLIGHT PLANNING REQUIREMENT

Airline operators are expected to familiarize themselves with the Regional Contingency Plan as well as Contingency Plans of Kolkata FIR and the activation times. For aircraft intending to operate in areas during periods when the contingency plans are activated, the operators shall plan the flight to conform with the activation times of the Contingency Plans. Airline operators shall ensure that flights are established on contingency routes prior to entering an area which is under Contingency Plan procedure. The flight planning requirements during the contingency period will be in accordance to ICAO Annex 2 Chapter 3 and Doc 4444 Part II. Additional information, will, however, be required, to indicate that the flight will operate in airspace where the contingency plan is active. This information is to be indicated in the 'RMK/' field of item 18 of the ICAO flight plan, for example 'RMK/Contingency routes VECC in the event that Delhi/ Chennai taken over the air traffic services for Kolkata ACC. (Remarks/aircraft will be operating on contingency routes in the Kolkata FIR), **Repetitive Flight Plans (RPLs / Bulk Stored) will not be accepted during the time that the contingency plan is activated. Airline operators are required to file flight plans in accordance with the contingency flight planning procedures. Flight plans should be filed at least 12 hours in advance in order to allow sufficient time for manual processing.**

APPENDIX H

ICAO TRAFFIC INFORMATION BROADCASTS BY AIRCRAFT (TIBA) PROCEDURES

Changes to In-Flight Procedures

Introduction of ICAO TIBA Procedures

TIBA Procedures

1. Special procedures have been developed for pilot use in active contingency zones if communications are significantly degraded or unavailable. These TIBA procedures supersede and take the place of lost communication procedures that are outlined in Annex 2 to the Chicago Convention (Para 3.6.5.2.2 a) and ***Annex 11, Chapter 4 Section 4.2.2 and Attachment B*** and will enable traffic information broadcasts by aircraft (TIBA) to be made as well as providing collision hazard information. When aircraft will enter designated airspace in which it is known in advance that normal communication is not available, pilots should maintain a listening watch on the TIBA frequency 10 minutes prior to entering that airspace.

Times of Broadcast

2. When a loss of normal communications requires TIBA procedures to be implemented, pilots shall make broadcasts **in English** on 126.9 MHz as follows:

a) At the time the loss of normal communications is recognized;

b) 10 minutes before entering a designated airspace when it is known in advance that normal communications will not be available within that airspace or, for a pilot taking off from an aerodrome located within the lateral limits of the designated airspace, as soon as appropriate after take-off;

c) 10 minutes prior to crossing a reporting point;

d) 10 minutes prior to crossing or joining an ATS route;

e) At 20-minute intervals between distant reporting points;

f) 2 to 5 minutes, where possible, before a change in flight level;

g) At the time of a change in flight level; and

h) At any other time considered necessary by the pilot. *Note: Normal position reporting procedures should be continued at all times, regardless of any action taken to initiate or acknowledge a traffic information broadcast.*

Broadcast Format

3. TIBA broadcasts should be made using the following phraseology:

a) **For other than those indicating changes in flight level:**

ALL STATIONS (call sign) FLIGHT LEVEL (number) [or CLIMBING TO FLIGHT LEVEL (number)] (direction) (ATS route) [or DIRECT FROM (position) TO (position) POSITION] (position) AT (time) ESTIMATING (next reporting point, or the point of crossing or joining a designated ATS route) AT (time) (call sign) FLIGHT LEVEL (number) (direction)

Example: "ALL STATIONS WINDAR 671 FLIGHT LEVEL 380 NORTHWEST BOUND A464 POSITION 80 MILES SOUTH EAST OF KEVOK AT 2358 ESTIMATING KOBAS AT 0020 WINDAR 671 FLIGHT LEVEL 380 NORTHWEST BOUND OUT"

Note: For broadcasts made when the aircraft is not near an ATS significant point, the position should be given as accurately as possible and in any case to the nearest 30 minutes of latitude and longitude.

b) **Before a change in flight level:**

ALL STATIONS (call sign) (direction) (ATS route) [or DIRECT FROM (position) TO (position)] LEAVING FLIGHT LEVEL (number) FOR FLIGHT LEVEL (number) AT (position and time)

c) At the time of a change in flight level: ALL STATIONS (call sign) (direction) (ATS route) [or DIRECT FROM (position) TO (position)] LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number)

Followed by:

ALL STATIONS (call sign) MAINTAINING FLIGHT LEVEL (number)

d) When reporting a temporary flight level change to avoid an imminent collision risk: ALL STATIONS (call sign) LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number)

Followed as soon as practicable by:

ALL STATIONS (call sign) RETURNING TO FLIGHT LEVEL (number) NOW

4. TIBA broadcasts should not be acknowledged unless a potential collision risk is perceived.

Cruising level changes.

5. Cruising level changes should not be made within the designated airspace, unless considered necessary by pilots to avoid traffic conflicts, to climb to minimum en route or safe altitudes, to overcome operational limitations, to avoid adverse weather, or in response to an operational emergency.

6. When cruising level changes are unavoidable, all available aircraft lighting which would improve the visual detection of the aircraft should be displayed while changing levels.

Collision avoidance

7. If, on receipt of traffic information broadcast from another aircraft, a pilot decides that immediate action is necessary to avoid an imminent collision risk, and this cannot be achieved in accordance with the right-of-way provisions of Annex 2 to the Chicago Convention, the pilot should:

A: Unless an alternative maneuver appears more appropriate, immediately descend 150 m (500 ft), or 300 m (1 000 ft) if above FL 290 in an area where a vertical separation minimum of 600 m (2 000 ft) is applied;

B: Display all available aircraft lighting which would improve the visual detection of the aircraft;

C: As soon as possible, reply to the broadcast advising action being taken;

D: Notify the action taken on the appropriate ATS frequency; and

E: As soon as practicable, resume normal flight level, notifying the action on the appropriate ATS frequency.

Operation of Transponders

8. When implementing TIBA procedures, pilots shall operate aircraft transponders on Modes A and C at all times. In the absence of alternative instructions from the appropriate ATS unit, aircraft not assigned a discrete code should squawk code 2000.

Operation of TCAS

9. Unless otherwise directed by an appropriate authority, pilots should operate TCAS in TA/RA Mode at maximum range setting during the cruise phase of flight and at a range setting appropriate to the traffic situation when in the departure or terminal phases of flight.

Special Operations

10. Specific aircraft may need to be involved in special operations during the period when a FIR is an activated contingency zone. These aircraft may therefore be unable to utilize

the contingency route structure for a significant period of their flights. Aircraft that will be classified as special operations are as follows:

a) Special operations of State aircraft

b) Aircraft in emergency situations or operating with significant reduction in operating efficiency

c) Mercy flights and aircraft engaged in search and rescue, medical evacuation, and coastal surveillance operations.

Activation and Cancellation of TIBA Procedures

11. This procedure shall be included in State AIP Supplements or NOTAM on TIBA procedures and will be cancelled by NOTAM. ----------

APPENDIX I

ICAO INTERCEPTION PROCEDURES

Article 3 *bis**

a) The contracting States recognize that every State must refrain from resorting to the use of weapons against civil aircraft in flight and that, in case of interception, the lives of persons on board and the safety of aircraft must not be endangered. This provision shall not be interpreted as modifying in any way the rights and obligations of States set forth in the Charter of the United Nations.

(Extract from ICAO Annex 2 — *Rules of the Air***)**

3.8 Interception

Note.— The word "interception" in this context does not include intercept and escort service provided, on request, to an aircraft in distress, in accordance with Volumes II and III of the International Aeronautical and Maritime Search and Rescue Manual *(Doc 9731).*

3.8.1 Interception of civil aircraft shall be governed by appropriate regulations and administrative directives issued by Contracting States in compliance with the Convention on International Civil Aviation, and in particular Article 3(d) under which Contracting States undertake, when issuing regulations for their State aircraft, to have due regard for the safety of navigation of civil aircraft. Accordingly, in drafting appropriate regulations and administrative directives due regard shall be had to the provisions of Appendix 1, Section 2 and Appendix 2, Section 1.

Note.— Recognizing that it is essential for the safety of flight that any visual signals employed in the event of an interception which should be undertaken only as a last resort be correctly employed and understood by civil and military aircraft throughout the world, the Council of the International Civil Aviation Organization, when adopting the visual signals in Appendix 1 to this Annex, urged Contracting States to ensure that they be strictly adhered to by their State aircraft. As interceptions of civil aircraft are, in all cases, potentially hazardous, the Council has also formulated special recommendations which Contracting States are urged to apply in a uniform manner. These special recommendations are contained in Attachment A.

3.8.2 The pilot-in-command of a civil aircraft, when intercepted, shall comply with the Standards in Appendix 2, Sections 2 and 3, interpreting and responding to visual signals as specified in Appendix 1, Section 2.

Note.— See also 2.1.1 and 3.4.

- On 10 May 1984 the Assembly amended the Convention by adopting the Protocol introducing Article 3 ***bis*. Under Article 94 *a)* of the Convention, the amendment came into force on 1 October 1998 in respect of States which have ratified it.**

INTERCEPTION OF CIVIL AIRCRAFT
(Appendix 2 of ICAO Annex 2 — *Rules of the Air*)
(Note.— See Chapter 3, 3.8 of the Annex)

1. Principles to be observed by States

1.1 To achieve the uniformity in regulations which is necessary for the safety of navigation of civil aircraft due regard shall be had by Contracting States to the following principles when developing regulations and administrative directives:

a) interception of civil aircraft will be undertaken only as a last resort;

b) if undertaken, an interception will be limited to determining the identity of the aircraft, unless it is necessary to return the aircraft to its planned track, direct it beyond the boundaries of national airspace, guide it away from a prohibited, restricted or danger area or instruct it to effect a landing at a designated aerodrome;

c) practice interception of civil aircraft will not be undertaken;

d) navigational guidance and related information will be given to an intercepted aircraft by radiotelephony, whenever radio contact can be established; and

e) in the case where an intercepted civil aircraft is required to land in the territory overflown, the aerodrome designated for the landing is to be suitable for the safe landing of the aircraft type concerned.

Note.— In the unanimous adoption by the 25th Session (Extraordinary) of the ICAO Assembly on 10 May 1984 of Article 3 bis *to the Convention on International Civil Aviation, the Contracting States have recognized that "every State must refrain from resorting to the use of weapons against civil aircraft in flight."*

1.2 Contracting States shall publish a standard method that has been established for the manoeuvring of aircraft intercepting a civil aircraft.

Such method shall be designed to avoid any hazard for the intercepted aircraft. *Note.— Special recommendations regarding a method for the manoeuvring are contained in Attachment A, Section 3.*

1.3 Contracting States shall ensure that provision is made for the use of secondary surveillance radar, where available, to identify civil aircraft in areas where they may be subject to interception.

2. Action by intercepted aircraft

2.1 An aircraft which is intercepted by another aircraft shall immediately:
a) follow the instructions given by the intercepting aircraft, interpreting and responding to visual signals in accordance with the specifications in Appendix 1;

b) notify, if possible, the appropriate air traffic services unit;

c) attempt to establish radio communication with the intercepting aircraft or with the appropriate intercept control unit, by making a general call on the emergency frequency 121.5 MHz, giving the identity of the intercepted aircraft and the nature of the flight; and if no contact has been established and if practicable, repeating this call on the emergency frequency 243 MHz;

d) if equipped with SSR transponder, select Mode A, Code 7700, unless otherwise instructed by the appropriate air traffic services unit.

2.2 If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by visual signals, the intercepted aircraft shall request immediate clarification while continuing to comply with the visual instructions given by the intercepting aircraft.

2.3 If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by radio, the intercepted aircraft shall request immediate clarification while continuing to comply with the radio instructions given by the intercepting aircraft.

3. Radio communication during interception

If radio contact is established during interception but communication in a common language is not possible, attempts shall be made to convey instructions, acknowledgement of instructions and essential information by using the phrases and pronunciations in Table 2.1 and transmitting each phrase twice: Table 2.1