Air Traffic Management Contingency Plan

BERMUDA TOWER

Version 1.0
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# SIGNATORIES

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<td>Bermuda Airport Authority</td>
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<td>30 Oct 2018</td>
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<td>Chief Executive Officer</td>
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<td>Air Traffic Manager</td>
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<td>On behalf of Burton Cox</td>
<td>30 Oct 2018</td>
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# DISTRIBUTION LIST

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FOREWORD

1. This Contingency Plan forms part of the overall national contingency planning for domestic and international flights in Bermuda has been prepared in accordance with the provisions of Annex 11 to the Convention on Civil Aviation, ICAO Doc 9462, ATS Planning Manual, Doc 9673 and ICAO Doc ATM 4444. The Plan, and any activation of the Plan, is authorised by the Bermuda Civil Aviation Authority (BCAA).

2. The Plan provides for the safe continuation of air traffic within the Bermuda Class D Airspace during periods when ATS may be disrupted or unavailable, or when airspace or aerodrome may be affected by volcanic ash cloud, radioactive cloud, and severe weather events or military activity.

3. The Plan has been developed in cooperation and collaboration with airspace users and civil aviation authorities responsible for adjacent airspaces and FIRs.

4. The Plan will be activated by NOTAM from the Bermuda NOTAM Office were appropriate as far in advance as is practicable. In case the Bermuda NOTAM office is unable to issue the NOTAM then New York Area Route Control Centre will be requested using the most expeditious alternative means available for issuance of a NOTAM for activation of the Plan. It is expected that Bermuda Civil Aviation Authority, the Bermuda Airport Authority, Bermuda Skyport Corporation the aerodrome operator, and airline operators will fully cooperate to implement the Contingency Plan.

Any Proposals for amendments to this plan may be forwarded to:

Burton Cox
Air Traffic Manager, CI² Aviation Bermuda Ltd.
Bermuda Tower
#0629 Southside, St Georges
Bermuda
Tel: 1 441 293 5067 Ext. 300
Fax: 1 441 293 0423
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## RECORD OF AMENDMENTS

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1. ATM CONTINGENCY PLAN FOR BERMUDA TOWER

OBJECTIVE

1.1 The Air Traffic Management (ATM) Contingency Plan for the Bermuda Tower details arrangements to ensure the continued safety of air navigation in the event of partial or total disruption of air traffic services in the Bermuda Class D airspace or at LF Wade International Airport. Air Traffic Control (ATC) Service is provided for LF Wade International Airport Bermuda from an ATC tower. The Bermuda Tower is responsible for providing all air traffic services for arrivals, departures, and overflights, to include VFR and SVFR operations entering, exiting or operating within the Bermuda Class D airspace in accordance with ICAO Annex 11 — Air Traffic Services. Departure and Arrival control is provided by New York Air Route Traffic Control Center (NYARTCC) located on Long Island, New York using a surveillance radar, radio transmitters and receivers installed in Bermuda. Bermuda Class D Airspace extends up to and including 2,500 ft AGL, within a 4.4 nautical mile radius of the LF Wade International Airport Bermuda, extending to 7 nautical miles WNW and ESE respectively from the BDA VHF Omni-directional Range/Distance Measuring Equipment (VOR/DME). The Contingency Plan provides the ATS procedures that will allow aircraft operators to operate within Class D Airspace during periods of limited or no ATS, as far as is practicable.

1.2 Contingency plans are established in the event of a disruption or potential disruption of air traffic control services and related supporting services in the Bermuda Class D/E airspace and adjacent airspace. The contingency procedures which are also documented in the Bermuda Tower, Manual of Air Traffic Services (MATS) to include the following inter alia; unlawful interference, power communications failure, tower evacuation procedures, contingency for staffing levels, overdue aircraft, radio communication failure and non-tower operations covered by the Bermuda Tower and NYARTCC LoA.

2. AIR TRAFFIC CONTROL FACILITIES AFFECTED

2.1 In the event that Bermuda Tower activates this Contingency Plan, the NYARTCC will be notified in accordance with the NYARTCC/ Bermuda Tower Letter of Agreement. The FIR and ACC directly affected by this Contingency Plan is as follows:

a) US FAA New York Air Route Traffic Control Center (NYARTCC)

2.2 The contact details of the NYARTCC are contained in Appendix A. These details should be kept up to date and regularly reviewed.

3. MANAGEMENT OF THE CONTINGENCY PLAN

3.1 The contingency measures set out in this Plan are applicable in cases of planned and 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 Bermuda Class D Airspace and also when Bermuda Class D Airspace reverts to Bermuda Class E Airspace during non-tower operations.
3.2 The following arrangements have been put in place to ensure that the management of the Contingency Plan provides for flights to proceed in a safe and orderly fashion within the Class D/E Airspace, as far as practicable.

3.3 As soon as practicable in advance of, or after a contingency event has occurred, the following agencies will be notified as appropriate by the Air Traffic Manager or his/her designated representative:

1) CI² AVIATION BERMUDA LTD – Contract Manager
2) BERMUDA CIVIL AVIATION AUTHORITY – Aerodrome Inspector
3) NEW YORK AIR ROUTE TRAFFIC CONTROL CENTER – Area F Manager
4) BERMUDA SKYPORト CORPORATION LTD – Director, Airport Operations

NB. At the discretion of the aerodrome operator (Skyport Corporation) the Emergency Coordination Centre may be convened in accordance with the Airport Emergency Plan, either immediately, or at any time during the implementation of Contingency Plan.

5) BERMUDA AIRPORT AUTHORITY– Director, Airport Services Delivery
6) BERMUDA RESCUE COORDINATION CENTER – Chief Maritime Operations Controller or Duty Officer

3.4 Terms of Reference for these agencies and the contact details of its members are provided in Appendix A.

3.5 The Air Traffic Manager will be responsible for the overseeing of the day to day operations under the contingency arrangements, and coordinate operational ATS activities, during hours of operation, throughout the contingency period and keep all stakeholders informed.

The Air Traffic Manager functions shall include but not limited to the following:

a). Review and update of the Contingency Plan as required;

b). Keep up to date regarding the contingency situation;

c). Organise contingency teams in each of the specialised areas;

d). Keep in contact with and update all affected airspace and system users, customers and other relevant stakeholders.

e). Exchange up-to-date information with the adjacent ATS authorities concerned to coordinate contingency activities;
f). Notify the designated organisations of the contingency situation sufficiently in advance and/or as soon as possible thereafter;

g). Take necessary action for issuing NOTAMs according to this plan or as otherwise determined by the contingency situation. Where the contingency situation is sufficiently foreseeable the relevant NOTAMs will be issued 48 hours in advance of the contingency events. NOTAM templates are provided in Appendix B.

h). Maintain an activity log using the form in Appendix C.

4. CONTINGENCY ROUTES AND PROCEDURES

4.1 In the event of disruption of the ATC services provided by Bermuda Tower, contingency routes and procedures will be specified to ensure safety of flight and to facilitate limited flight operations commensurate with the prevailing conditions. Existing ATS routes and procedures form the basis of the contingency routes and procedures to be used, and additional Prior Permission Request (PPR) restrictions may be applied to limit the number of aircraft operating simultaneously in the system under reduced air traffic services. Additional unpublished contingency routes and procedures may be developed tactically by the AOCG and promulgated by NOTAM as and when circumstances require, such as in the case of volcanic ash cloud, radioactive cloud or severe weather event. Any such amendments to routes and procedures will be notified to, and agreed with, New York Air Route Traffic Control Centre as appropriate.

If circumstances dictate, flights that have not yet departed may 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 these operations will be made by the CCC.

5. AIR TRAFFIC MANAGEMENT AND CONTINGENCY PROCEDURES

The following emergency procedures include contingency plans established in the event of a disruption or potential disruption of air traffic control services and related supporting services in the Bermuda Class D airspace and the adjacent portions of airspace. These established procedures take into account the guidance material contained in Attachment C of ICAO Annex 11 and ICAO Doc 4444.

5.1 BERMUDA TOWER – EVACUATION PROCEDURES

The decision to evacuate the Control Tower may be made by the Air Traffic Manager, the ATCS on duty, Skyport, or BFRS/AOD. In all circumstances, the safety of personnel is paramount.

Evacuation - Immediate Actions. If it becomes necessary to evacuate the Tower, the following procedures will apply:
a). Broadcast on all Aerodrome and Ground frequencies to inform all aircraft and vehicle traffic that the Tower is closing and that control services are terminated until further notice. Have all aircraft monitor Ground Control frequency 124.5MHz; except instruct all arriving aircraft on frequency 118.1MHz to contact NYARTCC;

b). Inform NYARTCC, BFRS/AOD, ADO, BWS and Air Traffic Manager via direct lines and/or the commercial telephone; inform NYARTCC of the any arriving aircraft returning to frequency 128.5MHz with position information. Direct BFRS/AOD to monitor the Hytera Radio System, and to keep all unnecessary vehicles off of the manoeuvring area. Advise NYARTCC of Tower cell phone number;

c). If time permits, contact the ATM, engage the ARCAL system, and, if necessary notify the relevant emergency services by telephone # 911;

d). Using the checklist located in the ATC evacuation tote bag, take the URC-200 UHF/VHF Transceiver and spare batteries, the current daily traffic strips, the Daily Record of Facility Operation, the portable Hytera radio, the Tower cell phone and any items that can be safely carried, e.g. binoculars, strip holders, and personal items. **Note: If unable to transport the URC -200 unit, ensure unit batteries and spare batteries are taken**;

e). Exit the Tower via the stairwell or the exterior fire escape, as necessary. Conduct a sweep of all floors and evacuate any other personnel;

f). Proceed to the BWS building and establish a temporary communications unit inside the building in the Meteorological Observer area; use the RES-Q unit located at in the Observers Area and the spare URC-200 unit located at GES as required. Establish control services on frequency 118.10MHz, 124.5MHz and 121.50MHz and recover all traffic. Suspend all departures as necessary. Use the evacuation kit located in the ATC evacuation tote bag. It contains pens/paper/clip boards and traffic sheets;

g). Notify Help Desk and GES of Tower evacuation;

h). According to air traffic operations/levels and estimated duration of ATC Tower unavailability, determine the need for a mobile communications unit. If necessary contact BFRS/AOD and coordinate the use of the BFRS/AOD mobile command vehicle and a driver for use as a mobile ATC unit, and relocate to a site on the airfield;

i). Once all aircraft have been recovered, the Air Traffic Manager will liaise with the CI² Aviation Bermuda.

During the contingency period ATS including ATC may not be available. In cases where services 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 established by the Bermuda Tower.
5.2 TOWER POWER COMMUNICATION FAILURE – PROCEDURES

Should a total communication failure occur, controllers shall use the URC 200 UHF/VHF Transceiver to recover air traffic, and the portable Hytera Radio to recover vehicular traffic, and the Tower cell phone as required. Aerodrome Control frequency 118.10 MHz shall be notified to all aircraft under Bermuda Tower control, as the single control frequency; ATCSs shall also notify NYARTCC. If the Tower has a total power/communication failure:

a). The ATCS shall phone NYARTCC 631-468-1496, advising the NYARTCC Area Manager immediately of the failure and that all future coordination will be carried out by landline/cell phone; provide NYARTCC with current Tower cell phone number; and

b). The ATCS shall advise the BFRS/AOD, ADO and BWS of the situation, the last active runway in use and that crash response instructions will be via landline/cell phone/Hytera Radio; provide all agencies with current Tower cell phone number.

c). The ATCS shall advise the CI2 Aviation Bermuda, Ltd. Help Desk and GES of the power outage.

d). Once power/communications are restored, Tower shall notify NYARTCC Area Manager, BFRS/AOD, ADO and BWS.

5.3. RADIO COMMUNICATION FAILURE - AIRCRAFT

In the event of lost communications with an aircraft under your control, or failure to establish communications with an aircraft in Bermuda Class D airspace, use all appropriate means available to establish/re-establish contact. This may include, but is not limited to, the use of emergency frequencies and assistance from NYARTCC. Confirmation of two-way radio communications failure by a pilot of a transponder-equipped aircraft may be achieved by signalling a Mode3/A Code of 7600. In the event that communications cannot be restored or established, appropriate control clearances shall be given to aircraft using the ATC light gun.

5.4. SEVERE WEATHER

a). The Tower shall notify GES whenever the surface wind is 75 knots or more and/or forecasted to exceed 75 knots; and,

b). During such weather conditions the Tower shall notify the NYARTCC sector ATCS that the radar antenna is going to be turned off by GES due to the high winds. Additionally, the Tower shall transmit an updated Airport Facilities Status Report to the ADO.

c). The NAS Operations Manager Desk at NYARTCC will be notified by GES. GES will also request BWS to issue an appropriate NOTAM.

d). Whenever the Thorguard lighting prediction system alarm activates, all apron operation shall cease, and ATCS under the direction of the ADO shall instruct arriving aircraft to hold short of the Aprons.
e). Hurricane season runs from 01 June to 30 November each year. It is imperative that all ATCSs apply the procedures detailed in CI² Aviation Bermuda, Ltd.’s Hurricane Preparedness Plan as amended. A copy is located in the Ready Reference File.

5.5 CONTINGENT STAFFING

Staffing challenges are created by short term and or long term, planned or unplanned staffing absences, which can be caused by an illness/fatality, a family emergency, or employment termination.

The BDA ATCT requires a minimum of four ATCS to operate the facility the normal scheduled hours. This schedule would not be used for a period that exceeds three months. This schedule would not require an ATCS to exceed the MATS 200 hour’s maximum in 31 days.

To quickly respond to an unplanned staffing shortage, the CI² Aviation Bermuda, Contract Manager will maintain a Bermuda ATC License and Aerodrome rating and will act as a reserve ATCS. The Contract Manager’s minimum monthly currency requirement is five hours for every 31 days.

5.6 STANDARD INSTRUMENT DEPARTURES AND STANDARD ARRIVAL ROUTES

Standard instrument departures (SIDs) and standard arrival routes (STAR) have been implemented at TXKF. The dedicated SID phraseology allows ATC and aircrew to communicate and understand detailed clearance information that would otherwise require long and potentially complex transmissions during non-radar periods. Therefore increasing the efficiency of ATC during non-radar periods. During non-radar periods the Bermuda Tower in coordination with NYARTCC will issue a detailed NOTAM to notify aircrews that the SID procedures are in effect in accordance with the NYARTCC and Bermuda Tower Letter of Agreement. The Bermuda Tower will issue SIDs to aircraft departing TXKF during non-radar periods. Pilots may request or file SIDs during radar periods.

6. ATS RESPONSIBILITIES

6.1 In the event that ATS cannot be provided in the Bermuda Class D/E Airspace a NOTAM shall be issued indicating the following where appropriate:

a) Time and date of the beginning of the contingency measures;

b) Airspace available for landing and overflying traffic and airspace to be avoided;

c) Details of Air Traffic Services available or not available and any limits of services including an expected date of restoration of services if available;
d) Information on the provisions made for alternative services;

e) Applicable ATS routes and procedures, AIP-published, or tactically defined contingency routes or procedures.

f) Any special procedures to be followed by NYARTCC or Bermuda Tower not covered by this Plan;

g) Any special procedures to be followed by pilots; and

h) Any other details with respect to the disruption and actions being taken that aircraft operators may find useful.

6.2 Sample NOTAMs provided in APPENDIX B.

6.3 In the event that the Bermuda Weather Service is unable to issue the NOTAM, the alternate International NOTAM Office at New York Flight Centre will take action to issue the contingency NOTAM upon notification by the Bermuda Weather Service.

7. AIRSPACE CLASSIFICATIONS

7.1 Depending on the degree of disruption, airspace classifications may be changed to reflect the reduced level of services. Changes to airspace classification will be notified by NOTAM.

8. AIRCRAFT POSITION REPORTING

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

8.2 Traffic information Broadcast by aircraft CTAF procedures shall apply when Bermuda Tower is unmanned. There are CTAF procedures for Bermuda Class E airspace, pilots shall transmit their intentions on CTAF, details of CTAF procedures and communications requirements are provided in ICAO Annex 11 and the Bermuda AIP Section AD 2.20 (15) respectively.

8.3 The CTAF frequency shall be as follows:

- Bermuda Class E airspace – 122.8 MHz;
9. PROCEDURES FOR ATS UNITS

9.1 Bermuda Tower will follow their unit emergency and contingency operating procedures and activate the appropriate level of contingency procedures in line with MATs, this Plan and any other relevant LoAs or MoUs.

a). Where ATS provided by Bermuda Tower may be reduced or disrupted by a short-notice contingency event, ATC will inform pilots of the emergency condition and advise if it is likely that the ATC facility will be evacuated and ATS suspended. In the event of it becoming necessary to evacuate the 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 and other aircraft movement messages must continue to be transmitted by operators to NYARTCC (KZWYZOZX)/(KZWYZQZX) and the Bermuda Tower via (TXKFZGZX) the AIS-R using normal procedures;

c). On notification by Bermuda Tower, NYARTCC, as appropriate, will activate any of the contingency procedures agreed via a LoA or MoU.

d). Prior to entry to the Class D airspace during contingency operations, PPRs must be obtained from the airport operator, Bermuda Skyport Corporation Ltd., and flights must comply with the ATC clearances, procedures and communication instructions issued by NYARTCC.

e). Coordination of aircraft boundary estimates and levels by NYARTCC, the unit responsible for aircraft entering the Bermuda Class D airspace, shall be in accordance with the agreed procedures as detailed in an LoA or MoU or as otherwise agreed as part of the contingency operations.

10. TRANSITION TO AND FROM CONTINGENCY OPERATIONS

10.1 Alternate routes would be promulgated by NYARTCC to Bermuda Tower to operators. During times of uncertainty when the airspace closures seem possible, aircraft operators should be prepared for a possible change in routing while en-route.

10.2 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.

10.3 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 ready to respond to any request by aircraft and react commensurate with safety.
11. TRANSFER OF CONTROL AND COORDINATION

11.1 Unless otherwise specified in the Plan, relevant LoA or MoU or agreed tactically as part of the contingency operation, transfer of control and communication should be in accordance with standard operating procedures.

11.2 The concerned ATS providers 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.

12. PILOT AND OPERATOR PROCEDURES

12.1 Flight planning requirements for TXKF continue to apply during contingency operations, except where modified by the contingency procedures specified by ATC and/or by NOTAM.

12.2 Aircraft operators must obtain PPR from the airport operator Bermuda Skyport Corporation prior to operating flights within the Class D airspace. During the period of activation of this Contingency Plan, NYARTCC will provide normal ATC clearances for aircraft to enter the Class D airspace. NYARTCC is not responsible for coordination or provision of PPR for the Bermuda Class D airspace. The operator must ensure any PPR has been obtained.

12.3 Pilots will continue to make or broadcast routine position reports in line with normal ATC reporting procedures and use the CTAF frequency as required.

12.4 Pilots of aircraft operating in the Bermuda Class D airspace during contingency operations shall comply with the following procedures:

a). Flights are to file flight plans using any specified contingency routes according to their airport of origin and destination;

b). Aircraft are to operate as close as possible to any assigned contingency route;

c). A continuous communications watch shall be maintained on the contingency frequency as notified

d). In the absence of the Bermuda Tower, aircraft position reports and other information shall be broadcast in accordance with CTAF procedures defined in Bermuda AIP.

e). Aircraft navigation and anti-collision lights shall be displayed;

f). Except in cases of emergency or for reasons of flight safety, pilots are to, during their entire flight within Bermuda Class D airspace, comply with any ATC clearance specified.
g). 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.

h). Pilots shall continuously guard the VHF emergency frequency 121.5 MHz and should operate their transponder 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 the last discrete code assigned by ATC or select code [7700] if no code was assigned.

13. COMMUNICATION PROCEDURES

DEGRADATION OF COMMUNICATION - PILOT RADIO PROCEDURES

13.1 When operating within the contingency airspace, pilots should use normal radio communication procedures where ATS services are available. Where limited or no ATS is available communications conducted will be in accordance with the communication procedures in this Plan, or as otherwise notified by NOTAM.

13.2 If communications are lost unexpectedly on the normal ATS frequencies, pilots should try the next applicable frequency. Pilots should also consider attempting to contact ATC on the last frequency where two-way communication had been established. In the absence of communication with ATC, the pilot should continue to make routine position reports on the assigned frequency, and broadcast positions in accordance with the TIBA/CTAF procedures.

14. AERONAUTICAL SUPPORT SERVICES

AERONAUTICAL INFORMATION SERVICES (AIS)

AIS is provided in accordance with Annex 15 through the Bermuda Airport Authority. The Bermuda Weather Service provides NOTAM services and limited filing of flight plans as needed. The NOTAMs will also establish the necessary coordination and operational procedures that would be established before, during and after any contingency phase.

METEOROLOGICAL SERVICES

The Bermuda Weather Service (BWS) is the designated meteorological authority of Bermuda. BWS is also the provider of meteorological services for 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, BWS would ensure regular provisions of the following products and services.

a). Aerodrome observations and reports – local MET Reports and SPECIs, as well as WMO – Coded METAR and SPECI.

b). Terminal aerodrome forecast – TAF
c). Information for the Bermuda Tower and NYARTCC as agreed between the facilities.

d). Flight briefing and documentation as per ICAO Annex 3.

14.1 Meteorological services are available with normal distribution methods unchanged during contingency operations.

15. SEARCH AND RESCUE ALERTING

NOTIFICATION AND COORDINATION

15.1 The SAR authority responsible for the Bermuda Class D airspace is the U.S. Coast Guard which provides search and rescue for Bermuda. Coordination is effected in conjunction with the Bermuda Rescue Coordination Centre (RCC).

Phone : 1 757 398 6231 (U.S. Coast Guard)
Fax : 1 757 398 6392 (U.S. Coast Guard)

Search and Rescue Arrangements

Manned Tower – Procedures listed in Bermuda Tower MATS.

Unmanned Tower – NYARTCC notifies Bermuda Rescue Coordination Centre and U.S Coast Guard (Bermuda AIP Section. GEN. 3.6 (1.1) - Search and Rescue.

BERMUDA RCC Telephone: 1 441 297 1010
LIST OF APPENDICES

Appendix A – Contact Details
Appendix B – Specimen NOTAMs
Appendix C – Contingency Activity Log
# Appendix A

## Contact Details

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</table>

| Area F Manager                      | Duty Manager (631)468-1496 |                                       |
Appendix B

Specimen NOTAMs

Non-Radar Procedures:

NOTAM........ NON-RADAR PROC ARE IN EFFECT DUE SSR U/S. DEP ACFT MUST FILE VIA BORNN OR SOMRR1 SID. DEP TFC EXP MNM 15 MIN DLA AND FPL FOR FUEL.

Contingency Plan activated:

NOTAM......DUE TO DISRUPTION OF SERVICES IN THE BERMUDA CLASS D AIRSPACE AIRCRAFT ARE ADVISED THE BERMUDA CONTINGENCY PLAN IS IN EFFECT. PILOTS MUST ADHERE TO THE CONTINGENCY PROCEDURES.

Airspace available with limited ATS:

NOTAM......DUE TO ANTICIPATED DISRUPTION OF ATS IN THE BERMUDA CLASS D AIRSPACE ALL AIRCRAFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DELAYS.
### Contingency Activity Log

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