Baltimore-Washington Air Traffic Control Tower

Standard Operating Procedures

1) Purpose This order defines duties and responsibilities, depicts areas of airspace, runways, and taxiways allocated to each position and provides supplemental direction as necessary for each position of operation within the Baltimore-Washington Air Traffic Control Tower (ATCT).

2) Distribution This order is distributed to all BWI ATCT personnel.

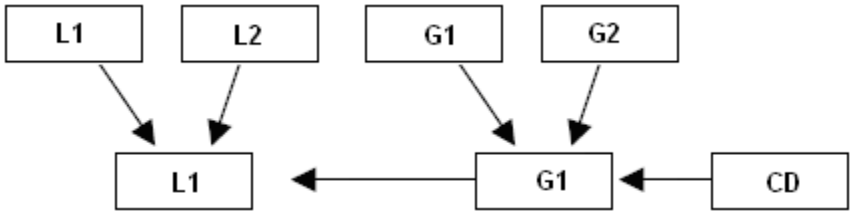
3) Positions

Position	Abbreviation	Frequency	ARTS ID	Callsign	Relief Callsign	Voice Room
Local Control 1 ***	L1	119.400	1T	BWI_W_TWR	BWI_W1_TWR	BWI_1T
Local Control 2	L2	123.750	1A	BWI_E_TWR	BWI_E1_TWR	BWI_1A
Ground Control 1 ***	G1	121.900	1D	BWI_W_GND	BWI_W1_GND	BWI_1D
Ground Control 2	G2	120.200	1Z	BWI_E_GND	BWI_E1_GND	BWI_1Z
Clearance Delivery	CD	118.050	1C	BWI_DEL	BWI_1_DEL	BWI_1C
ATIS	----------	127.800	-------	----------	----------	----------

a. ***Indicates primary positions
b. All Local Control positions have "T" ARTS Tag.
c. When operating with only one (1) Local and one (1) Ground Controller
  i. L1 shall use BWI_TWR as the callsign.
  ii. G1 shall use BWI_GND as the callsign.

4) Opening Additional Positions L2 and G2 shall not be opened unless authorized by the ATM or DATM.

5) Combining Positions Positions and responsibilities shall be combined as follows:



6) Status Information L1 is responsible for the accuracy of:
a. Active Runway(s)
b. Runway closures.
c. Current ATIS and code.
d. Other items affecting ATC.

7) Change in Direction of Operation Checklist
a. Coordinate the first and last arrival/departure for each runway with CHP BWIFN.
b. Upon notification by CHP BWIFN, ensure departures are stopped for sector reconfiguration.
c. Ensure departures are held until CHP BWIFN releases them.
d. Inform GC of the new departure configuration and where to stage aircraft for departure.

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e. Inform CD of the new departure configuration to assign the correct departure heading.
f. Ensure coordination is accomplished with all tower personnel.
g. CHP BWIFN shall inform LC the sector reconfiguration is complete and when departures are released.
h. Ensure the ATIS has been updated and reflects the proper status.

8) Noise Abatement Procedures

a. Preferred Noise Abatement Operation. When the winds are 5 knots or less and weather conditions permit, BWI must be in a West Operation.
b. DME Turns. Jet departures should not be issued turns until reaching the following DME fixes:
i. Runway 10, 2 DME
ii. Runway 15R making a right turn, 1 DME.
iii. Runway 15R making a left turn, 2 DME.
iv. Runway 28, 3 DME.
v. Runway 33L, as soon as feasible.
vi. Runway 22, 2 DME.
c. Intersection Departures: Do not initiate intersection take-offs for jet aircraft except from Taxiways F, F1, G, H, T or U1. If the pilot of a jet requests an intersection take-off from an intersection other than Taxiways F, F1, G, H, T or U1, the aircraft must be advised: *"In the interest of noise abatement, request you use the full length of the runway"*
d. Runway 4/22 Restrictions
i. Jet departures and arrivals are prohibited.
ii. Practice approaches are not authorized.
iii. Arrivals turning left to Runway 4 must be established on final at least 3 miles from the threshold.
iv. VOR/DME Runway 22 circling approaches are not authorized.

9) Distance Remaining From Intersections Using the chart below, issue distance remaining from an intersection upon taxi if the pilot requests. Distances are in feet. Intersection departures are not authorized for Runway 15L/33R and Runway 4/22. Intersection distances remaining for departures from all intersections on Runways 15R/33L and 10/28 are rounded down to the nearest 50 feet.

Runway 10		**Runway 15R**	
At F1	9,950	At H	7,500
At G	8,300	At F	5,900
At R1	6,850	At R	4,700
At RWY 15R/33L	5,300	At RWY 10/28	4,250
At E	4,600	At E	3,500
At RWY 4/22	3,800	At RWY 4/22	2,850
At U1	N/A	At T	1,100
At B	N/A		
At V	N/A		

Runway 28		**Runway 33L**	
At U1	8,800	At T	8,350
At RWY 4/22	6,700	At RWY 4/22	6,650
At E	5,900	At E	5,950
At RWY 15R/33L	5,150	At RWY 10/28	5,250
At R1	3,600	At R	4,800
At G	2,150	At F	3,350
At F1	N/A	At H	1,950
At F	N/A		
At V	N/A		

Local Control (LC)
General Information and Procedures

1) General

a. Local Control shall be responsible for separation between:
- **i.** Successive departures.
- **ii.** Departures and arrivals.
- **iii.** Departures and missed approaches/go-arounds.
- **iv.** Tower local traffic and over flights – from departures, arrivals and go-arounds.

b. Local Control shall determine the active runways

c. Local Control shall maintain the ATIS.

2) Area of Jurisdiction

a. WEST OPERATION - The boundary line between L1 and L2 must be a line midway between the RWY 33L and 33R extended centerlines to a point 1 mile northwest of the BWI radar antenna, then northwest bound heading 300 degrees to the 7 DME range mark. See Appendix 1.

b. EAST OPERATION - The boundary line between L1 and L2 must be a line midway between the RWY 15L and 15R extended centerlines to a point 1.8 miles southeast of the BWI radar antenna, then southeast bound on a 120 degree heading to the 7 DME range mark. See Appendix 1.

3) Active Runway Selection

a. West Operation is the ***Calm Wind*** runway configuration. This shall be used when winds are less than 5 knots. Other runway configurations may be used with calm winds if it provides an operational advantage.

Wind Direction	Operation	Active Runways
041clockwise to 220	East Operations	10, 15L, and 15R
221clockwise to 040	West Operations	28, 33L, and 33R

b. If winds are greater than 20kts, use the runway most directly aligned with the wind.

c. NOTE: Runway 4/22 is normally closed. The runway may be opened when necessary after coordination with airport operations.

d. Other Operations. Adverse wind, weather, and airfield conditions may dictate that any combination of runways be used.

4) Runway Configurations

a. The following table shows the possible runway configurations.

Configuration	Arrivals	Departures	Props
East Operation	10	15R	15L
West Operation	33L	28	33R

b. Avoid using runways 33L and 10 for departures.

c. Avoid using runways 15R and 28 for arrivals.

d. The TRACON shall select the approach in use and coordinate with the appropriate Local Control prior to change. If an aircraft is conducting other than the advertised approach in use to the service runway, coordination shall be effected either verbally or through the use of the scratchpad.

5) Departure Point

a. In a west operation, Taxiway "B" is the primary departure point for aircraft departing Runway 28. For those aircraft requesting the full length of the runway, the following separation standards must be applied to protect aircraft landing Runway 33R from the possible jet blast.

i. All non-heavy turbojet aircraft departing Runway 28 full length must commence takeoff roll prior to a Runway 33R arrival reaching 3 flying miles from the approach end of Runway 33R.

ii. All B757 and heavy jet aircraft departing Runway 28 full length must commence takeoff roll prior to a Runway 33R arrival aircraft reaching a point 5 flying miles from the approach end of Runway 33R.

6) Forwarding Departure Information Forward departure information and the departure sequence to GRACO and WOOLY via the chat box or override unless requested otherwise.

a. Rolling Calls shall be made no sooner than when the aircraft commences departure roll and no later than the aircraft reaching the departure end of the runway.

b. Release Requests shall be made up to five (5) minutes prior to aircraft beginning their departure roll.

c. Rolling Calls and Release Requests shall include the following information:

i. Call sign.

ii. Departure runway.

iii. IFR departure fix, initial route, or name of local airport/destination, and the term "VFR" if appropriate.

iv. Heading if non-standard or additional information/restrictions as needed/required.

v. Ensure that aircraft taxied to non-designated departure runways have been coordinated accordingly with the appropriate Local Control positions.

7) Line Up and Wait (LUAW) LUAW procedures are authorized at BWI. Such operations are generally viewed as necessary to maintain airport efficiency. Use LUAW when it is expected the aircraft will depart after conflicting traffic is clear of the runway/intersection. Utilize good operating practices and memory aids as needed when using LUAW procedures.

a. The landing clearance need not be withheld if traffic is holding in position.

b. Withhold landing clearance when the ceiling is less than 800 ft or visibility is less than 2 miles. Or do not use LUAW for departures between successive arrivals.

8) Departure Headings The Local Controller shall ensure departure aircraft are assigned appropriate departure headings prior to the frequency change to departure. Props departing from other than the primary prop departure runway and jets departing from other than the primary jet departure runway shall be assigned headings consistent with the primary departure runway. This rule applies if L1 and L2 are split or combined.

Configuration	Runway	Departure Gate	Initial Heading
East Operation	10	SWANN-SID and PALEO-SID	100-115
		SWANN, PALEO, DAILY	100-115
		TERPZ-SID	085-100
		FLUKY, HAFNR, LDN, AML, MRB, BUFFR, JERES	085-100
	15R	SWANN-SID and PALEO-SID	135-150
		SWANN, PALEO, DAILY	135-150
		TERPZ-SID	Right Turn 330
		FLUKY, HAFNR, LDN, AML, MRB, BUFFR, JERES	Right Turn 330
	15L	SWANN-SID and PALEO-SID	150

		SWANN, PALEO, DAILY	150
		TERPZ-SID	150
		FLUKY, HAFNR, LDN, AML, MRB, BUFFR, JERES	150
West Operation	28	SWANN-SID and PALEO-SID	150 at 3DME as published
		SWANN, PALEO, DAILY	150
		TERPZ-SID	280-290
		FLUKY, HAFNR, LDN, AML, MRB, BUFFR, JERES	260-280
	33L***	SWANN-SID and PALEO-SID	150
		SWANN, PALEO, DAILY	150
		TERPZ-SID	280-290
		FLUKY, HAFNR, LDN, AML, MRB, BUFFR, JERES	260-280
	33R	SWANN-SID and PALEO-SID	310-330
		SWANN, PALEO, DAILY	310-330
		TERPZ-SID	360-030
		FLUKY, HAFNR, LDN, AML, MRB, BUFFR, JERES	360-030

*** Departing Runways 28 and 33L to CHP-GRACO require prior coordination with PCT Departure.

9) Missed Approach / Go Around

a. When a BWI arrival executes a missed approach to Runway 10, 15L, 33L or 33R, and requests another approach, issue headings and altitudes as follows: Advise the appropriate CHP Final Controller when a missed approach occurs.

Runway	Heading	Altitude
10 or 33L	190	2,000
15L or 15R	060	2,000

b. If an aircraft executes a missed approach to any other runway, coordinate with the appropriate Final Controller for missed approach instructions.

10) Transfer of Communications

a. Communications transfer should take place within 1 NM of the departure runway end. Transfer of control and communications occur simultaneously.

b. LC must notify departure control of any take-off cancellations or aborts which occur after the Release Request or Rolling Call has been made.

11) Runway Exiting Procedures

a. Exiting Runway 28 West of Runway 33L

i. Tower shall instruct aircraft to taxi via F or R, cross Runway 33L, hold short of Taxiway P and contact ground.

b. Exiting Runway 15R or 22 South of Runway 10

i. Tower shall instruct aircraft to taxi via D or E, cross Runway 10, hold short of Taxiway P and contact ground.

Local Control 1 (L1)

1) Responsibilities

- **a.** L1 is the Tower Cab Supervisor.
- **b.** L1 is responsible for Runways 10/28, 15R/33L, and 4/22.
- **c.** L1 shall maintain the ATIS.

2) Position Information

- **a.** Frequency: 119.400
- **b.** Callsign: BWI_W_TWR
- **c.** ARTS ID: 1T

Local Control 2 (L2)

1) Responsibilities

- **d.** L2 is responsible for Runway 15L/33R
- **e.** L2 is responsible for separating aircraft from L1.

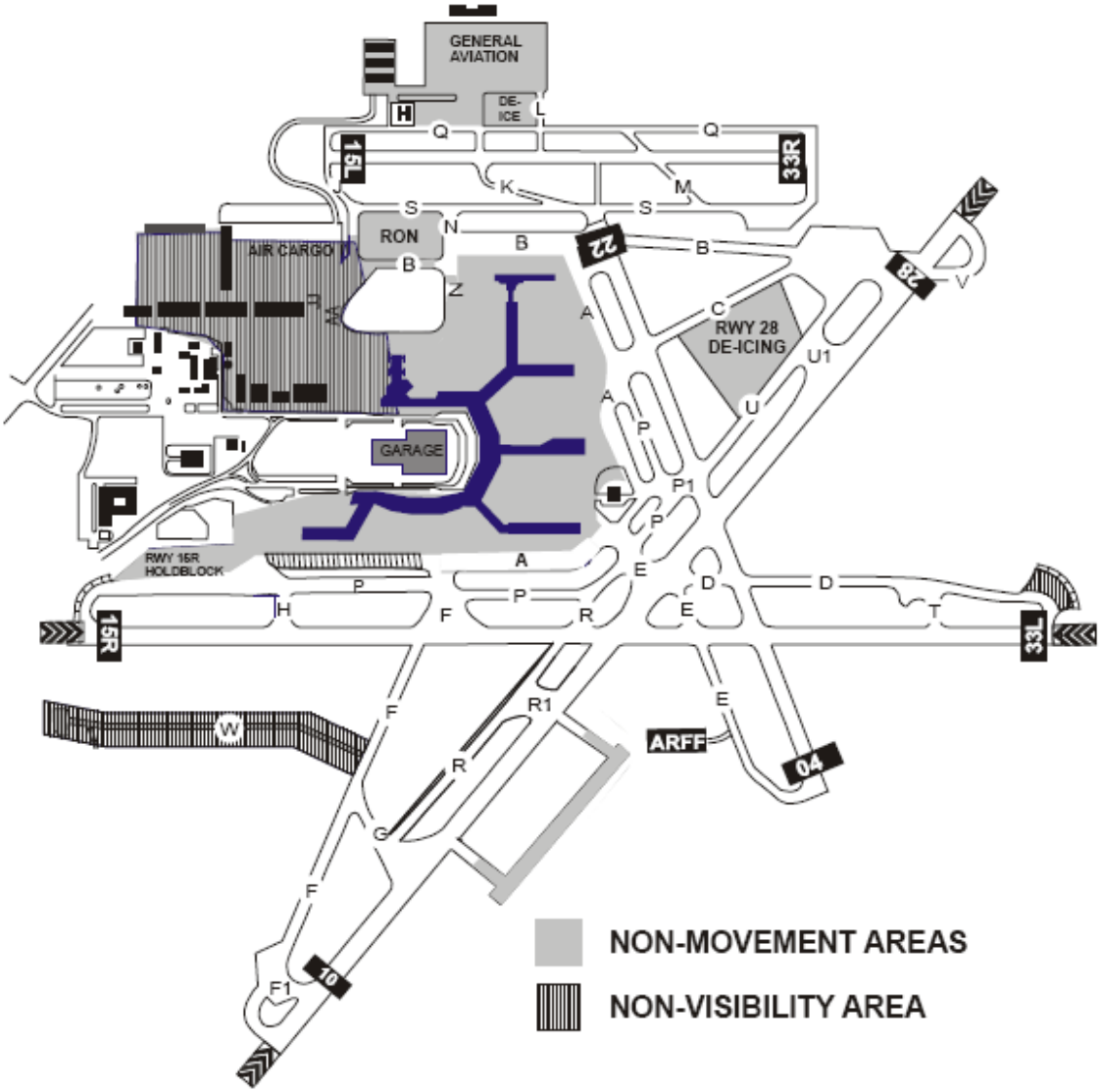
2) Position Information

- **f.** Frequency: 123.750
- **g.** Callsign: BWI_E_TWR
- **h.** ARTS ID: 1A

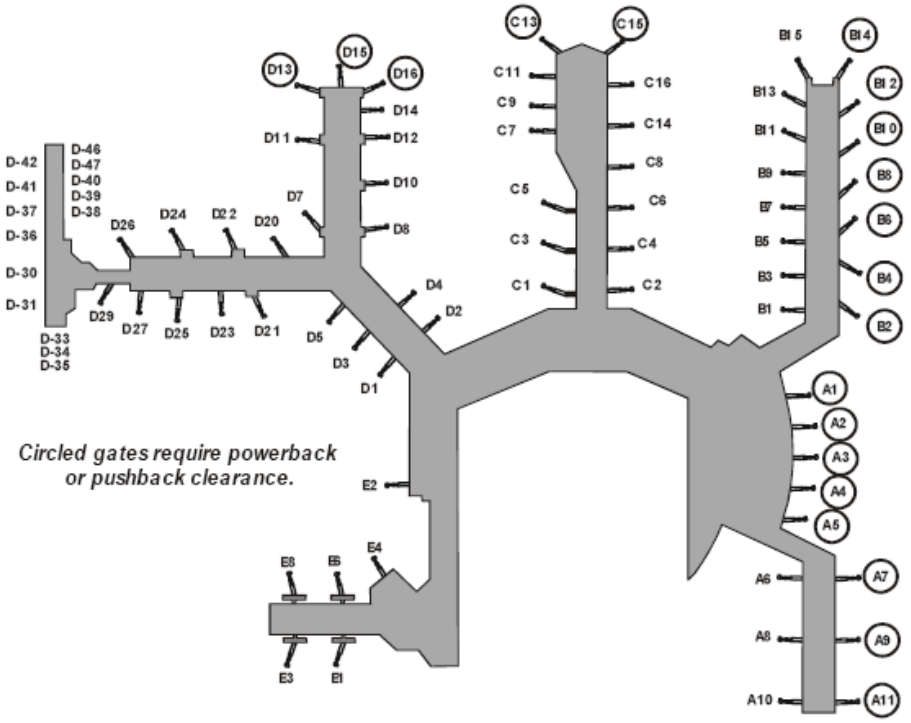
Ground Control (GC)
General Information and Procedures

1) General Control aircraft operating on movement areas. Ensure that proper read back of runway hold short instructions are received from the pilot.

2) Area of Jurisdiction GC shall have control of all inactive runways and non-movement areas depicted below.



3) Push Back and Startups Issue power-back/push-back clearances to those aircraft leaving the terminal that will encroach on the movement area. Gates that require ATC clearance prior to powering or pushing back are depicted below:



4) Runway 4/22 Procedures When Local Control advises operations are imminent on Runway 4/22, Ground Control will hold traffic short of Runway 4/22 on Taxiway "S" and begin coordinating the use of that portion of the runway with the Local Controller. Although Taxiway "S" does not cross Runway 4/22, it encroaches on the RWY 4/22 Runway Obstacle Free Zone. Aircraft must not park on, or taxi on that portion of TWY "S" while RWY 4/22 is active without prior approval from Local 1.

5) ATIS Ensure all departing aircraft have current ATIS code.

6) Helicopter Operations Permit helicopters to arrive and depart from any runway and the Helipad. Hover taxiing is not authorized except to and from the parking area adjacent to the Helipad.

7) Departure Runway Assignments After considering such things as flow restrictions, current arrival demand and the overall efficiency of the departure flow, assign runways/intersections to departing aircraft as follows:

Configuration	Runway	Aircraft Type
East Operation	10	Prior coordination with L1 required.
	15R	Primary Departure Runway: All Jet Departures
	15L	All Propeller Aircraft
West Operation	28	Primary Departure Runway: All Jet Departures
	33L	Prior coordination with L1 required.
	33R	All Propeller Aircraft

a. Deviation from the above assignments is approved if coordinated with LC.
b. Pilot runway requests may be accommodated if traffic volume allows.
c. Other runway may assignments may be used if they provide an operational benefit.

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8) Departure Sequence

a. West Operation: Ground Control 1 must utilize Taxiway "U" for Runway 28 departures; Ground Control 2 must utilize Taxiways "B" and "C" for Runway 28 departures.

b. East Operation: G1 must establish the departure sequence for Runway 15R or Runway 10. G2 must establish the departure sequence for Runway 15L.

9) Transfer of Communications

a. To Ground: Transfer communication to aircraft transitioning to the other Ground Control's jurisdiction in a timely manner to preclude undue delay for taxiing aircraft.

b. To Tower: LC shall decide whether departures shall ***contact*** or ***monitor*** tower's frequency. This must be coordinated with the appropriate GC. The following are suggestions on when to use each method that provide the most efficiency.

i. GC shall use **"contact tower"** once the departure is sequenced and holding short of the departure runway. This is recommended during periods when traffic is light. In most cases the pilot will call tower when they are ready for takeoff.

ii. GC shall use **"monitor tower"** once the departure is in line in the departure sequence. This is recommended during periods when traffic is heavy. In most cases, the departures are in line and on the tower frequency waiting for instructions. Tower will call the departure when instructions need to be given. This reduces LC's frequency congestions because pilots are not wasting frequency time checking in, rather waiting for somebody to call them.

c. From Tower: LC shall handoff arriving aircraft to GC as follows:

i. Exiting Runway 28 West of Runway 33L shall cross Runway 33L, hold short of Taxiway P on F or R and contact ground.

ii. Exiting Runway 15R or Runway 22 South of Runway 10, shall cross Runway 10, hold short of Taxiway P on E and contact ground.

10) Runway Exiting Procedures

a. Ground Control shall protect the following runway/taxiway intersections to ensure that arrivals exiting the runway have clearance onto or across active taxiways so as to properly clear the active runway.

i. Runway 15R/33L Taxiways E, F and H

ii. Runway 10/28 Taxiway E and Runway 4/22

iii. Runway 4/22 Taxiways B, C, P, and D

iv. Runway 15L/33R Taxiways K, L, and M

Ground Control 1 (G1)

1) Responsibilities

a. G1 is responsible for the movement areas from pier C clockwise. When L1 declares Runways 10/28, 4/22, or 15R/33L inactive, responsibility and control for the inactive runway must revert to G1.

2) Position Information

a. Frequency: 121.900
b. Callsign: BWI_W_GND
c. ARTS ID: 1D

Ground Control 2 (G2)

1) Responsibilities

a. G2 is responsible for the movement areas from Pier D counter-clockwise (including Taxiways Bravo and Charlie) to and including the Cargo Ramp. When L1 declares Runway 15L/33R inactive, control for that runway must revert to G2.

2) Position Information

a. Frequency: 120.200
b. Callsign: BWI_E_GND
c. ARTS ID: 1Z

Clearance Delivery (CD)

1) Responsibilities Issue ATC clearances to all departing aircraft.

2) Position Information

- **a.** Frequency: 118.050
- **b.** Callsign: BWI_DEL
- **c.** ARTS ID: 1C

3) IFR Departure Instructions

- **a.** Assign "FLY RUNWAY HEADING" as departure instructions for all IFR departures that will not be issued a Departure Procedure (DP).
- **b.** Instruct IFR departures to maintain 4000 feet, or lower if requested, and an altitude to expect 10 minutes after departure.
- **c.** Issue the appropriate departure frequency (see table below)
- **d.** Assign a beacon code
- **e.** Do not amend flight plan routes unless the pilot can accept and fly the new routing.

4) VFR Departures

- **a.** Assign VFR aircraft to "FLY RUNWAY HEADING" and "MAINTAIN AT OR BELOW 2,000."
- **b.** Issue the appropriate departure control frequency (see table below)

5) Departure Fixes

- **a.** Unless coordinated with the departure controller, all aircraft shall use one of the following departure gates:

Direction	Gate
North	WOOLY, EMI
East	SWANN, PALEO
South / Southeast	DAILY
South / Southwest	HAFNR, FLUKY
West	LDN, AML (J149)
Northwest	MRB, BUFFR, JERES

6) Departure Frequency

WOOLY – 128.700	GRACO – 124.55
MRB	SWANN
JERES	PALEO
BUFFR	DAILY
LDN	
AML	
FLUKY	
HANEY	
HAFNR	
GVE	
CSN	
MOL	
BRV	
WOOLY	
EMI	

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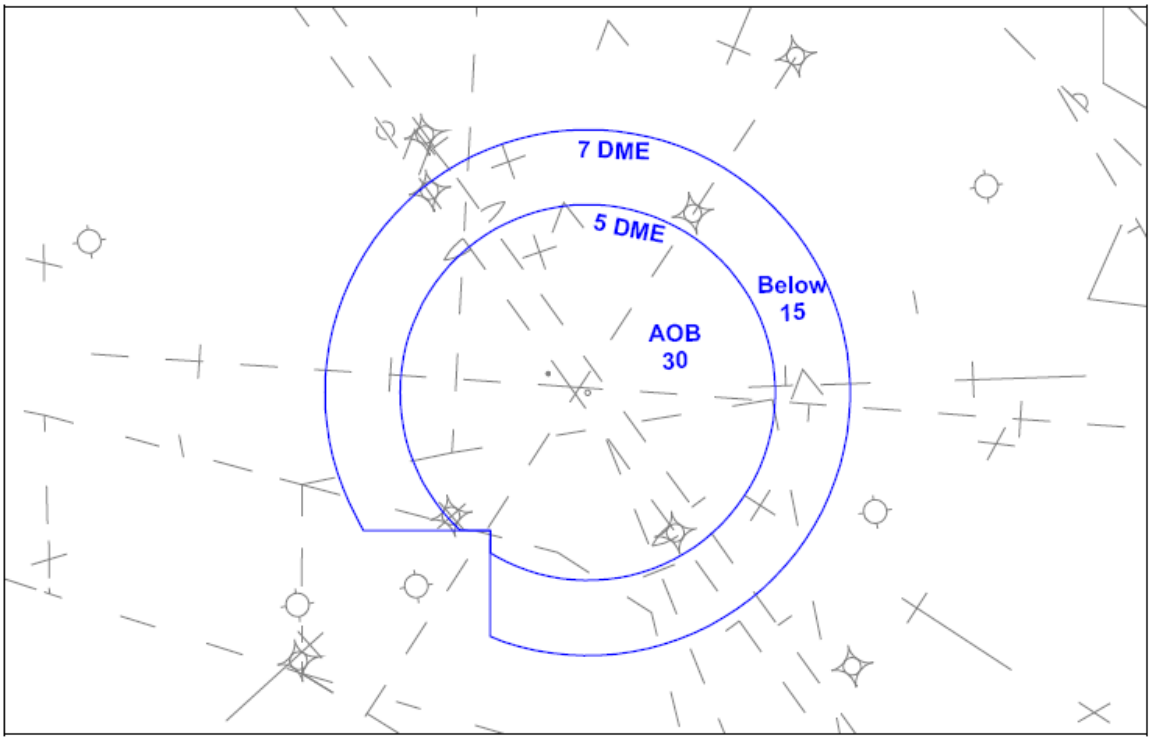
7) **Aircraft Clearances and Delays** In the event aircraft will be delayed due to weather and/or traffic management initiatives, issue clearances to all aircraft regardless of the status of a particular route. After the clearance has been read back correctly, inform aircraft there are delays and to contact ground for an estimated departure time.

8) **Assigning a Ground Control** Once the pilot has correctly read back the clearance, instruct all aircraft to “Contact ground on 121.9 for taxi”

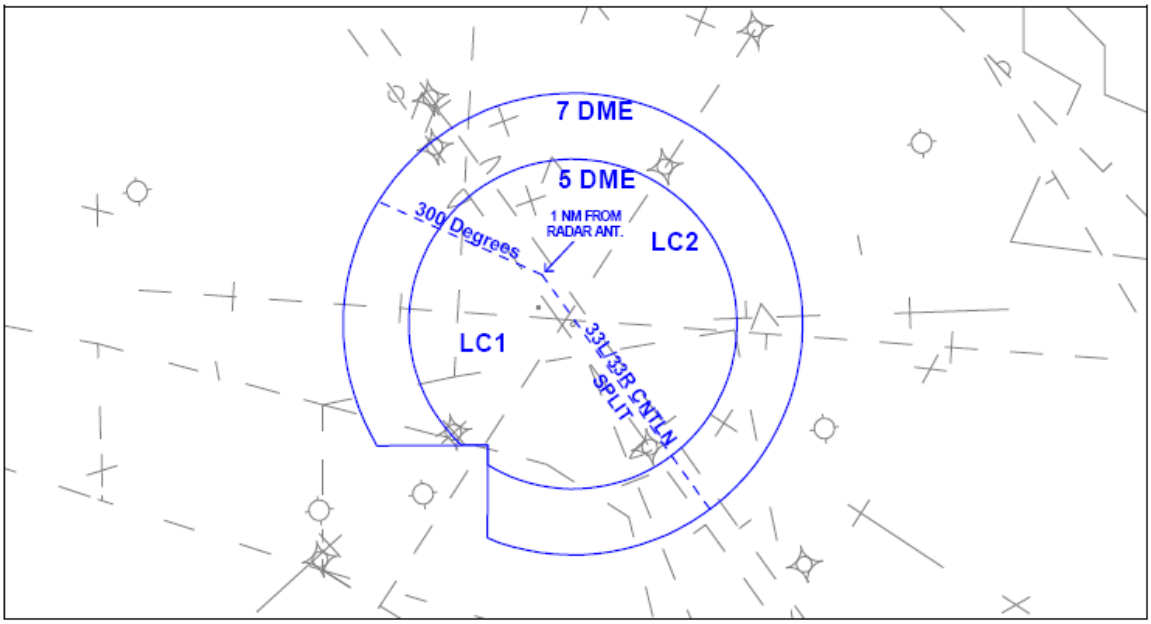
Appendix 1

Tower Airspace

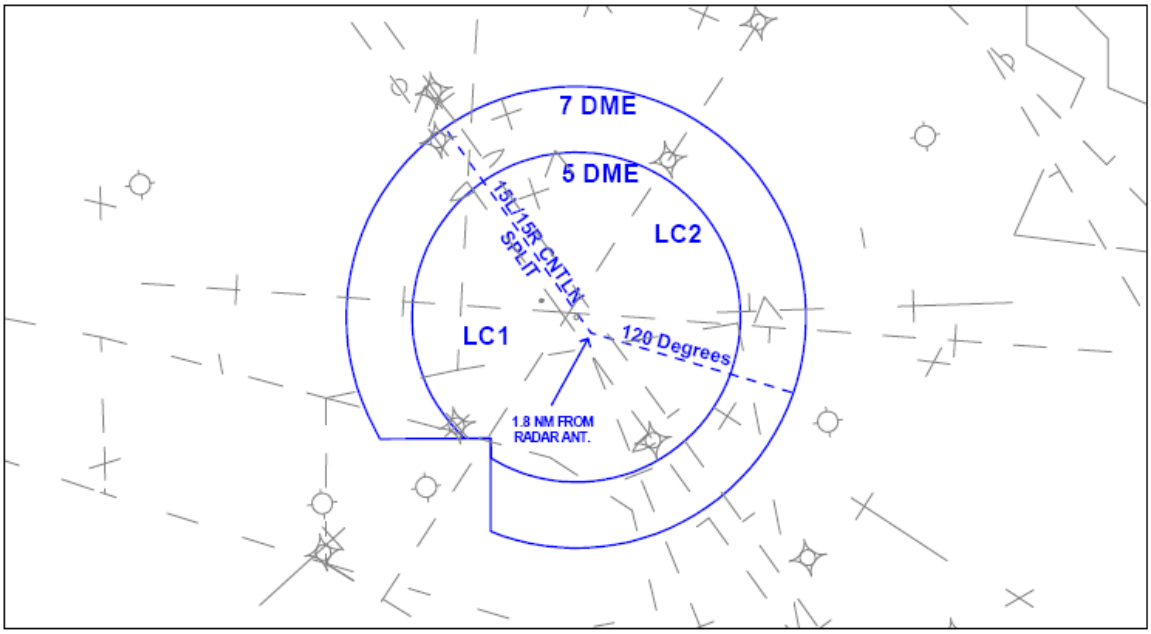


Excluding the Class B segment to the southwest of BWI, Baltimore Tower is delegated 3,000 feet MSL and below within 5 DME of the Baltimore VORTAC, and below 1,500 feet MSL between 5 DME and 7 DME of the Baltimore VORTAC.

West Operation



East Operation



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