Toronto Pearson – Airport Capacity
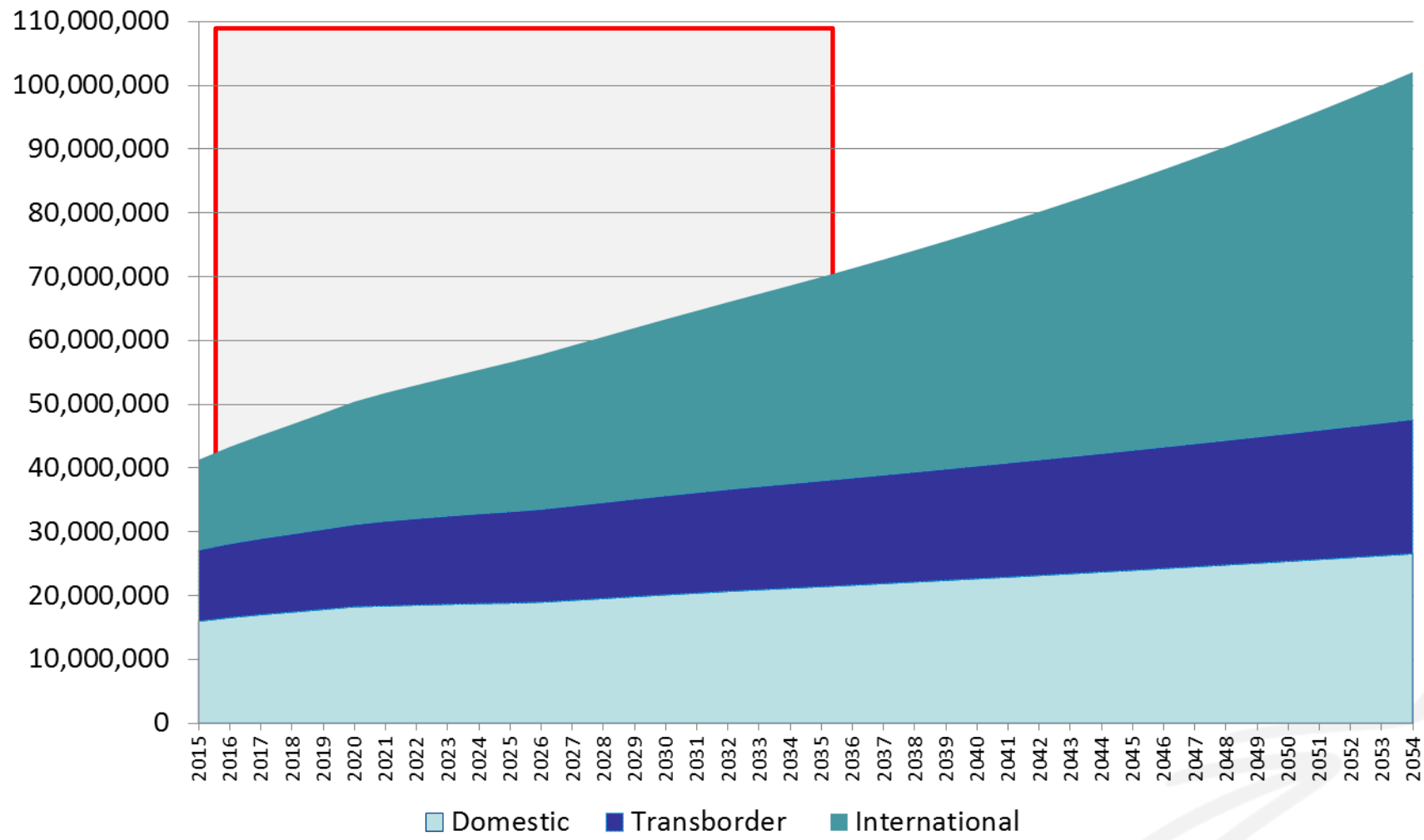
Total Passengers

Annual E/D Passengers (millions)

CAGR 2015-2034 = 2.9%

Legend: 2015-2034 (20-years) • • • • 2035-2054 (Extrapolation)

Total Passengers

Annual E/D Passengers

Legend: Domestic ▪ Transborder ▪ International
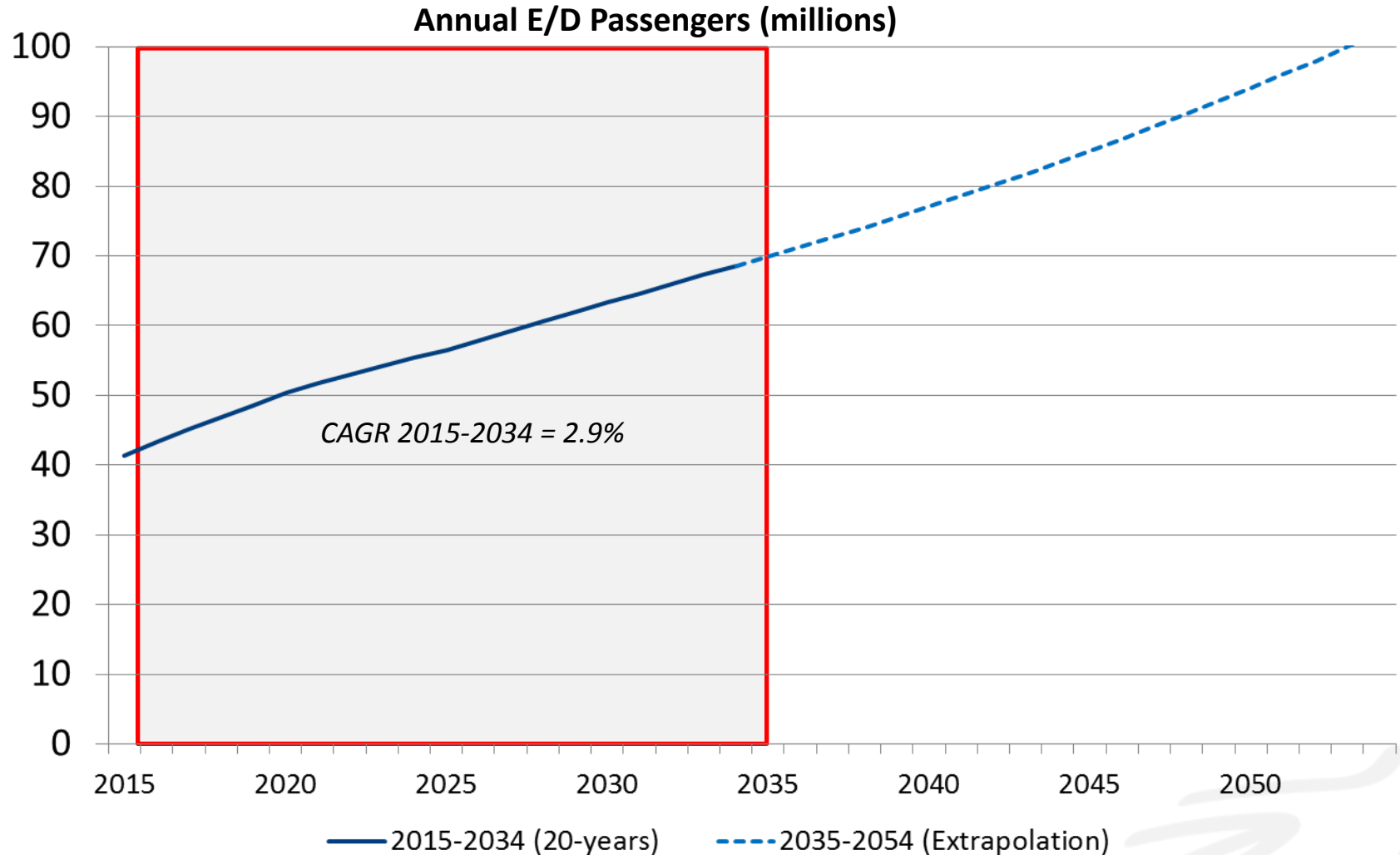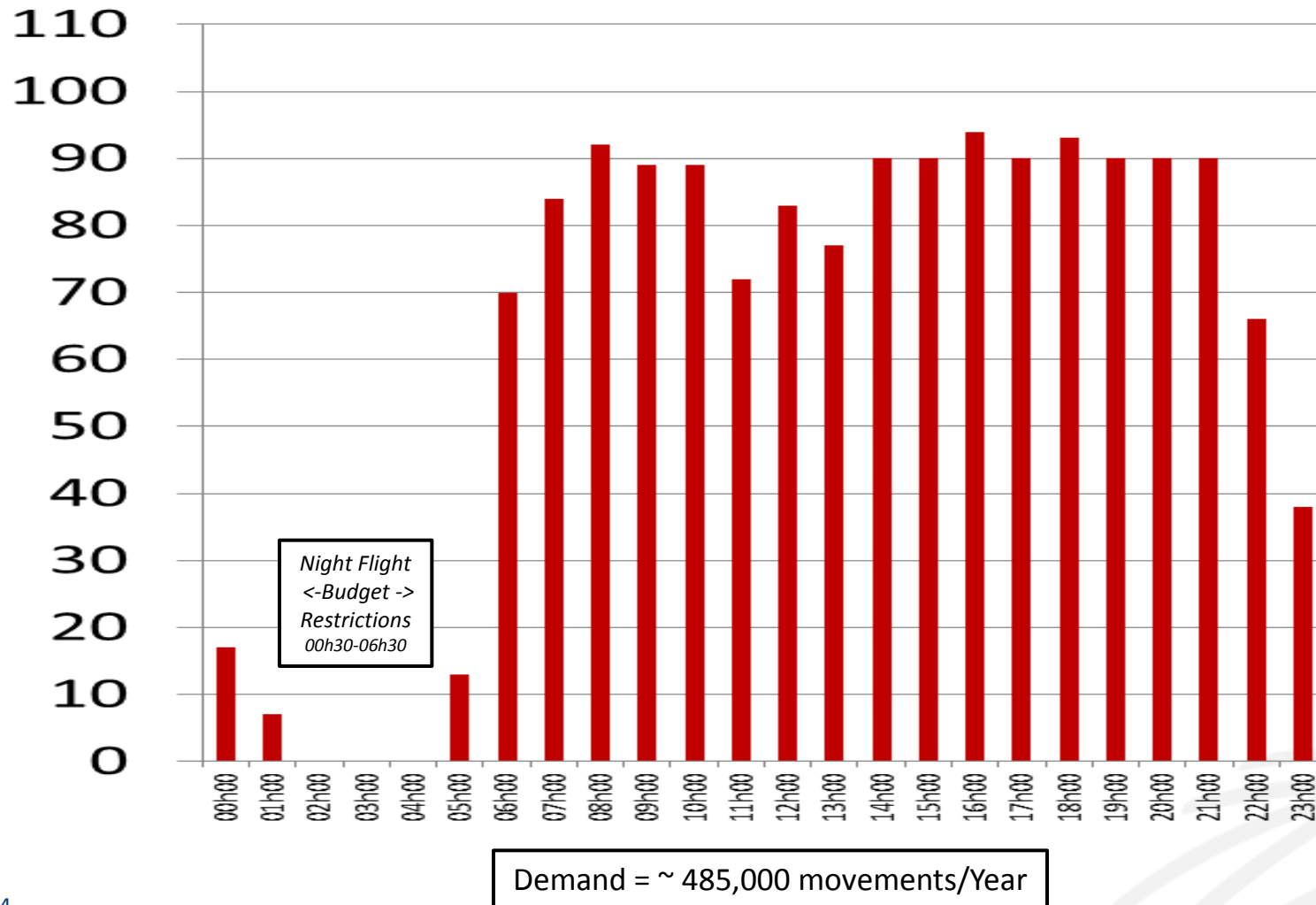
Source: GTAA 20-year Forecast July 30, 2015, extrapolated to 2054

Air Carrier Runway Slots
## booked to 90 movements per hour

Airline Movements/Hour - 2023

Night Flight
<-Budget ->
Restrictions
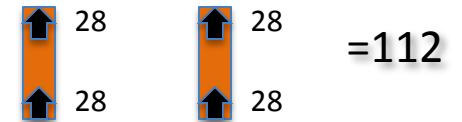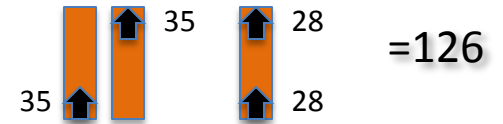00h30-06h30

Demand = ~ 485,000 movements/Year

Runway Capacity Hourly Overview

Runway Capacity -VFR

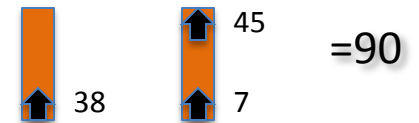- no weather or reduced visibility
- VFR conditions = 90% of runway operations

Runway Config	Arrivals	Departures	Total/hr	90/HR
Triple	63	63	126	+40%
Dual	56	56	112	+24%
Land 33L & 33R Depart 33R	38	44	82	-10%
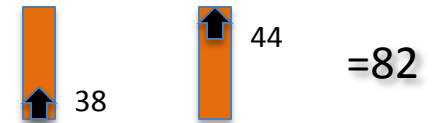
Visual Departure Separation- reduced in trail departure spacing

| Land 33L & 33R Depart 33R	45 38	45 52	**90** **90**	**100%**

=126

=112

=82

=90

=90
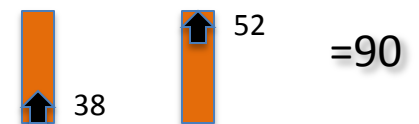
Visual Departure Separation

What are Visual Departures?

- **Visual Separation is a means of spacing aircraft by a Pilot when assigned separation responsibility by Air Traffic Control.**

- **Visual Departure Separation allows for the reduction of the minimum separation standard of 3 miles**

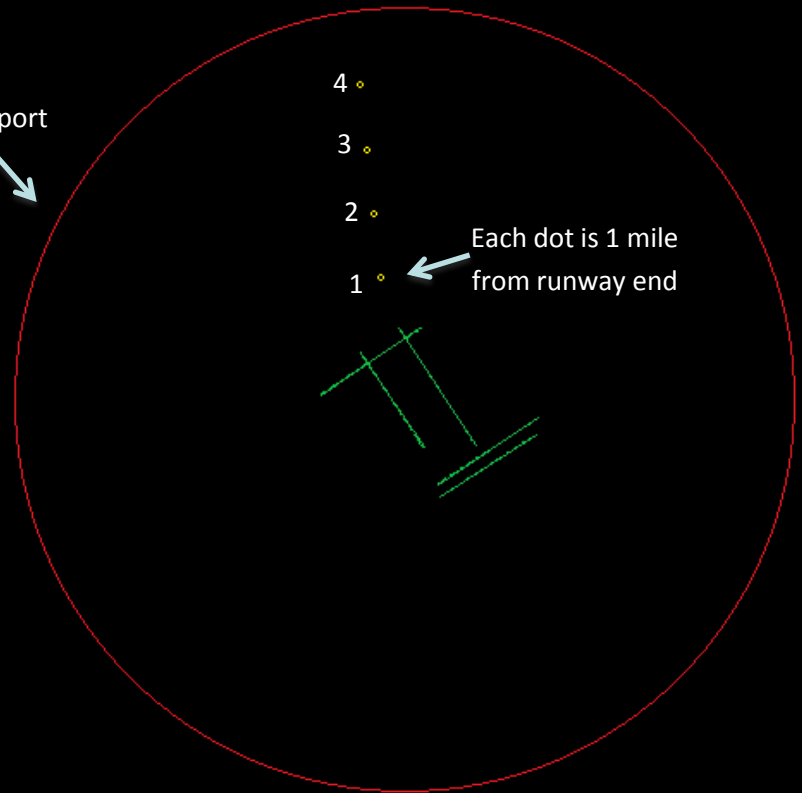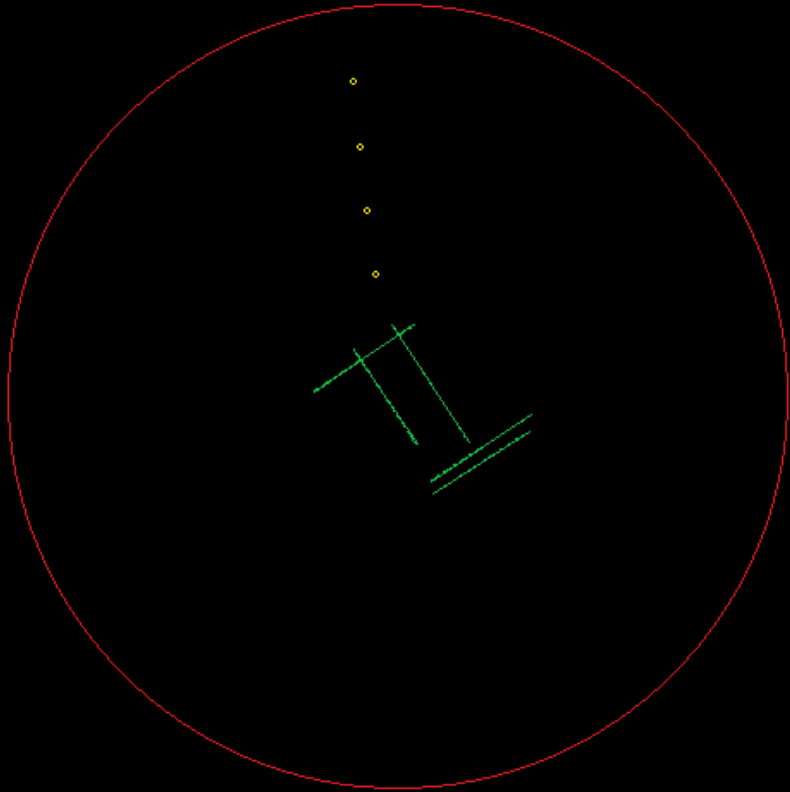- **Used in Calgary, Vancouver and Montreal**
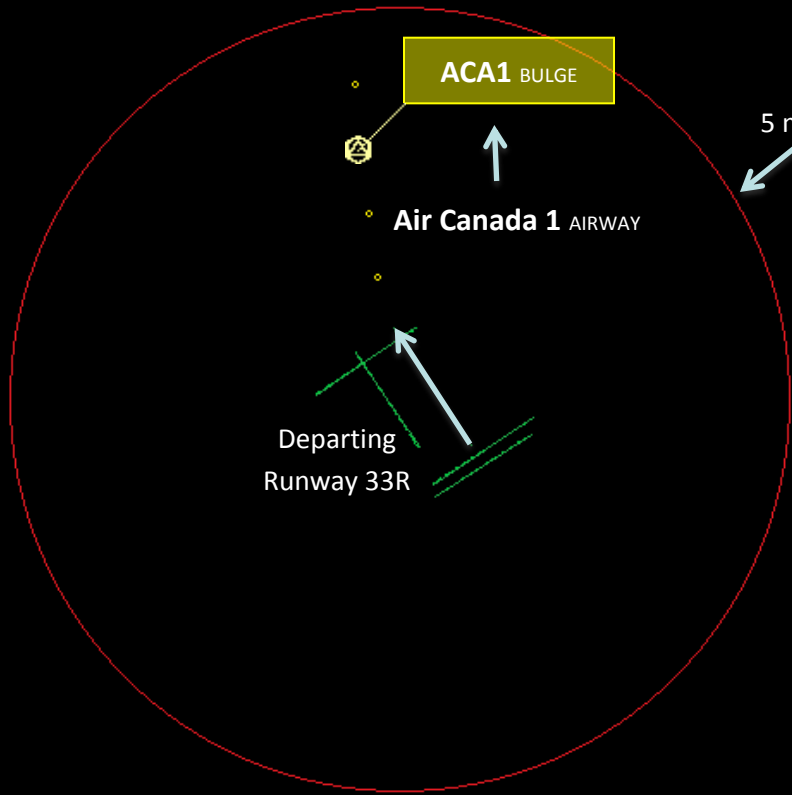
Standard 3 miles in-trail separation vs.
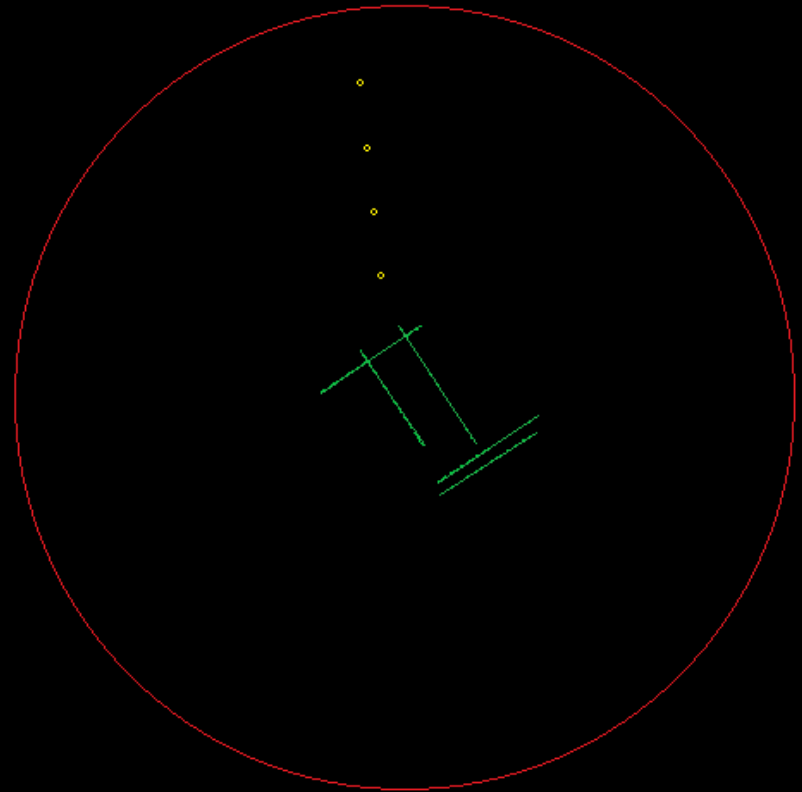3 miles in-trail separation and Visual Departures
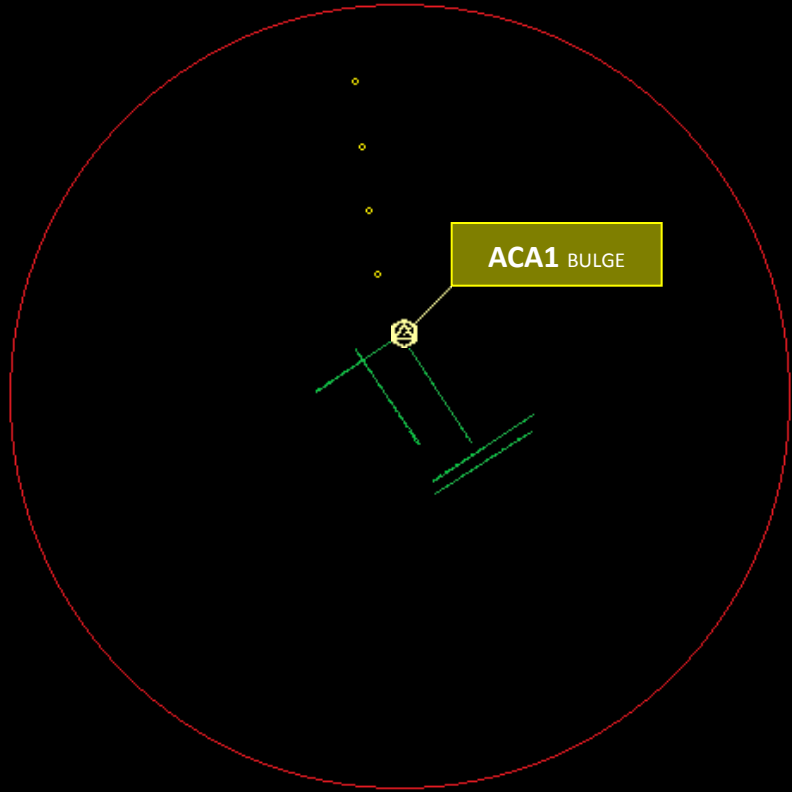
3 miles Separation

3 miles Separation + Visual Departures

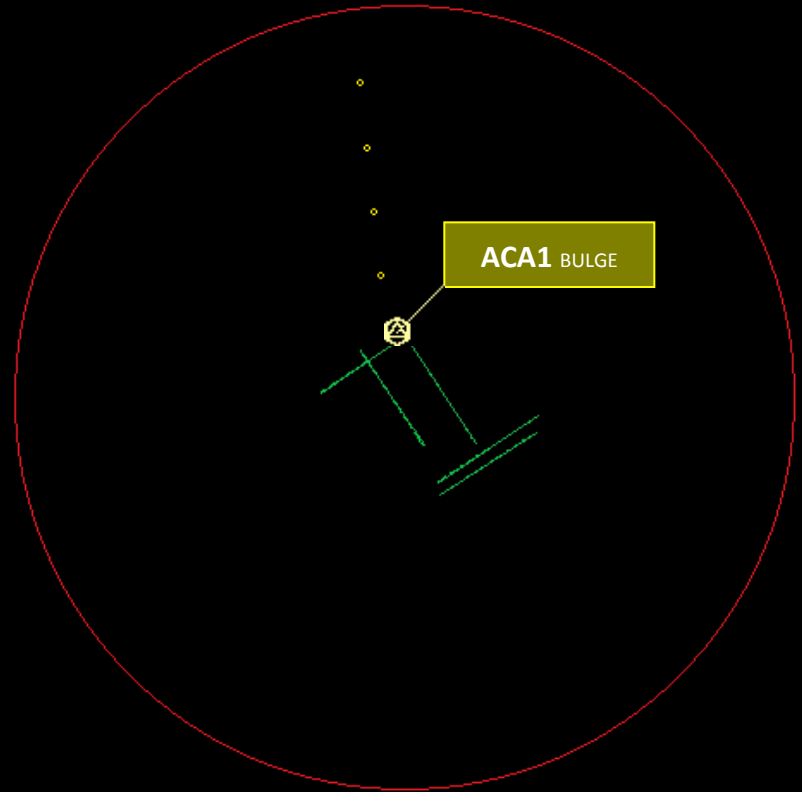# 20 Departing Aircraft

1 aircraft departs every minute

Visual Departure aircraft reduce that to 30 seconds
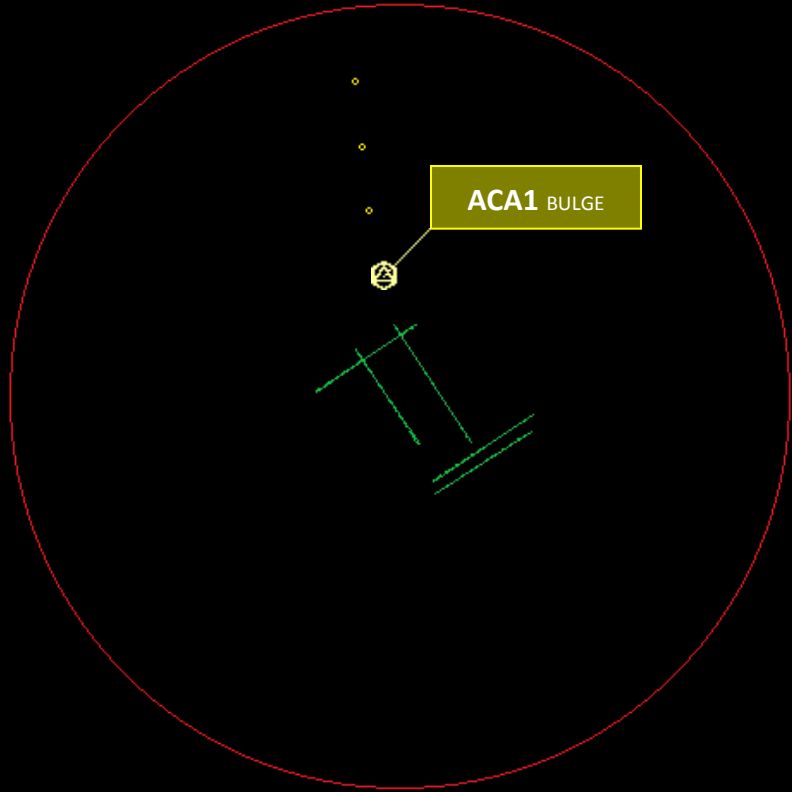
3 miles Separation

3 miles Separation + Visual Departures

1   Departed Aircraft   **1**

3 miles Separation
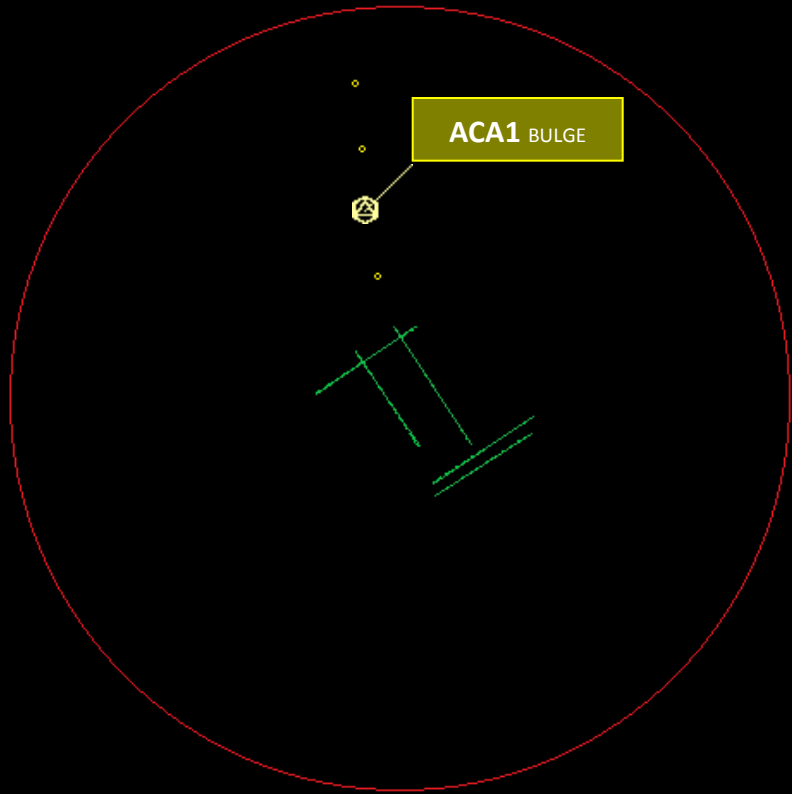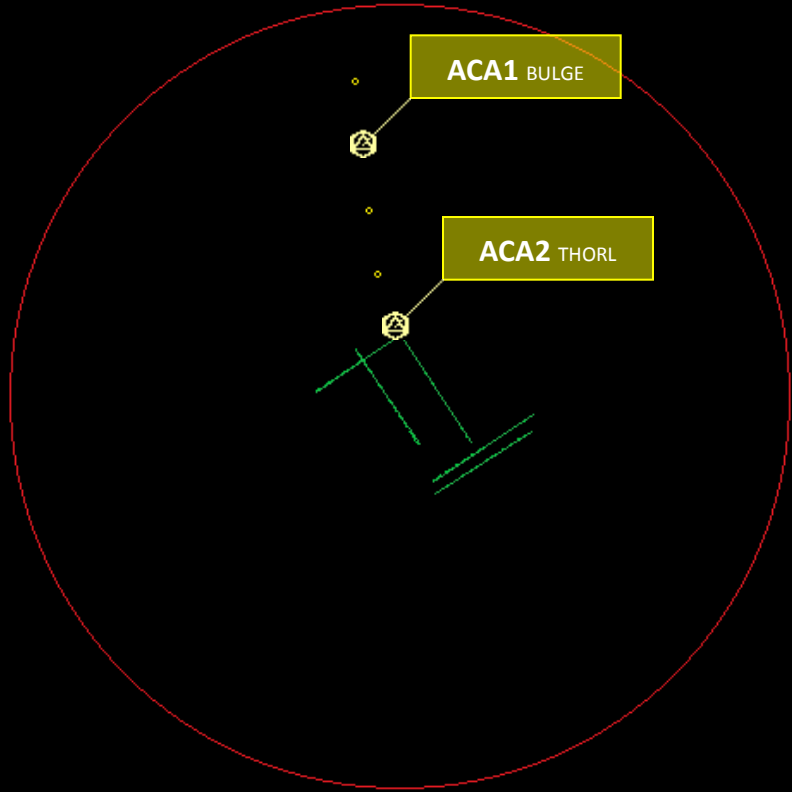
3 miles Separation + Visual Departures
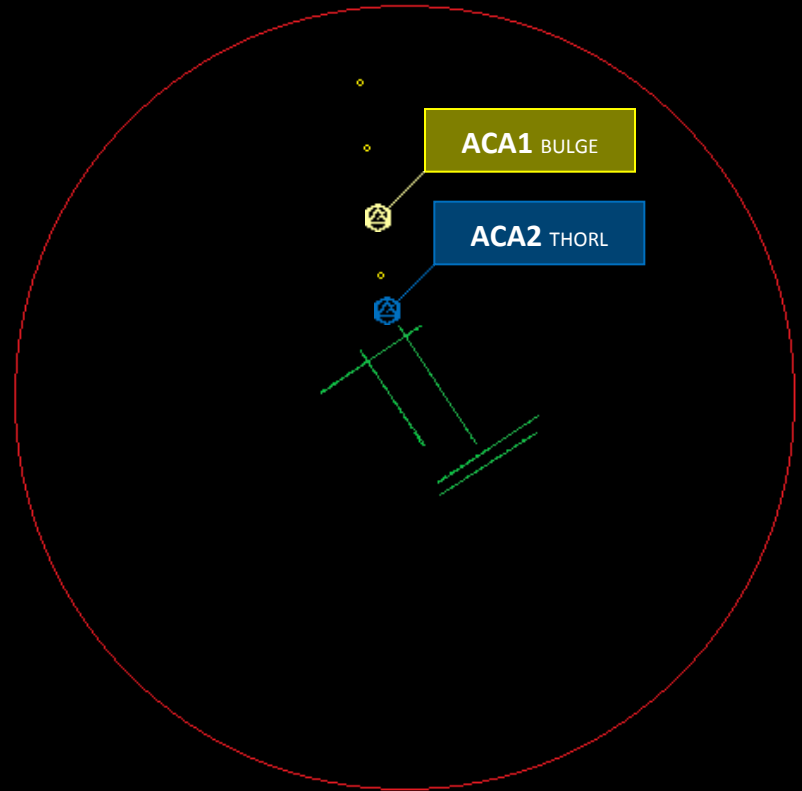
1   Departed Aircraft   **1**

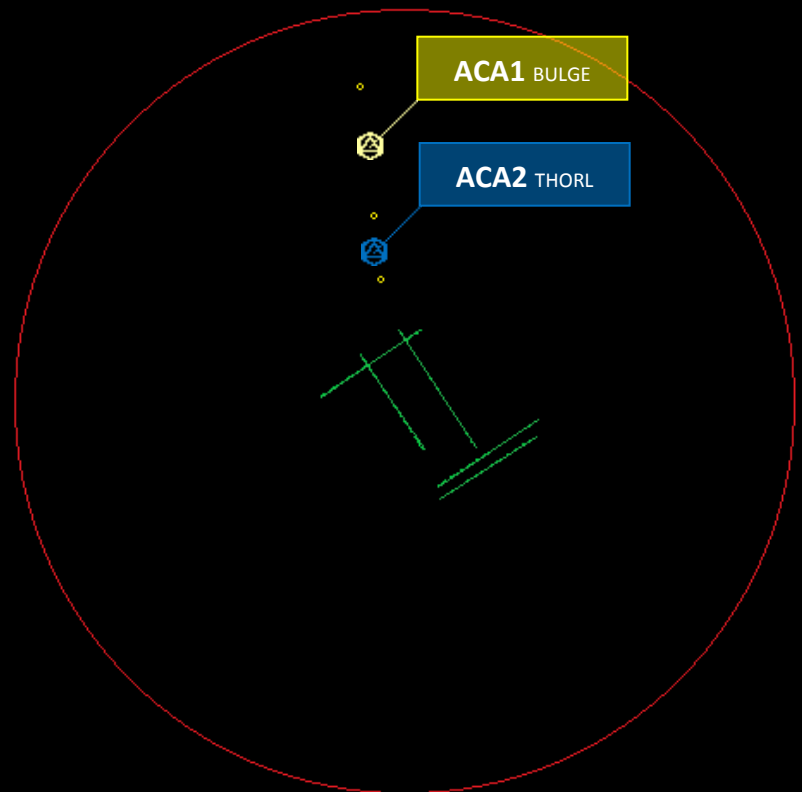1   Departed Aircraft   2

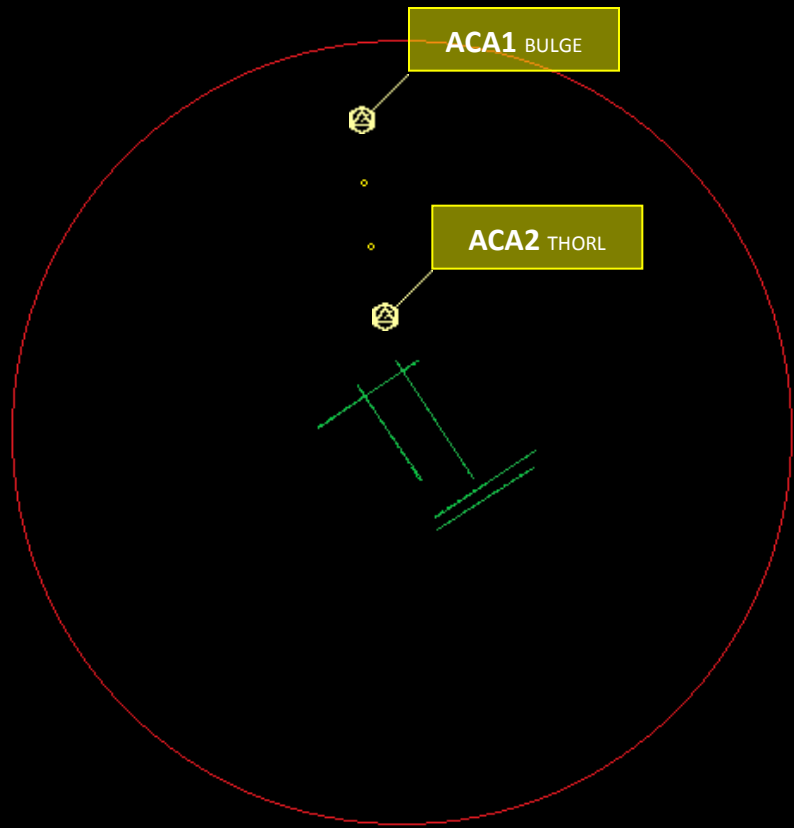3 miles Separation

3 miles Separation + Visual Departures

Elapsed Time: 1 minute

2 Departed Aircraft **2**

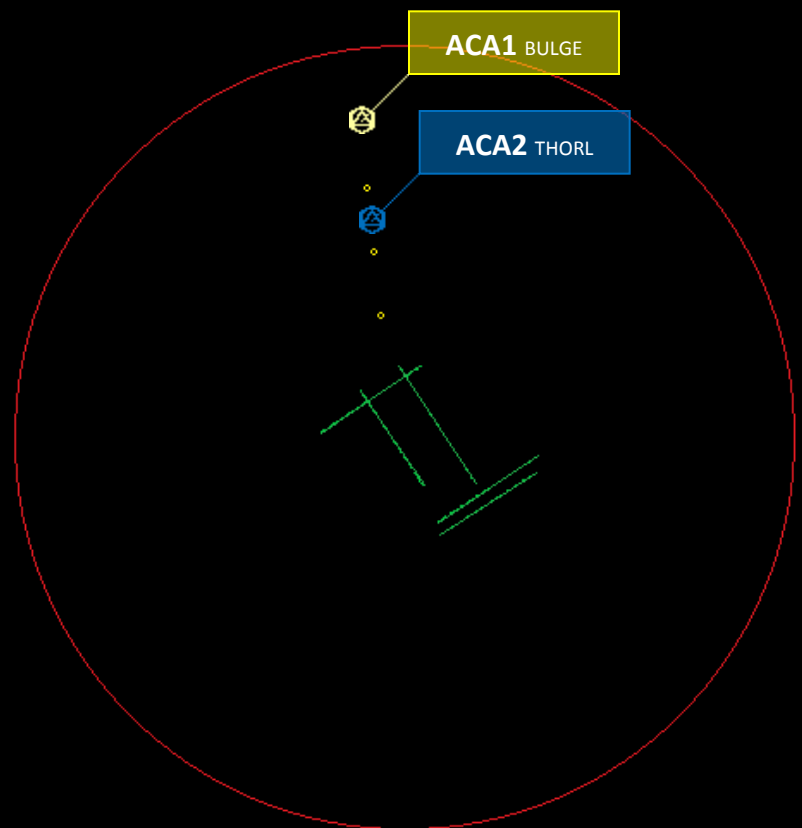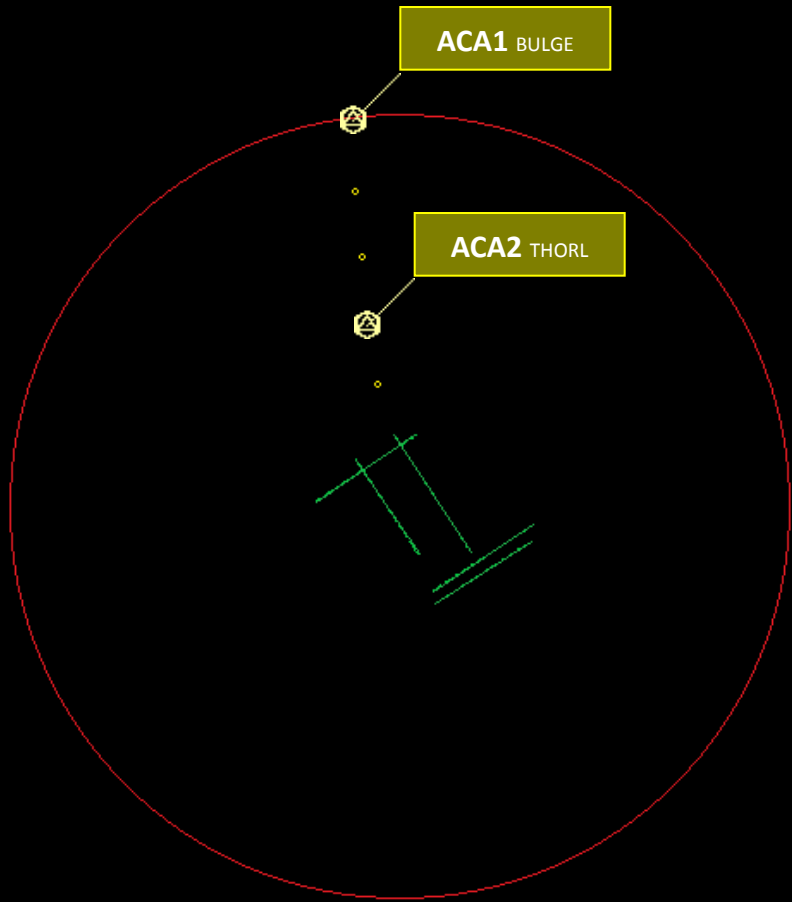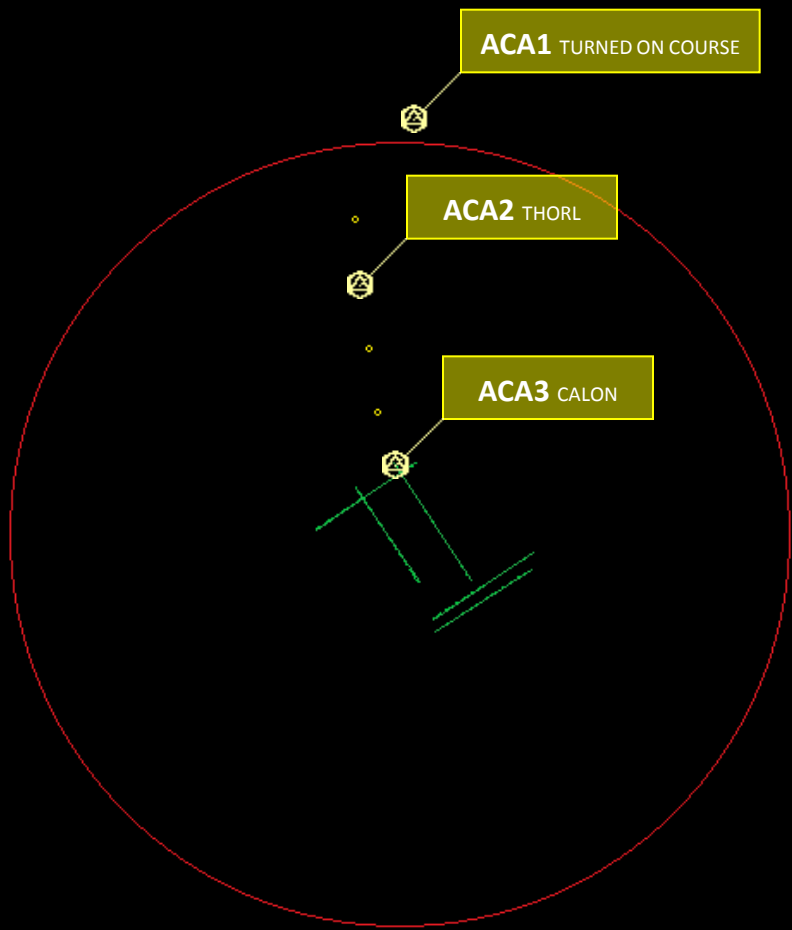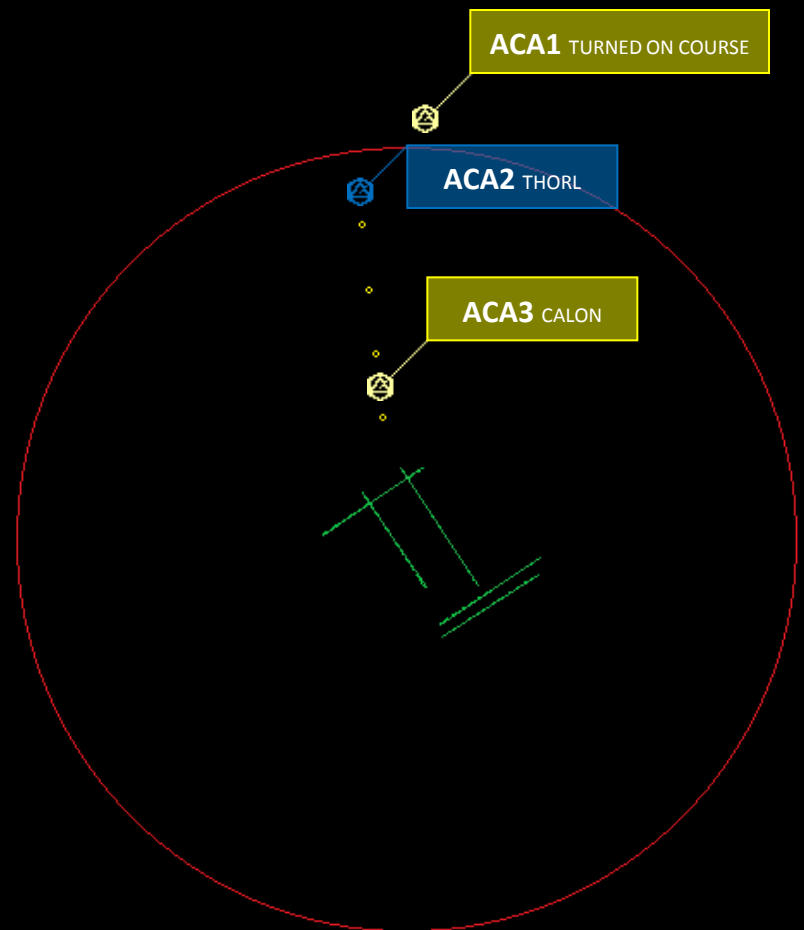3 miles Separation

3 miles Separation + Visual Departures

2　　　Departed Aircraft　　　**2**

3 miles Separation

3 miles Separation + Visual Departures

2   Departed Aircraft   **3**

ACA1 TURNED ON COURSE
ACA2 THORL
ACA3 CALON

3 miles Separation

ACA1 TURNED ON COURSE
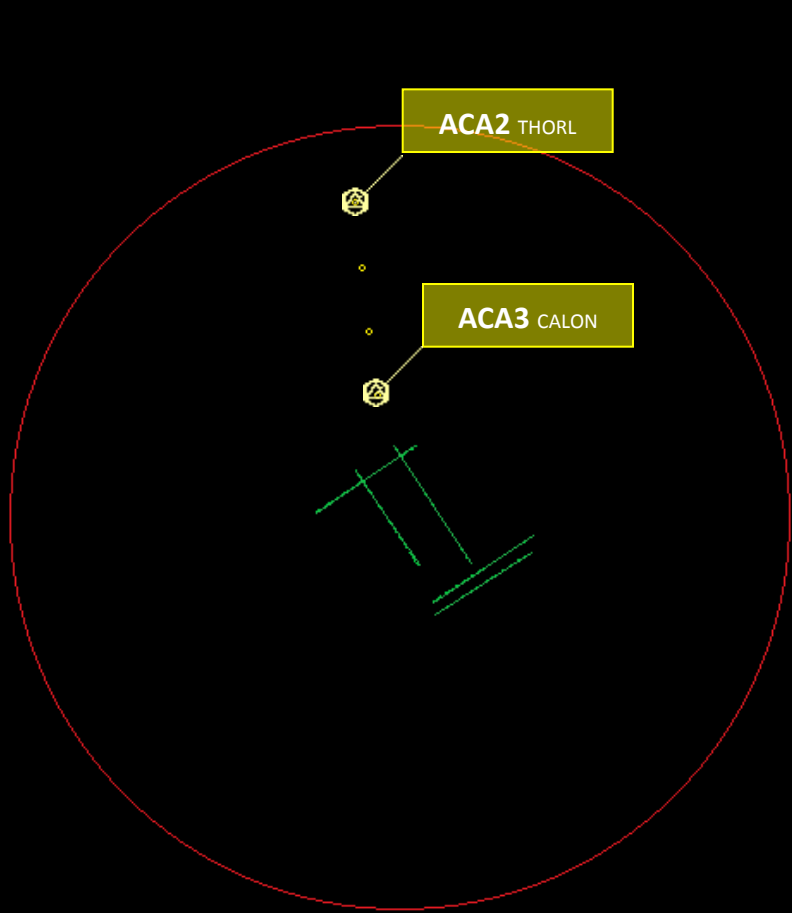ACA2 THORL
ACA3 CALON
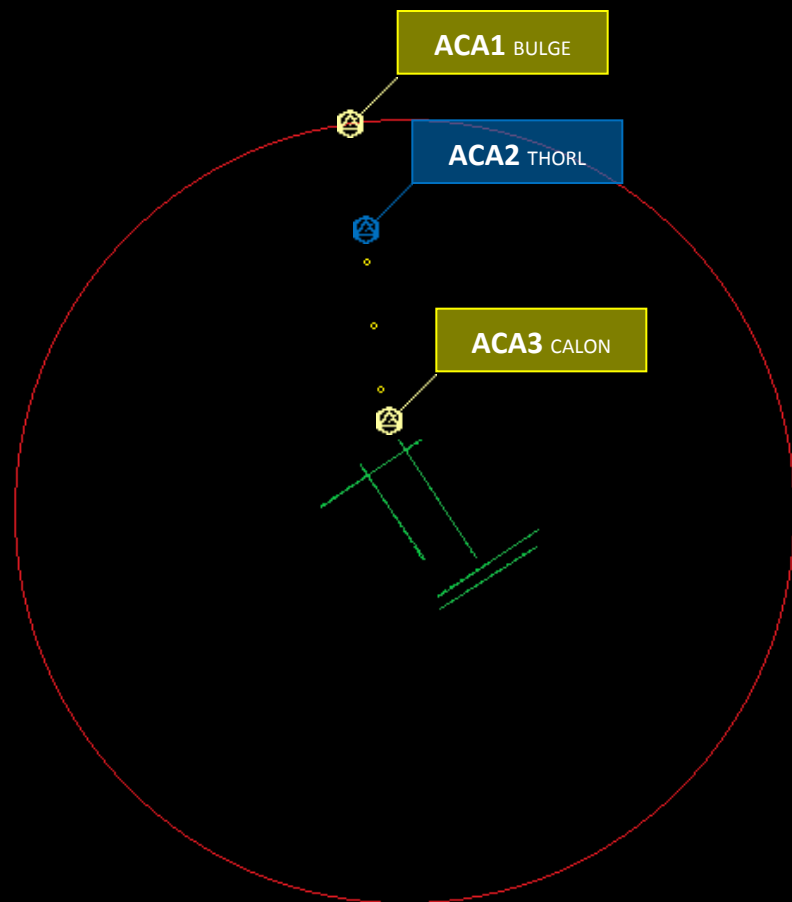
3 miles Separation + Visual Departures

Elapsed Time: 2 minutes
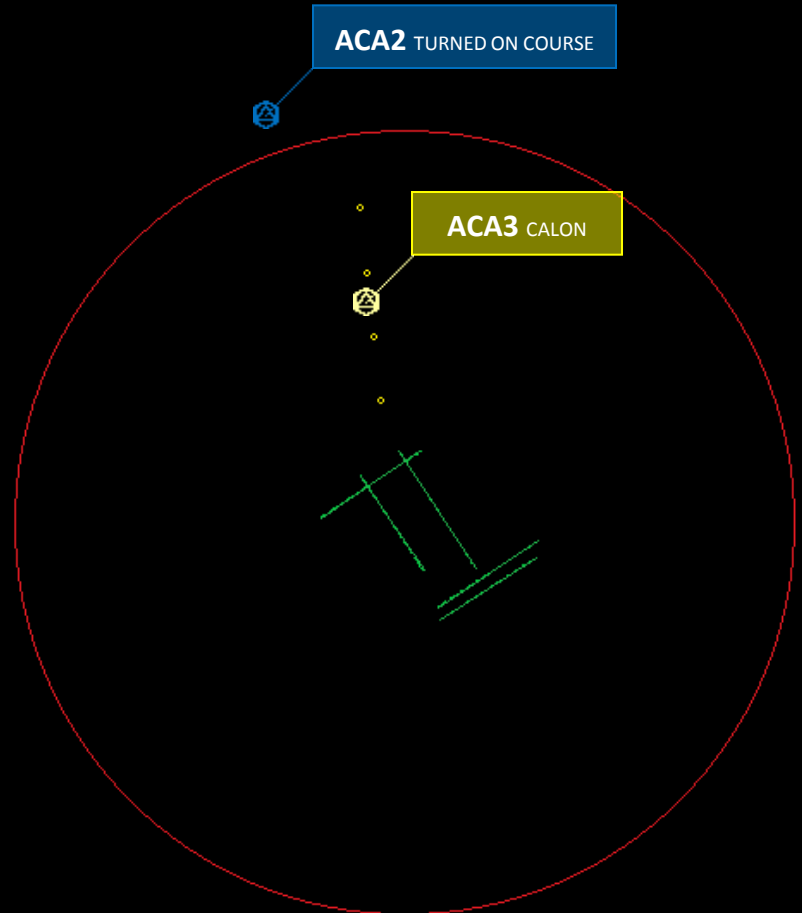
3   Departed Aircraft   **3**
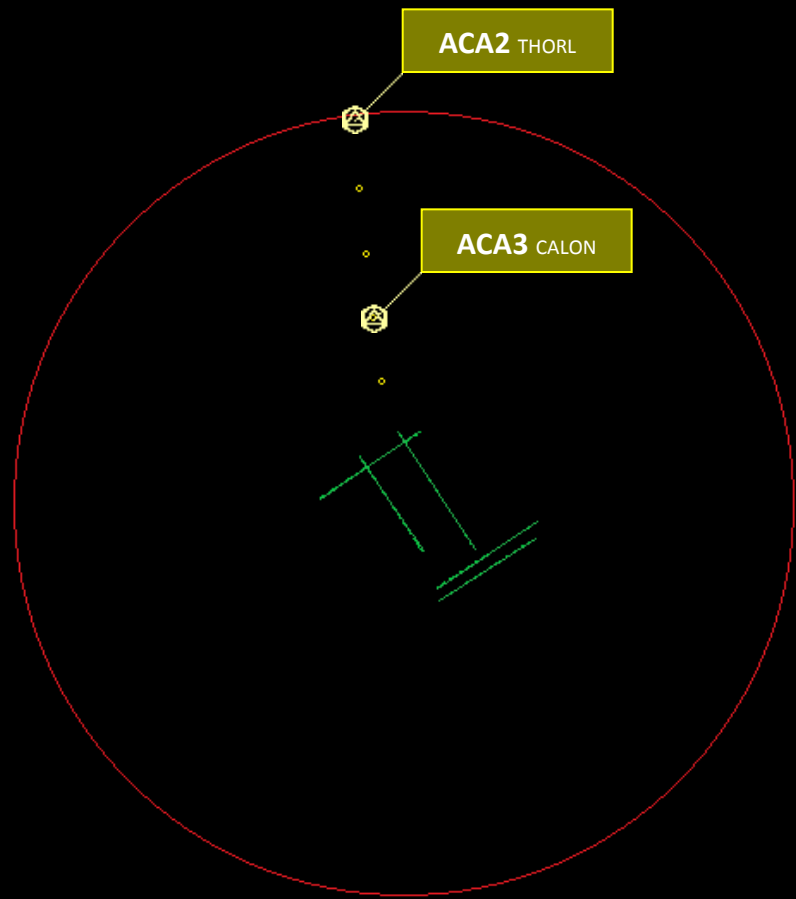
3 miles Separation

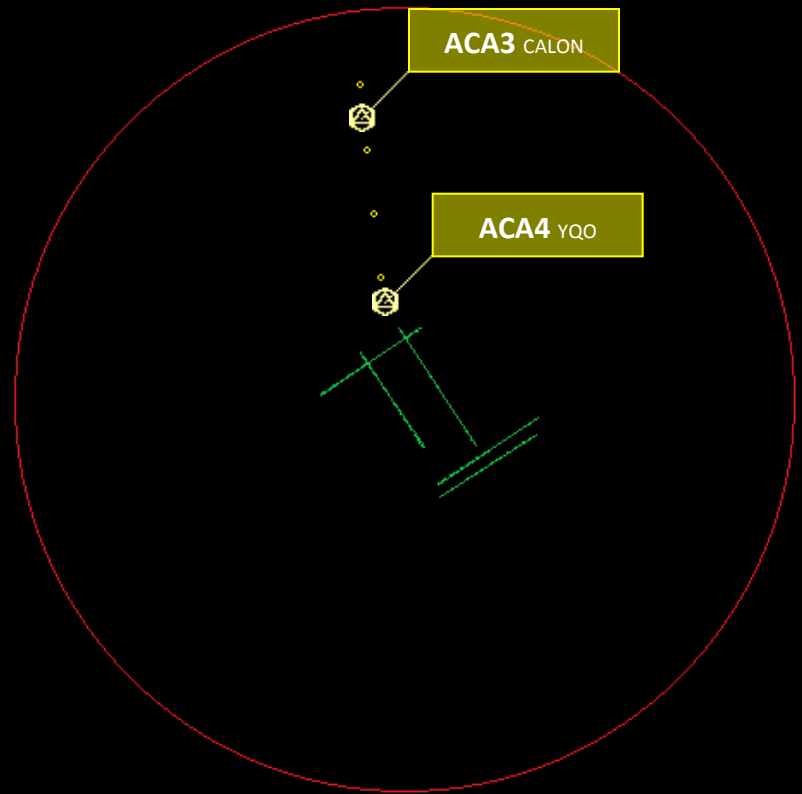3 miles Separation + Visual Departures

3   Departed Aircraft   **3**

3 miles Separation

3 miles Separation + Visual Departures

3   Departed Aircraft   **4**

Elapsed Time: 3 minutes

4   Departed Aircraft   5

3 miles Separation

3 miles Separation + Visual Departures

4   Departed Aircraft   **5**
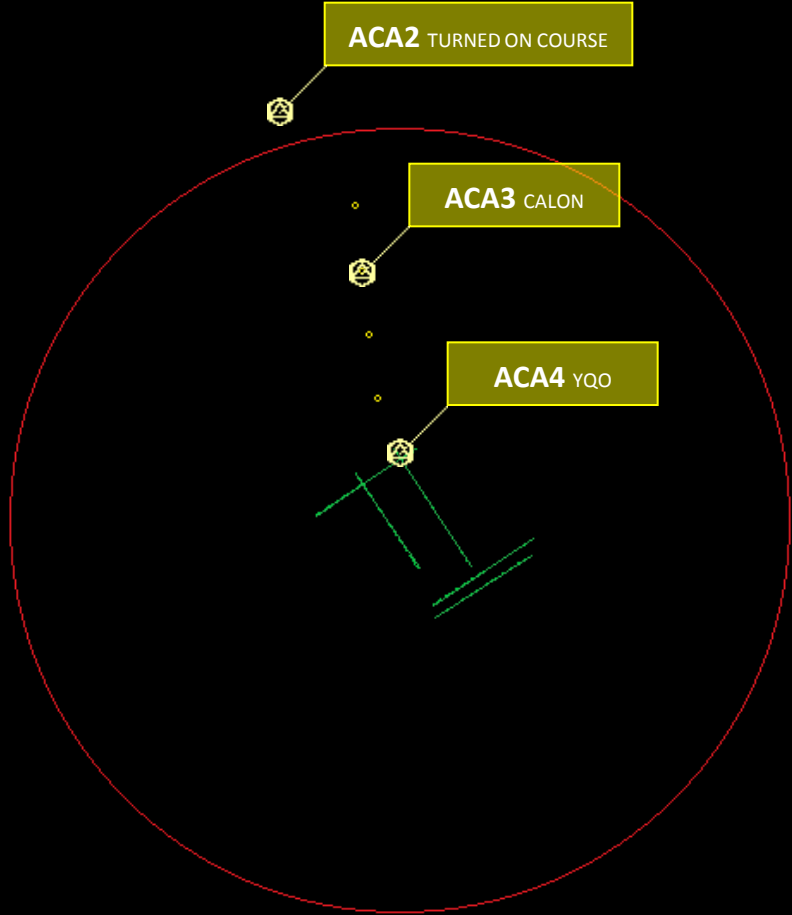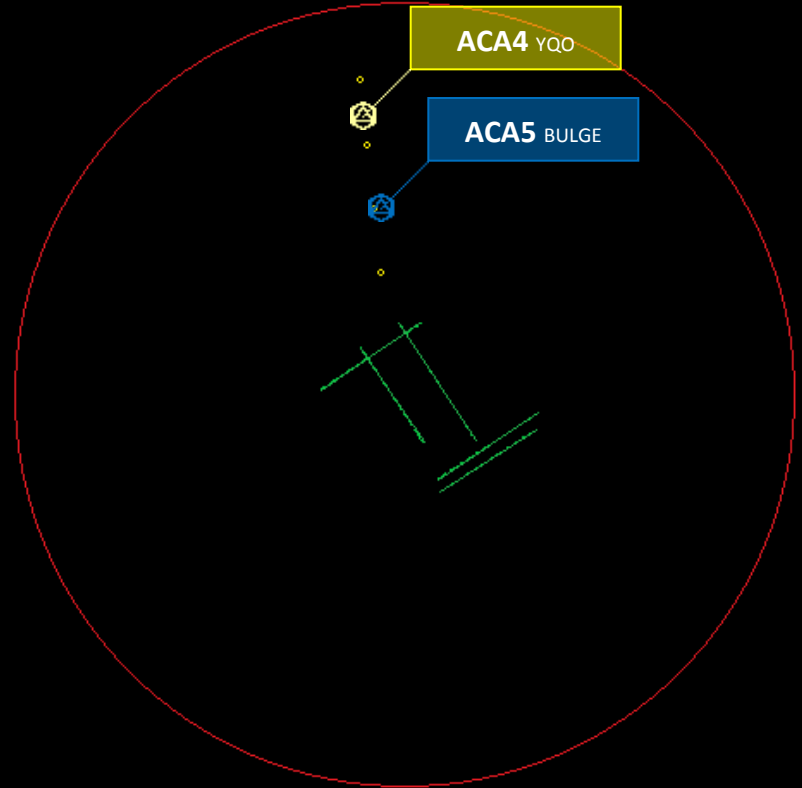
3 miles Separation

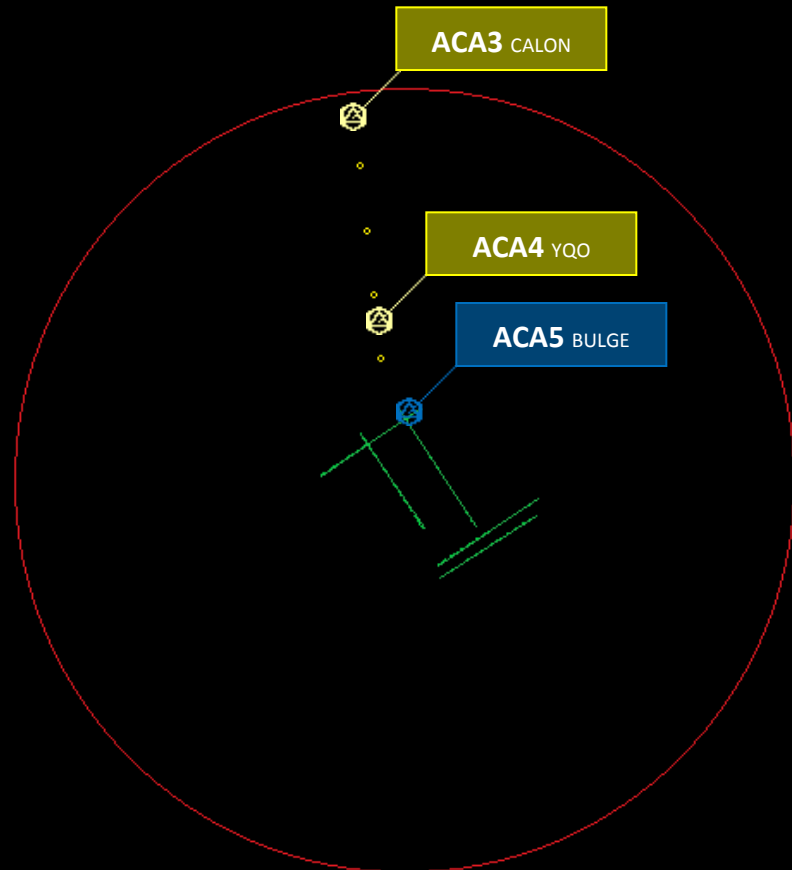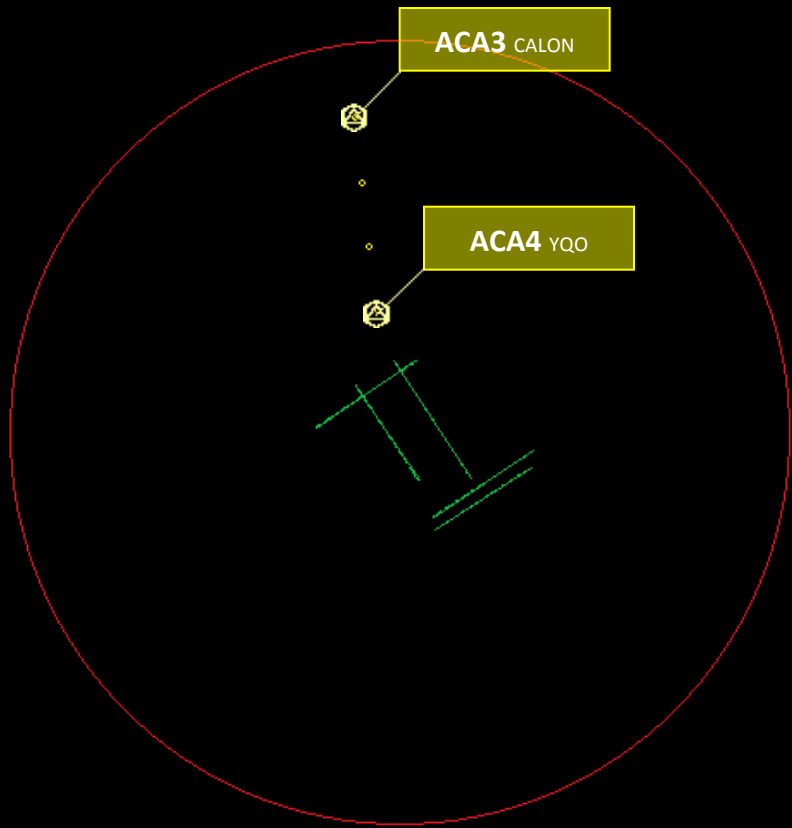3 miles Separation + Visual Departures

4 Departed Aircraft **5**

3 miles Separation

3 miles Separation + Visual Departures
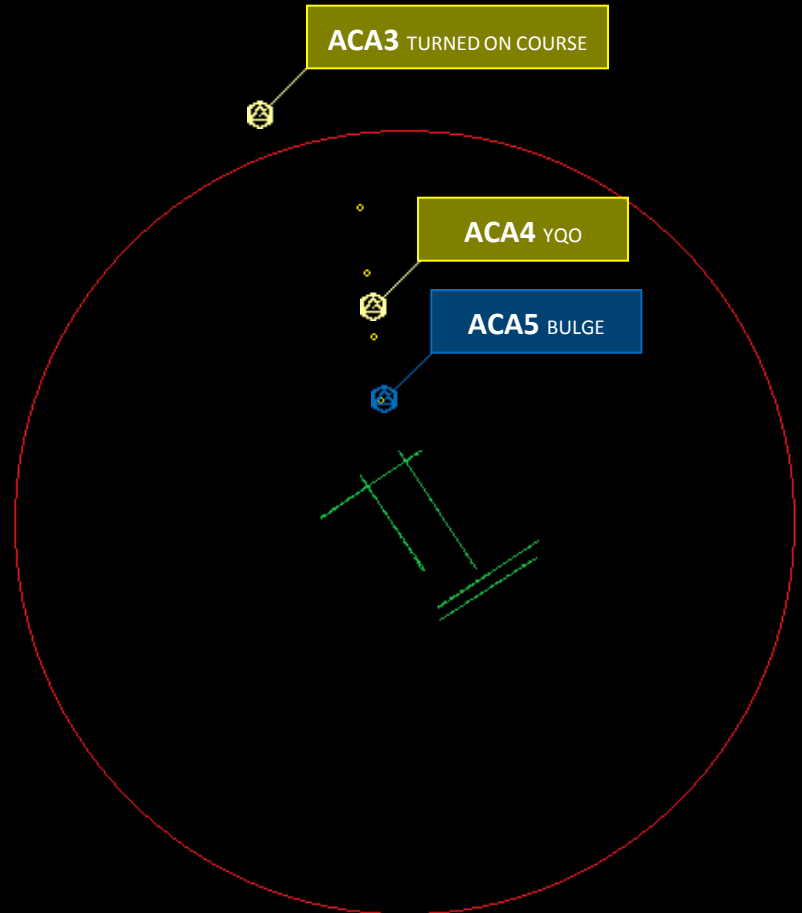
Elapsed Time: 4 minutes
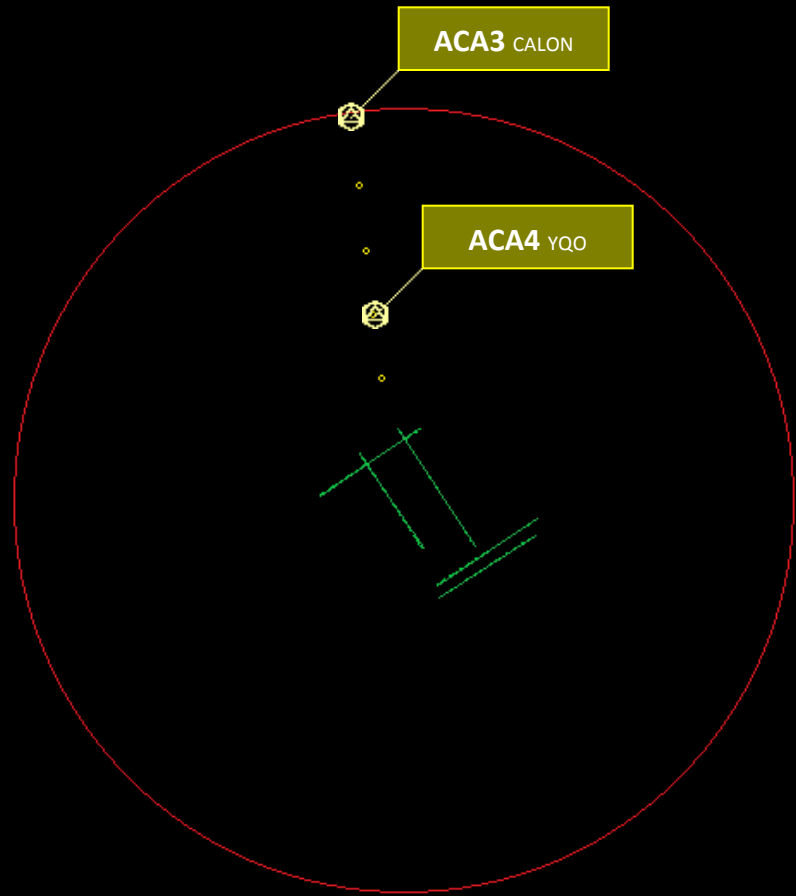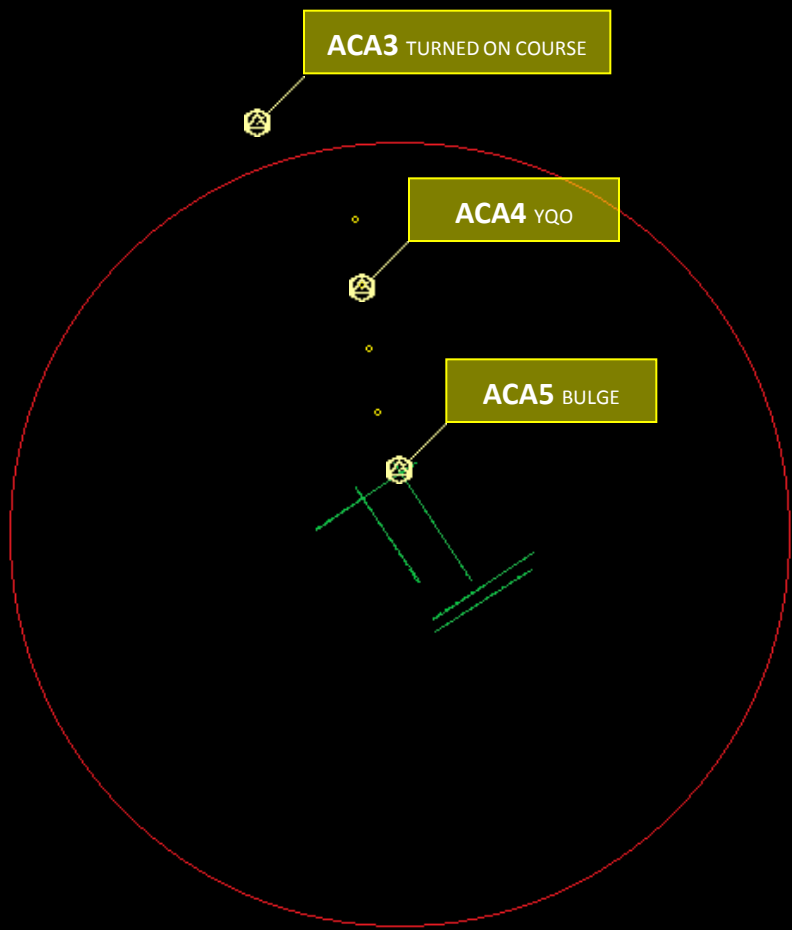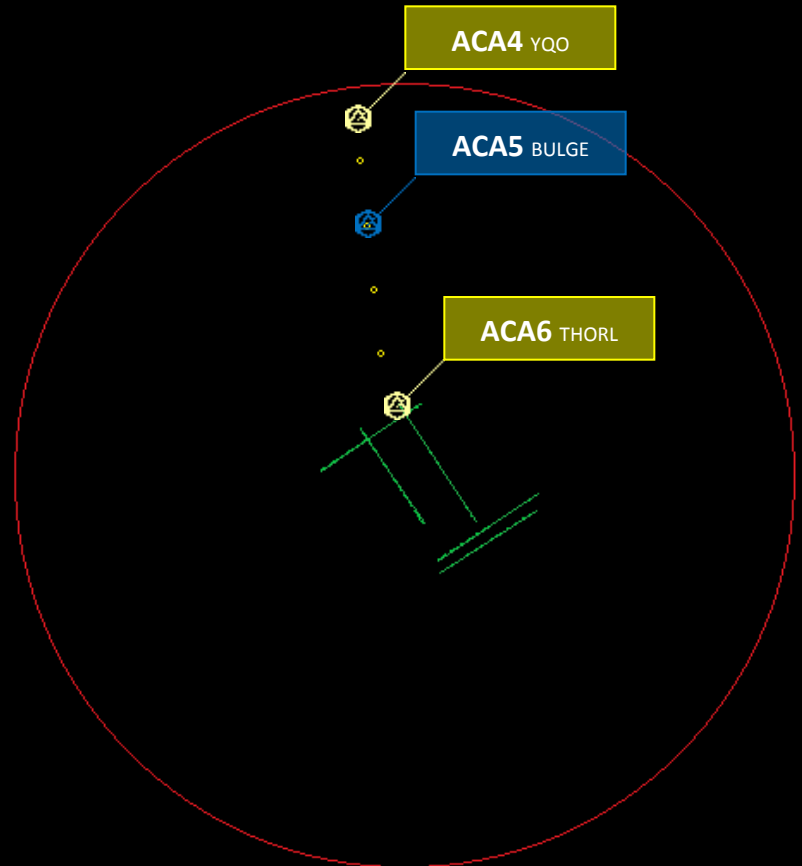
5   Departed Aircraft   6

3 miles Separation

3 miles Separation + Visual Departures

5   Departed Aircraft   **6**

3 miles Separation

3 miles Separation + Visual Departures

5   Departed Aircraft   **6**

ACA4 TURNED ON COURSE

ACA5 TURNED ON COURSE

ACA5 BULGE

ACA6 THORL

ACA6 THORL

ACA7 BULGE
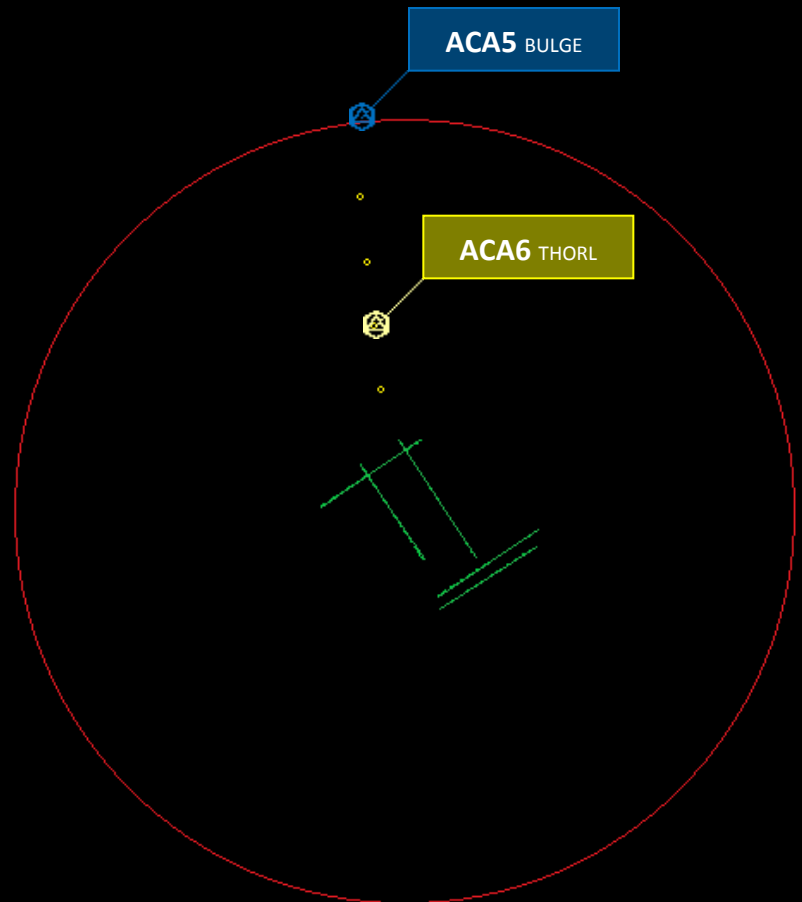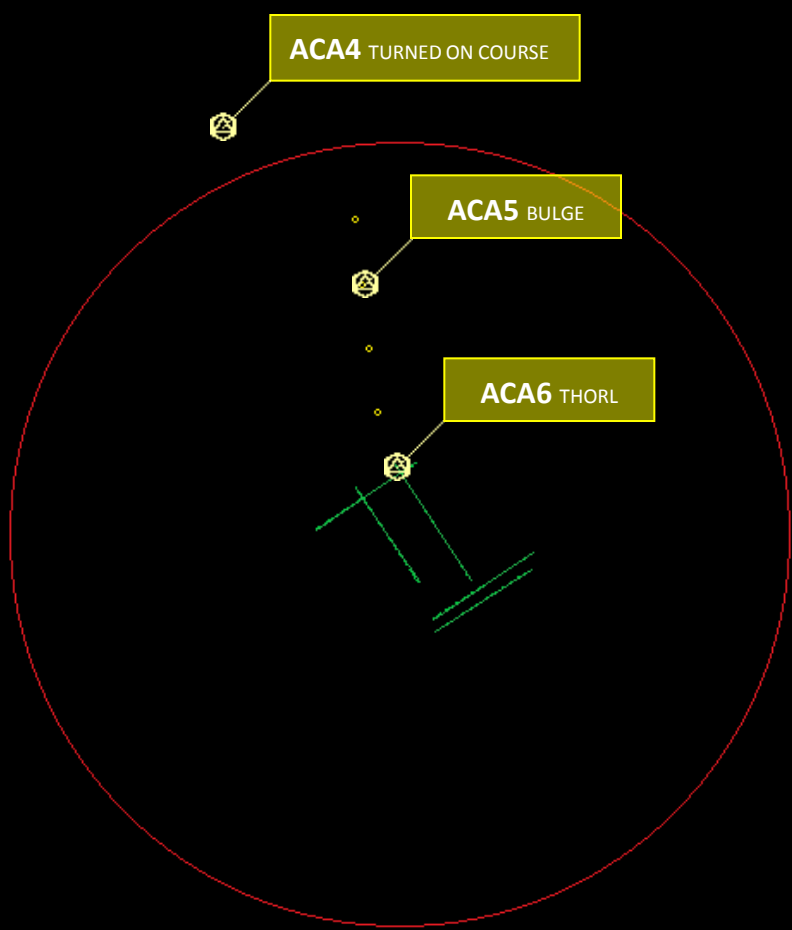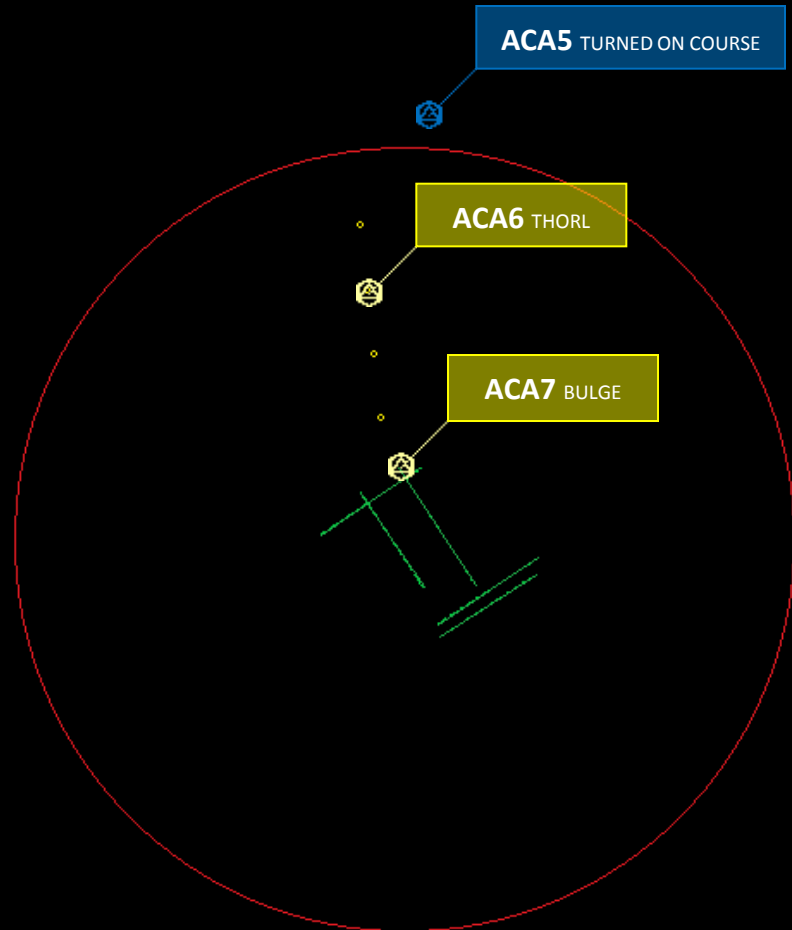
3 miles Separation

3 miles Separation + Visual Departures

Elapsed Time: 5 minutes

6   Departed Aircraft   **7**

3 miles Separation

3 miles Separation + Visual Departures

6   Departed Aircraft   **7**
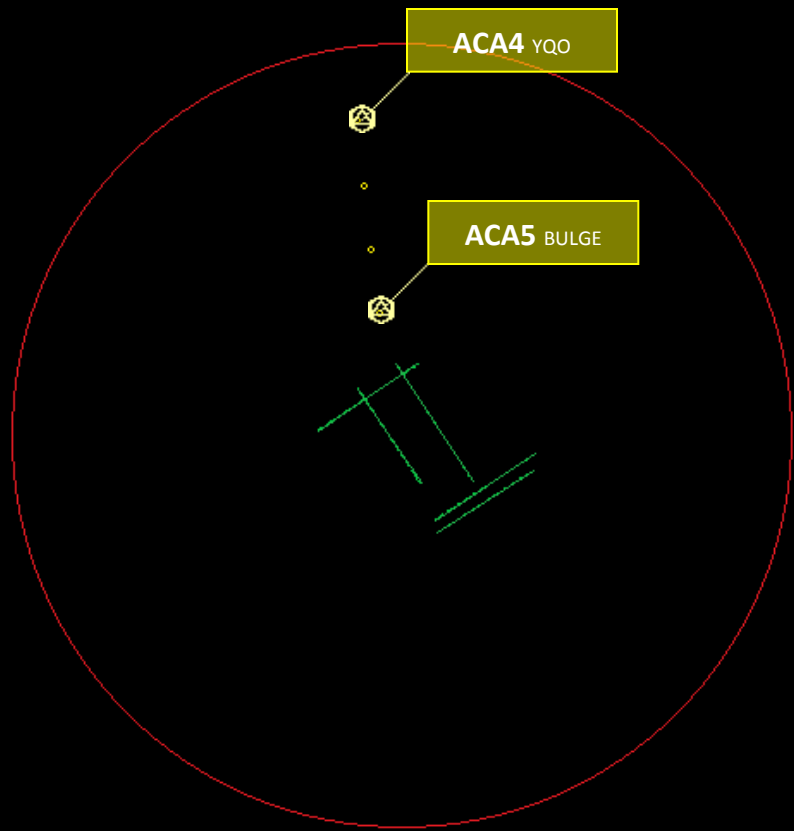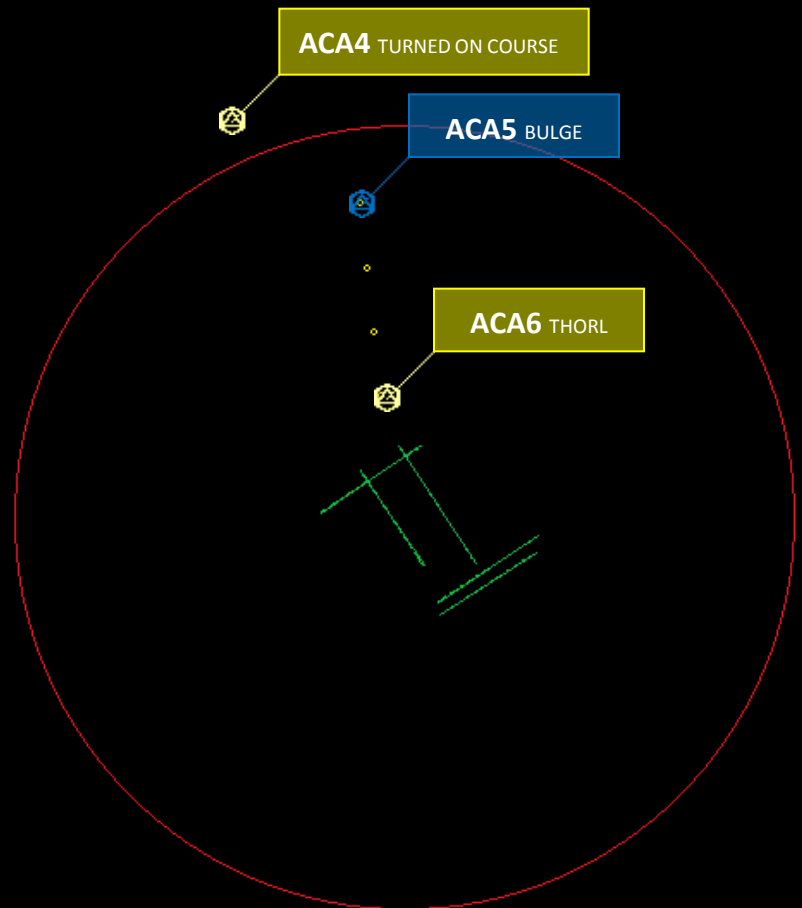
3 miles Separation

3 miles Separation + Visual Departures

6   Departed Aircraft   **8**

ACA5 TURNED ON COURSE

ACA6 THORL

ACA7 BULGE

ACA6 TURNED ON COURSE

ACA7 BULGE

ACA8 THORL

3 miles Separation

3 miles Separation + Visual Departures

Elapsed Time: 6 minutes

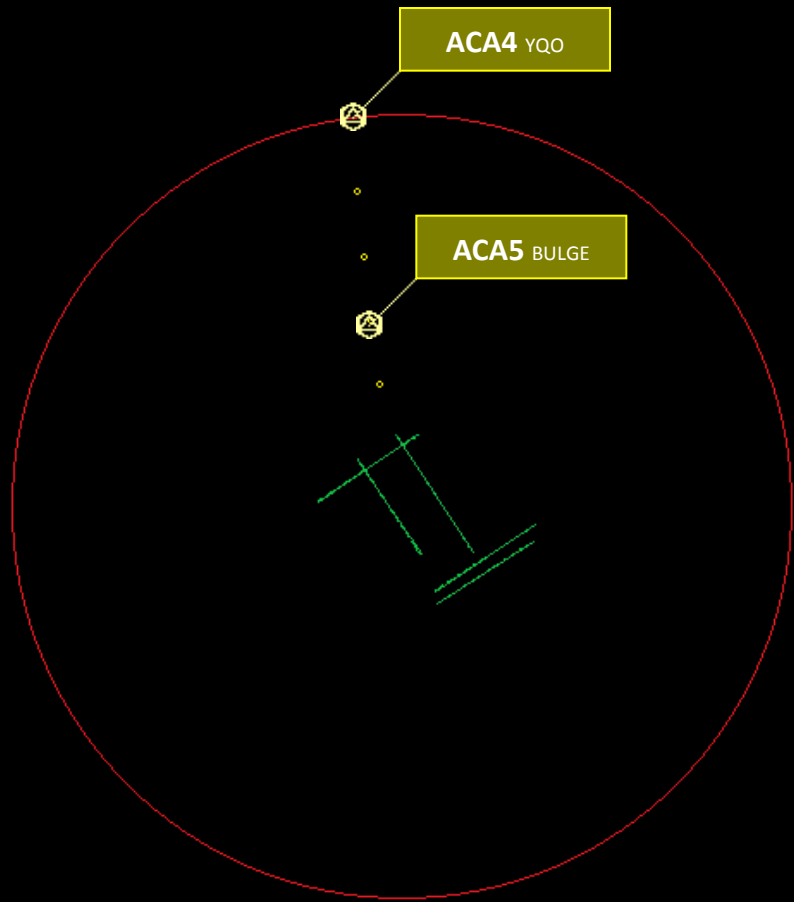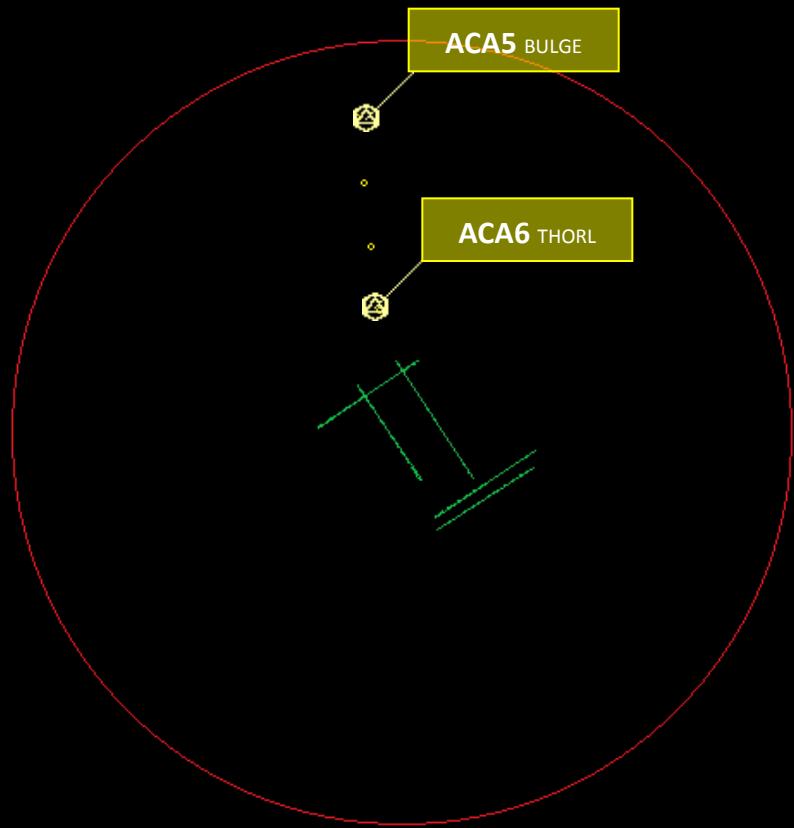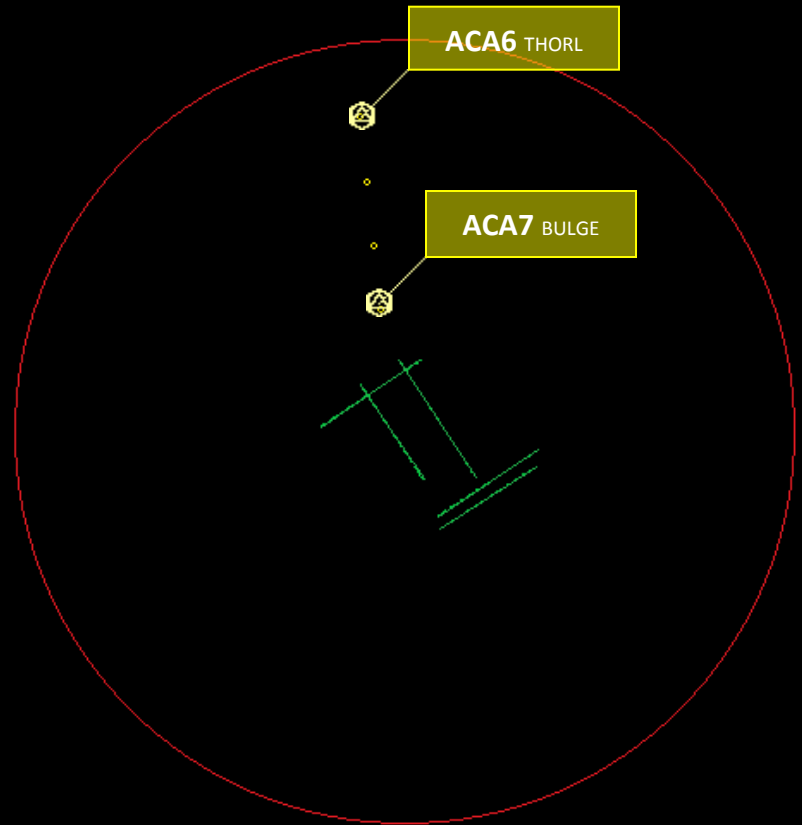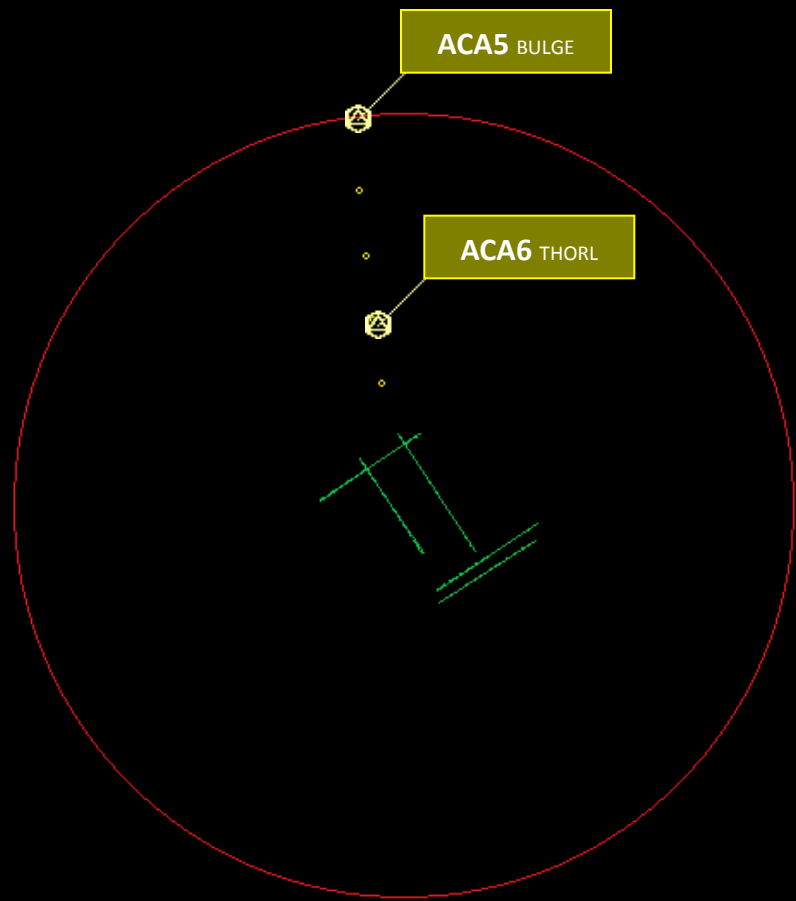7   Departed Aircraft   8
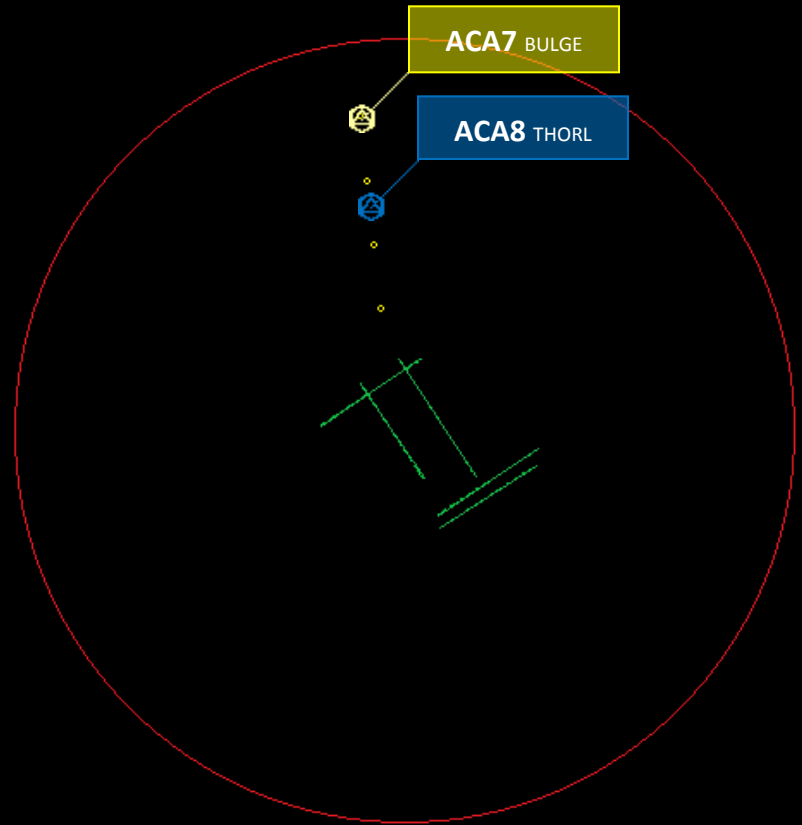
3 miles Separation

3 miles Separation + Visual Departures

7 Departed Aircraft **8**

3 miles Separation

3 miles Separation + Visual Departures

7   Departed Aircraft   **9**

ACA6 TURNED ON COURSE

ACA7 BULGE

ACA8 THORL

ACA7 TURNED ON COURSE

ACA8 THORL

ACA9 DEDKI
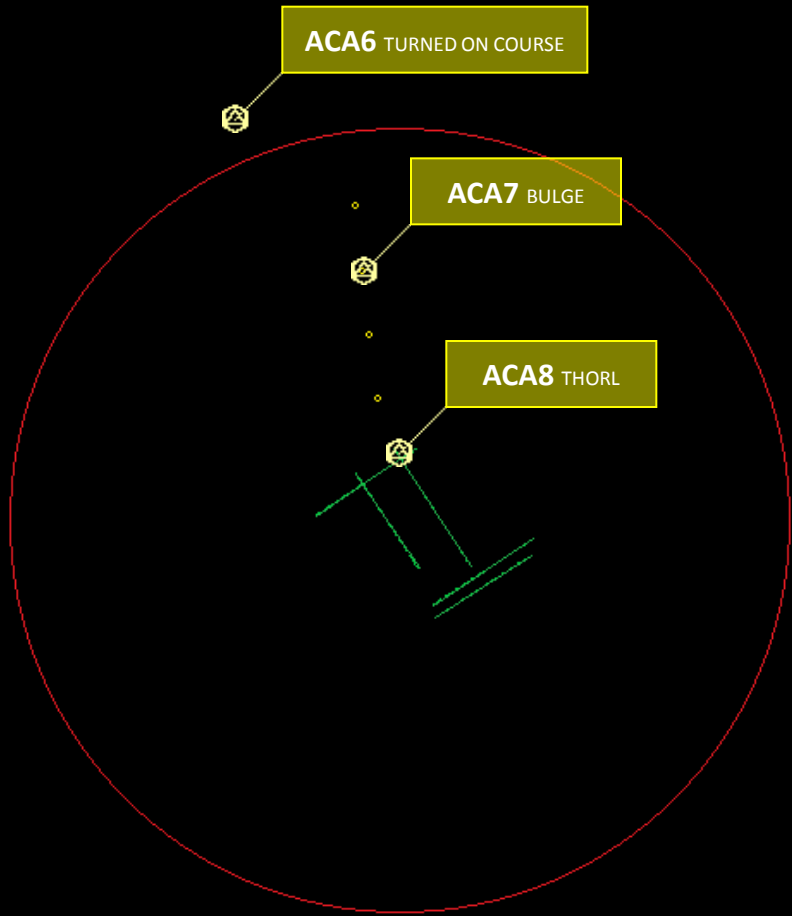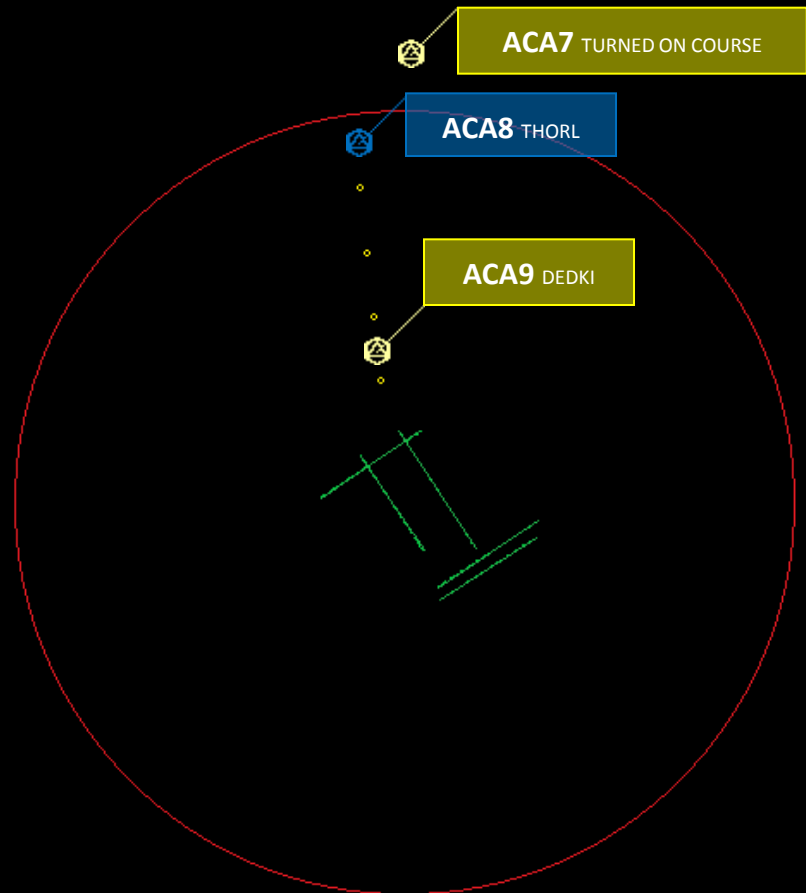
3 miles Separation

3 miles Separation + Visual Departures

Elapsed Time: 7 minutes

8   Departed Aircraft   **9**

3 miles Separation

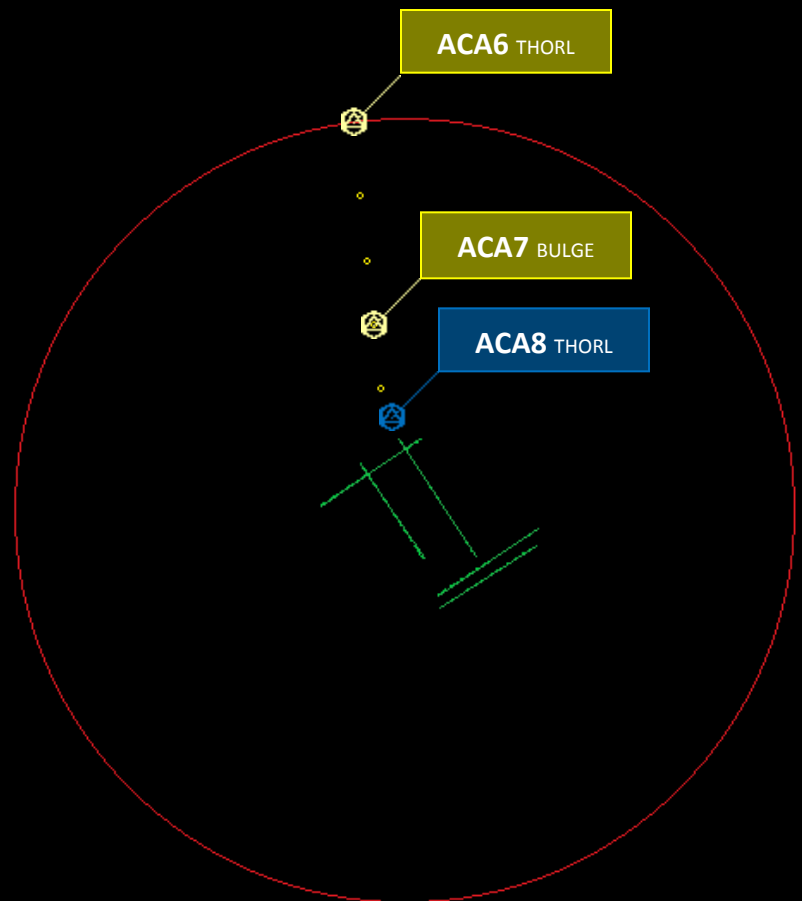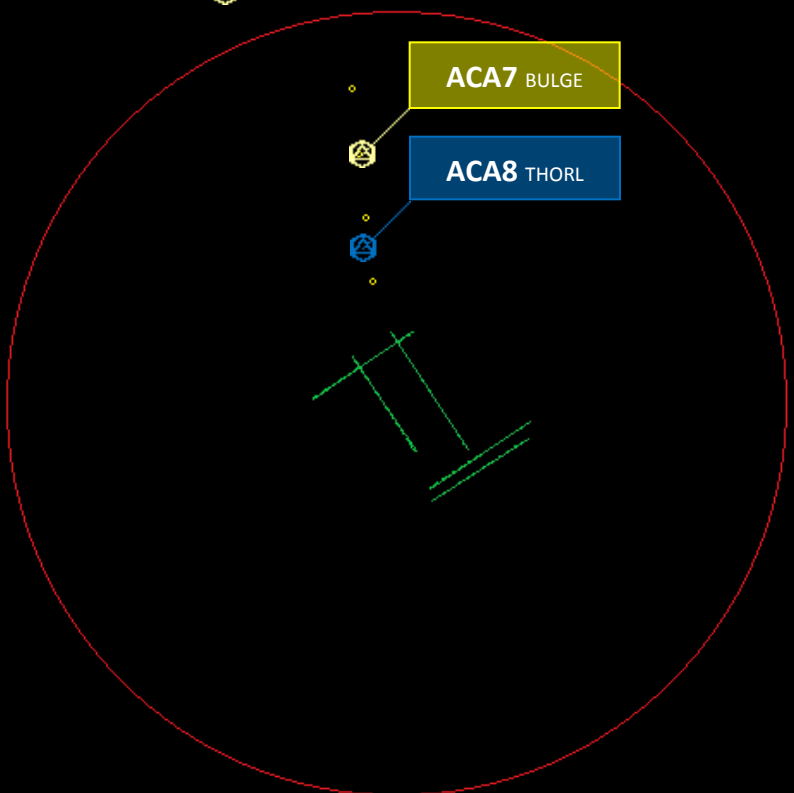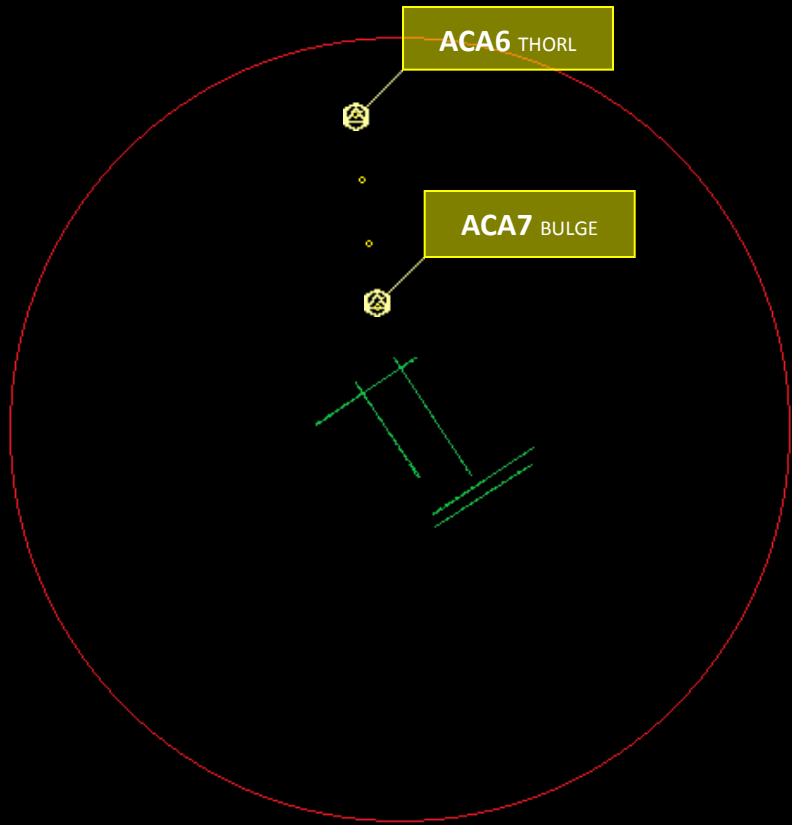3 miles Separation + Visual Departures

8   Departed Aircraft   **9**

ACA7 BULGE

ACA8 THORL

3 miles Separation

ACA8 TURNED ON COURSE

ACA9 DEDKI

ACA10 BULGE

3 miles Separation + Visual Departures

8   Departed Aircraft   **10**

ACA7 TURNED ON COURSE

ACA8 THORL

ACA9 DEDKI

ACA9 DEDKI

ACA10 BULGE

3 miles Separation

3 miles Separation + Visual Departures

Elapsed Time: 8 minutes

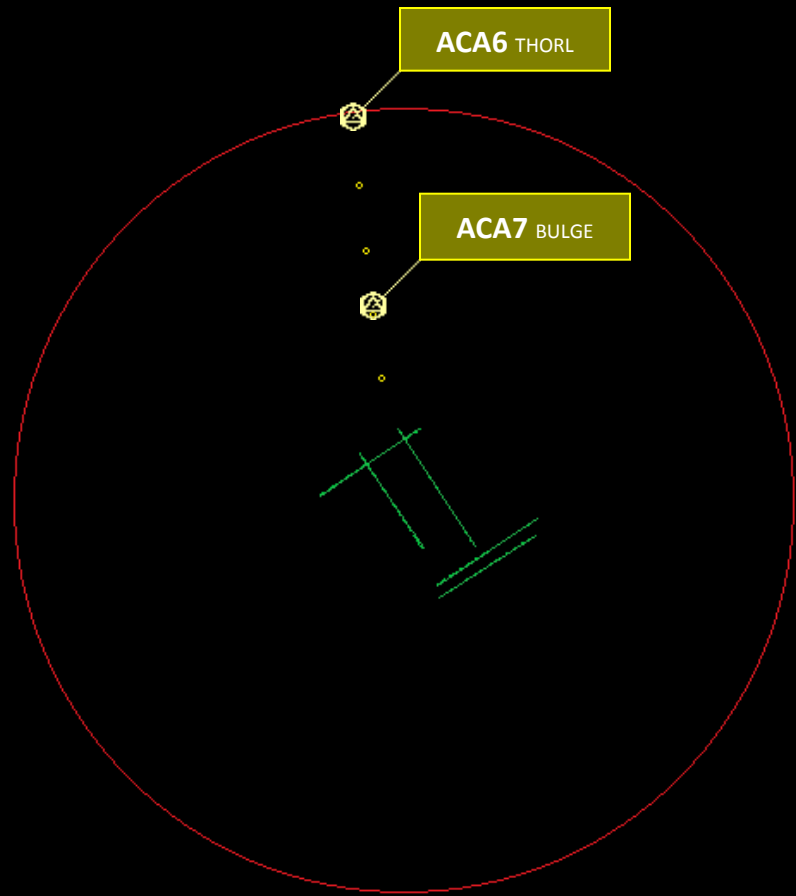**9**   Departed Aircraft   **10**

3 miles Separation

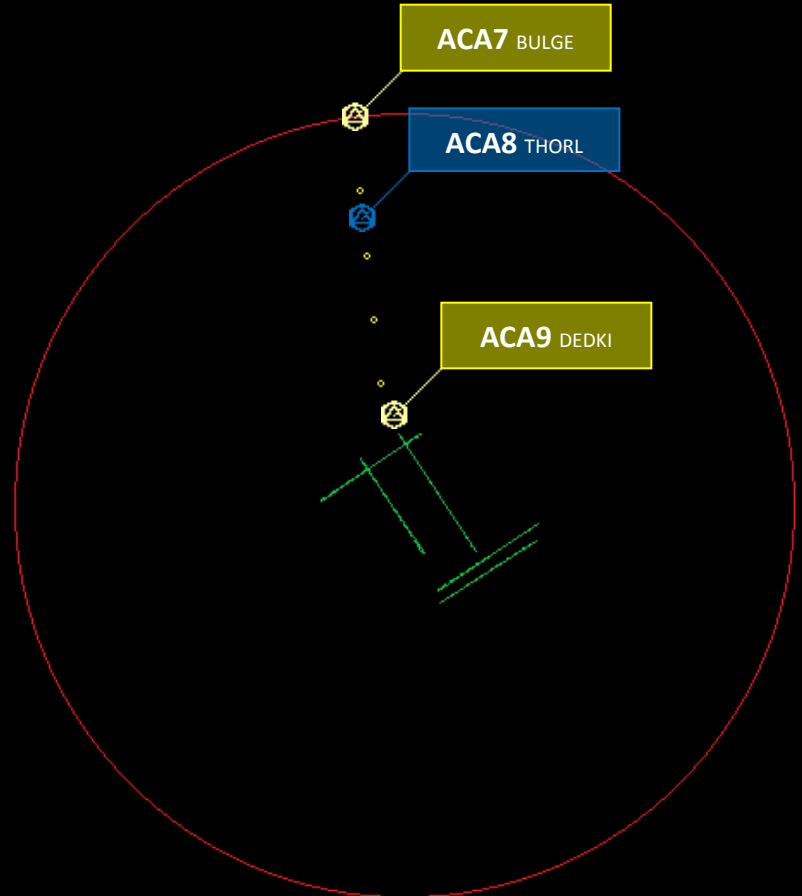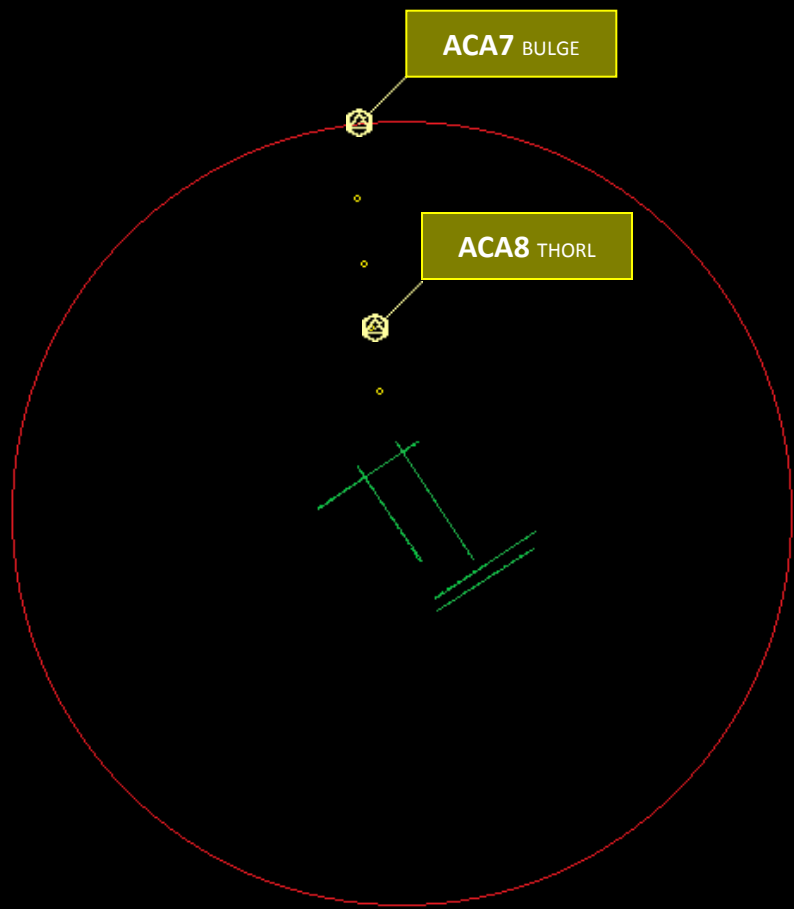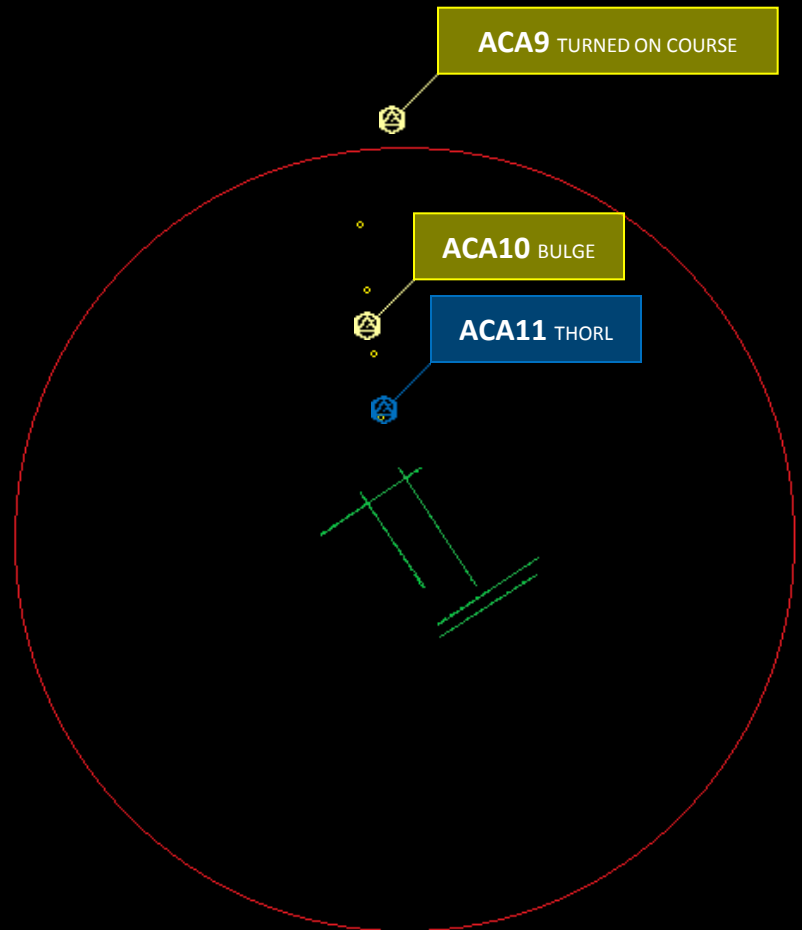3 miles Separation + Visual Departures

9   Departed Aircraft   **11**

ACA8 THORL

ACA9 DEDKI

ACA10 BULGE

ACA11 THORL

3 miles Separation
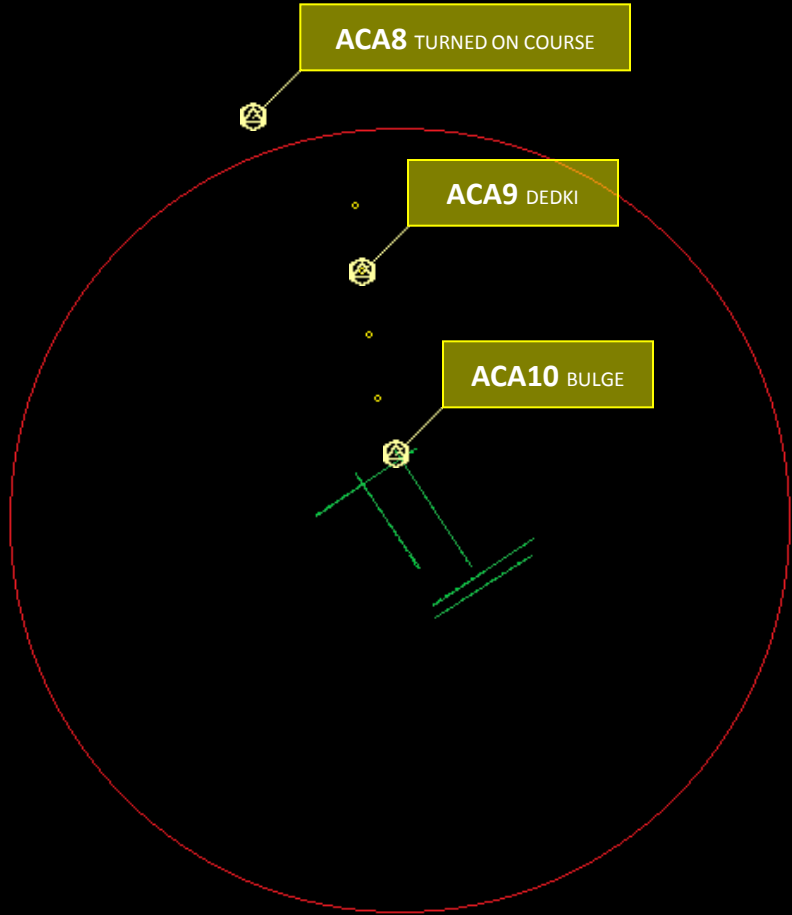
3 miles Separation + Visual Departures
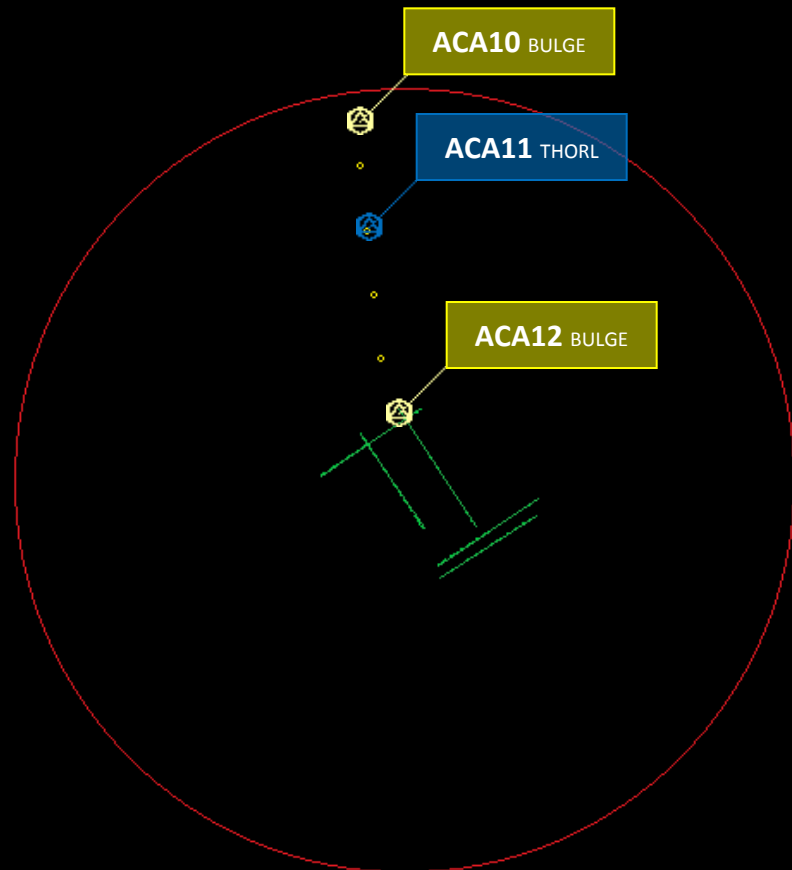
9   Departed Aircraft   **11**

Elapsed Time: 9 minutes

10   Departed Aircraft   12

ACA9 DEDKI

ACA10 BULGE

3 miles Separation

ACA10 TURNED ON COURSE

ACA11 THORL

ACA12 BULGE

3 miles Separation + Visual Departures

10   Departed Aircraft   **12**

3 miles Separation

ACA9 DEDKI
ACA10 BULGE

3 miles Separation + Visual Departures

ACA11 THORL
ACA12 BULGE

10   Departed Aircraft   **12**

3 miles Separation

3 miles Separation + Visual Departures

Elapsed Time: 10 minutes

11　　　Departed Aircraft　　　**13**

3 miles Separation

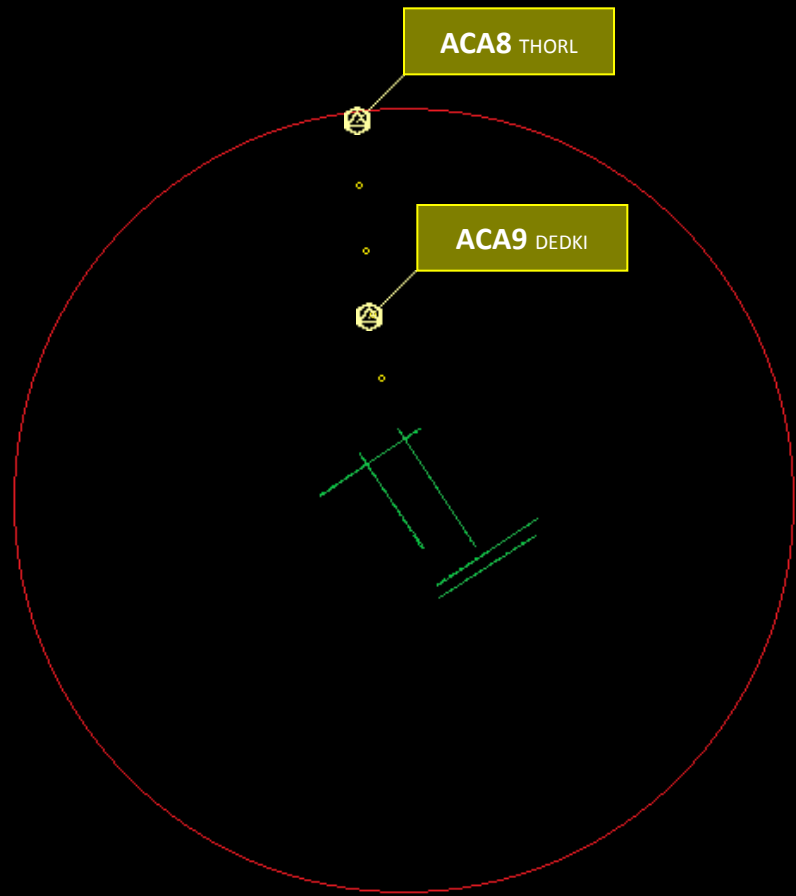3 miles Separation + Visual Departures

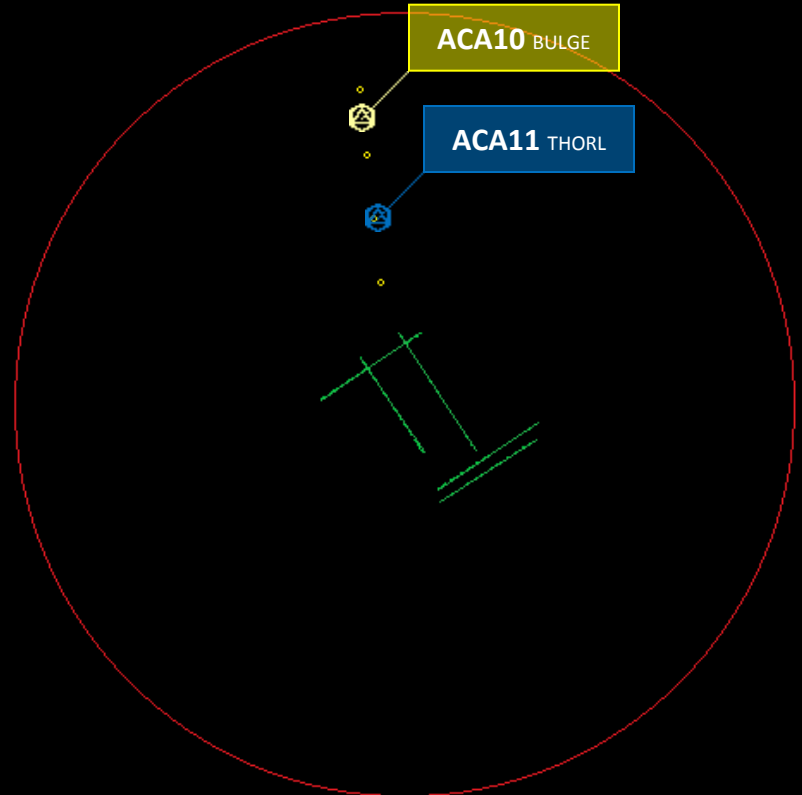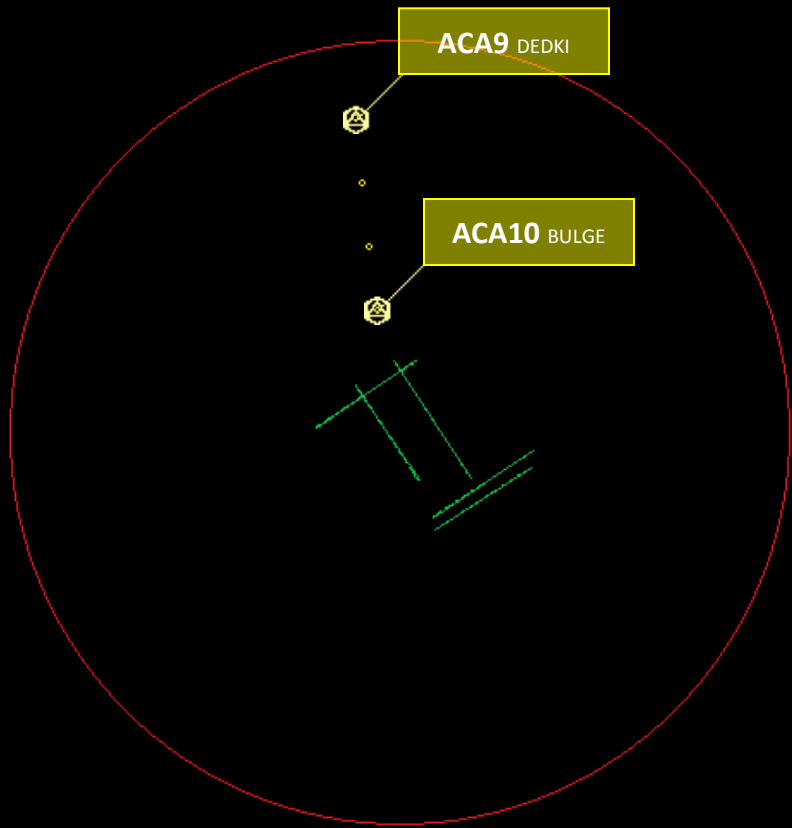**11**   Departed Aircraft   **13**

ACA10 BULGE
ACA11 THORL
3 miles Separation

ACA12 BULGE
ACA13 CALON
ACA14 THORL
3 miles Separation + Visual Departures

11   Departed Aircraft   **14**

3 miles Separation

3 miles Separation + Visual Departures

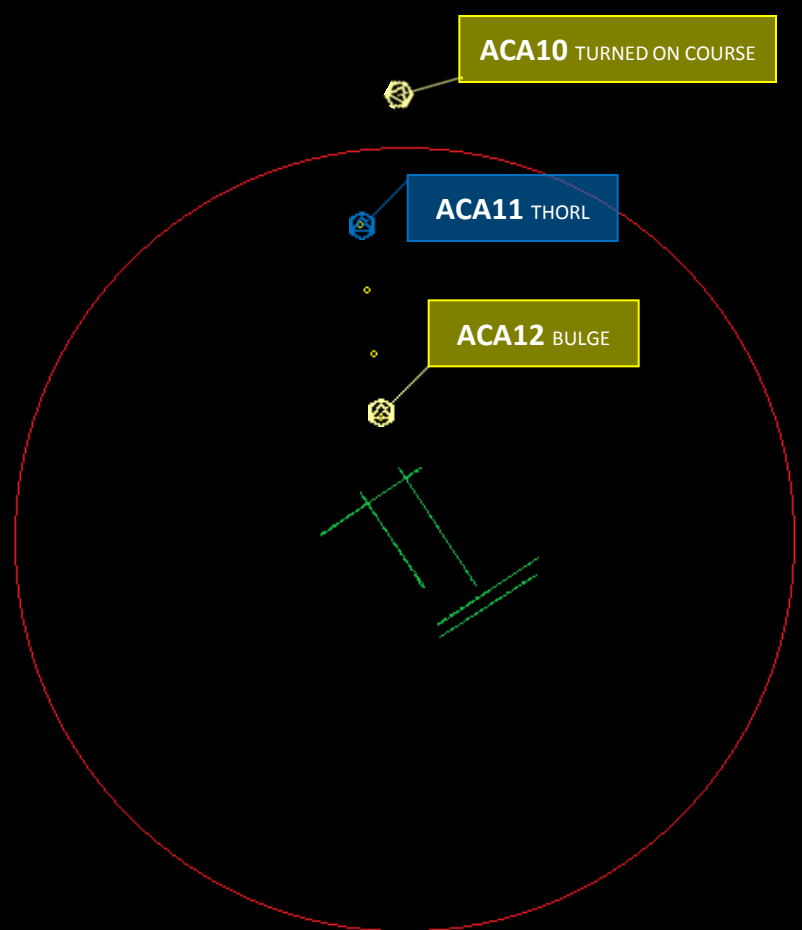**Elapsed Time: 11 minutes**

12 Departed Aircraft **14**

3 miles Separation

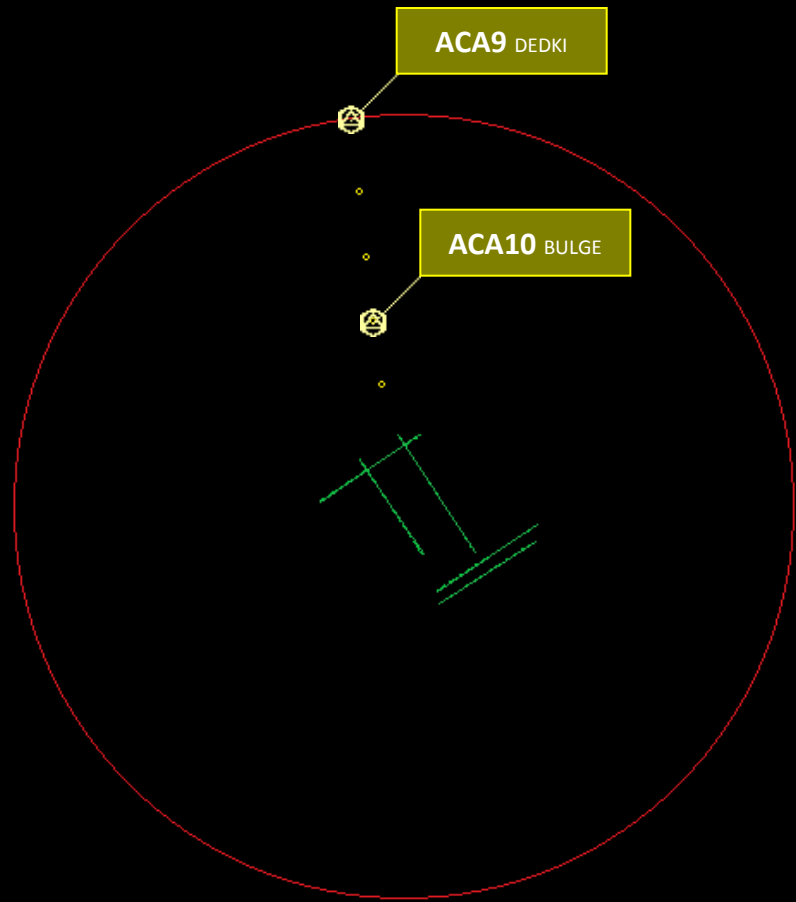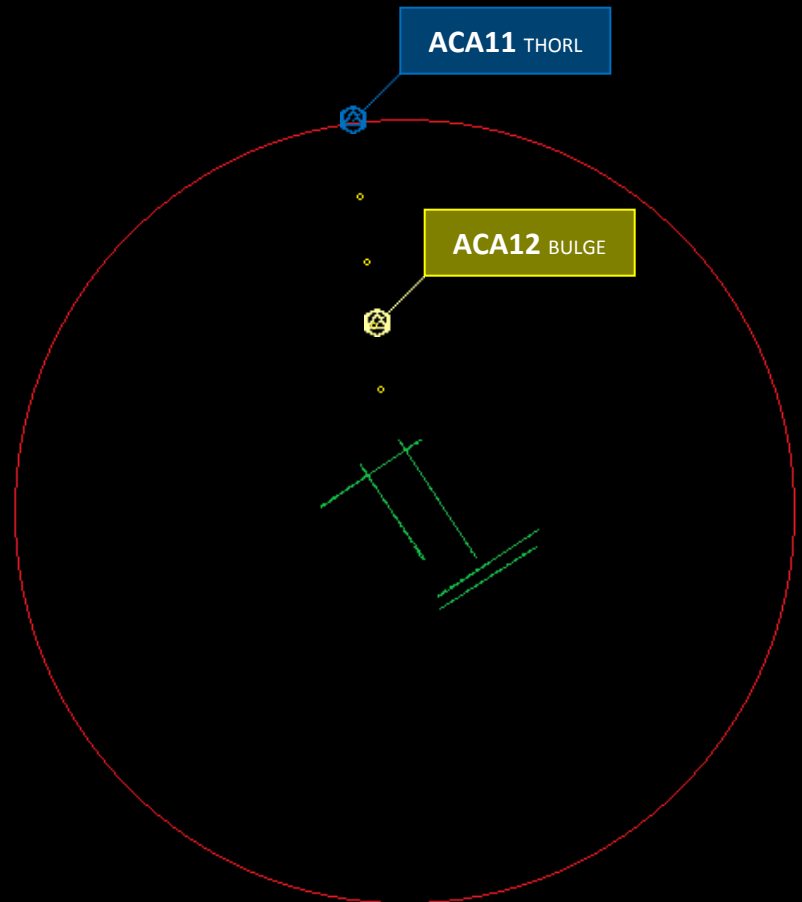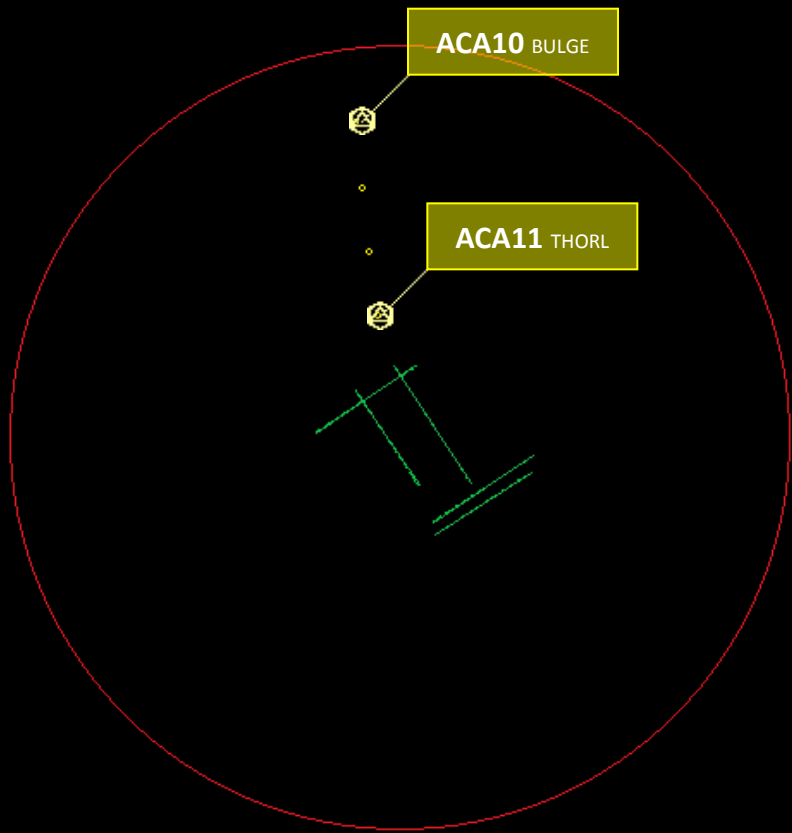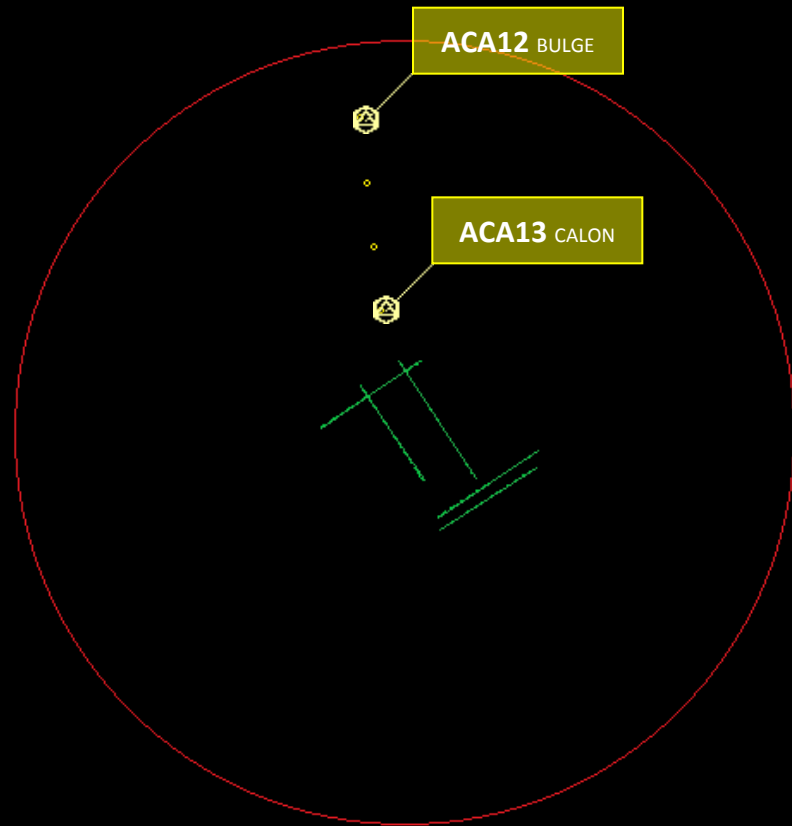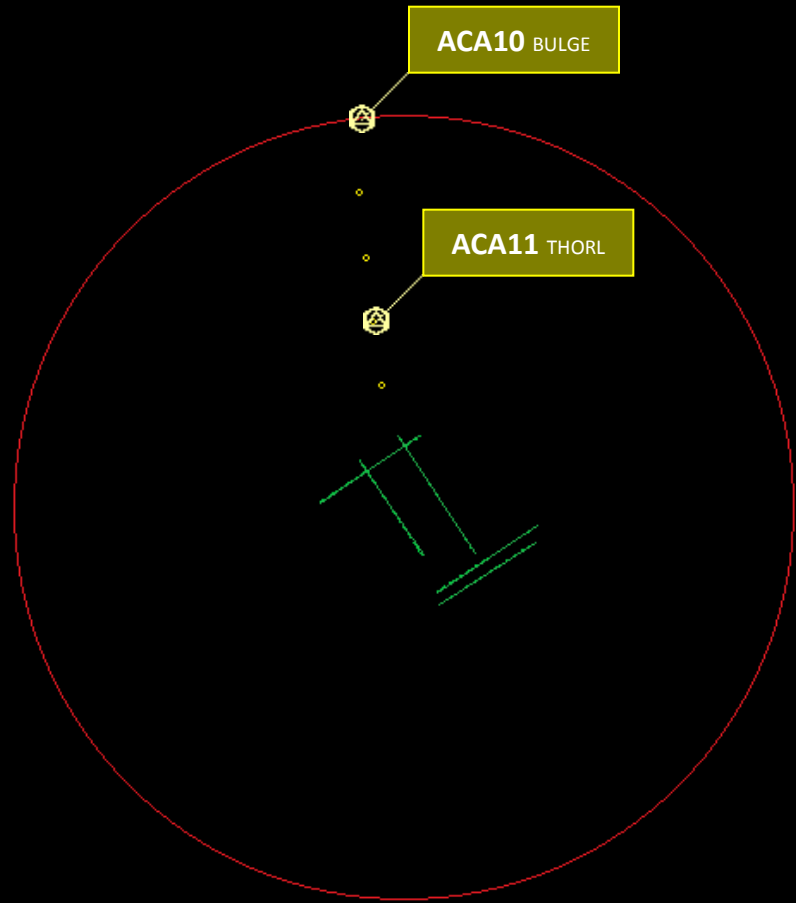3 miles Separation + Visual Departures

12   Departed Aircraft   **14**

3 miles Separation

3 miles Separation + Visual Departures

12   Departed Aircraft   **15**

ACA11 TURNED ON COURSE

ACA12 BULGE

ACA13 CALON

3 miles Separation

ACA13 TURNED ON COURSE

ACA14 THORL

ACA15 SEDOG
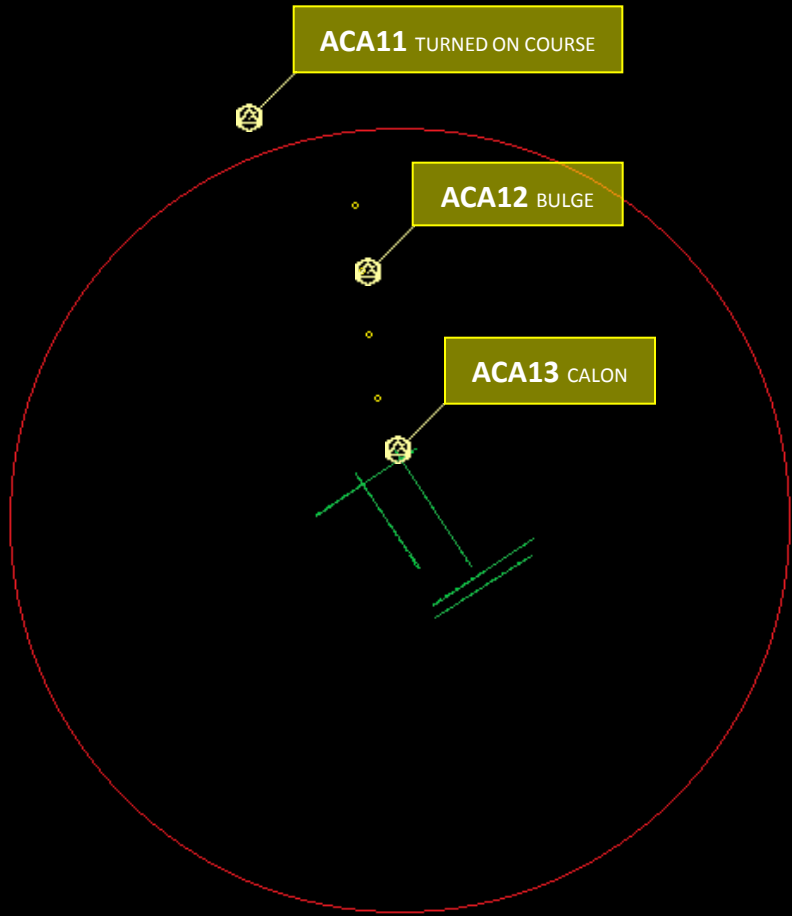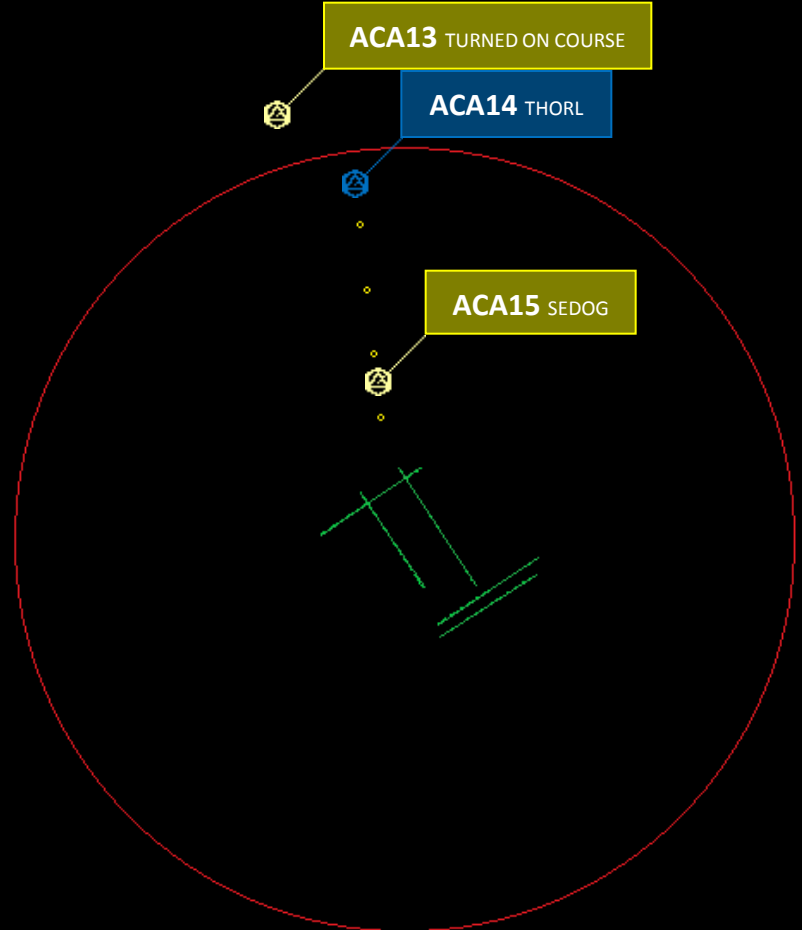
3 miles Separation + Visual Departures

Elapsed Time: 12 minutes

13   Departed Aircraft   **15**

3 miles Separation

3 miles Separation + Visual Departures
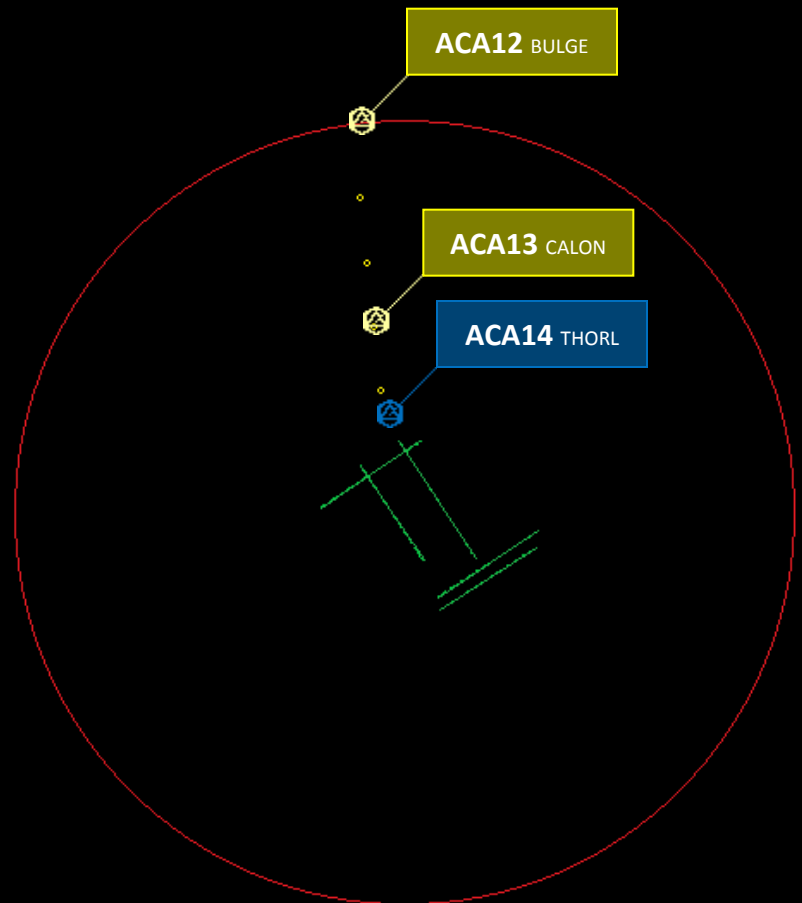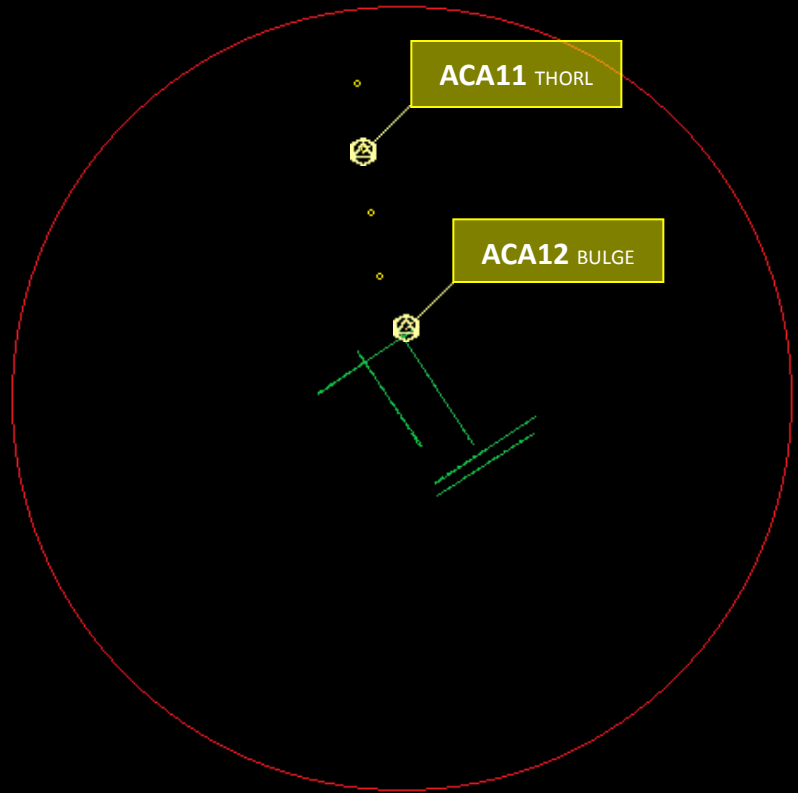
13   Departed Aircraft   **15**

ACA12 BULGE

ACA13 CALON

ACA14 TURNED ON COURSE

ACA15 SEDOG

ACA16 BULGE

3 miles Separation

3 miles Separation + Visual Departures

13   Departed Aircraft   **16**
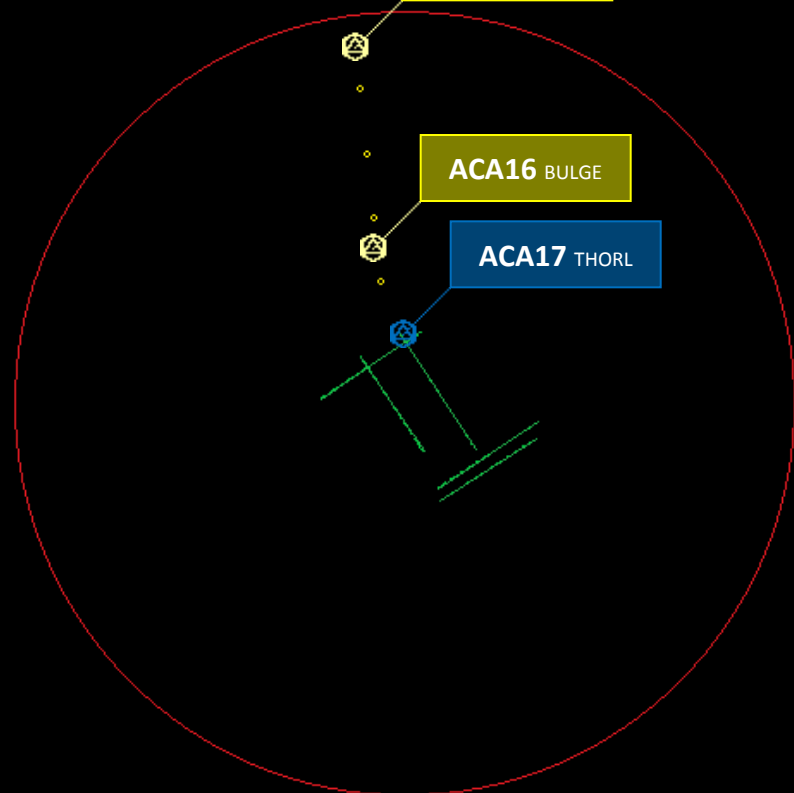
3 miles Separation

3 miles Separation + Visual Departures

Elapsed Time: 13 minutes
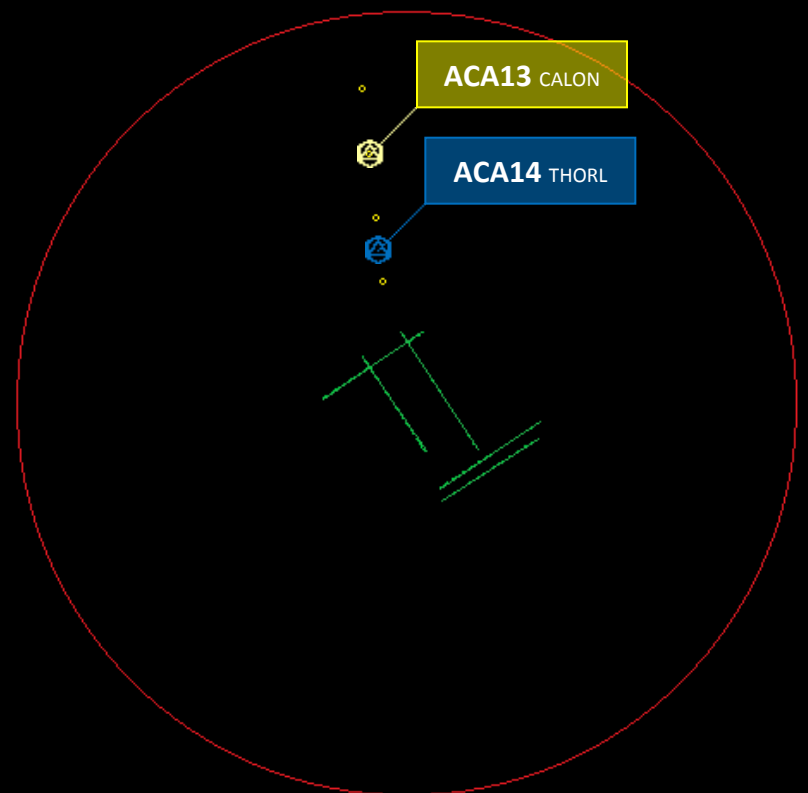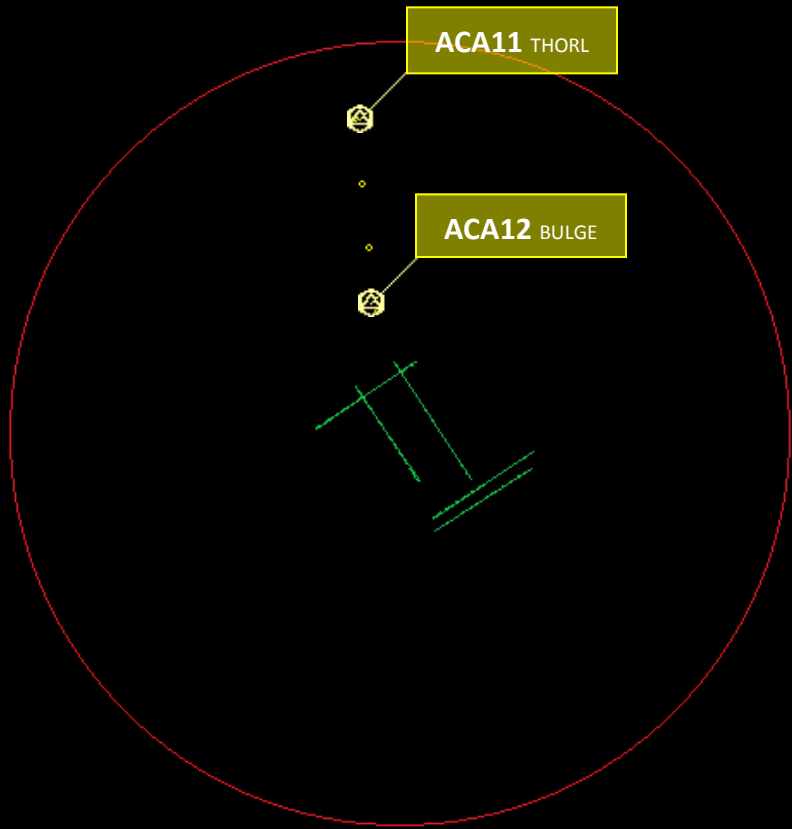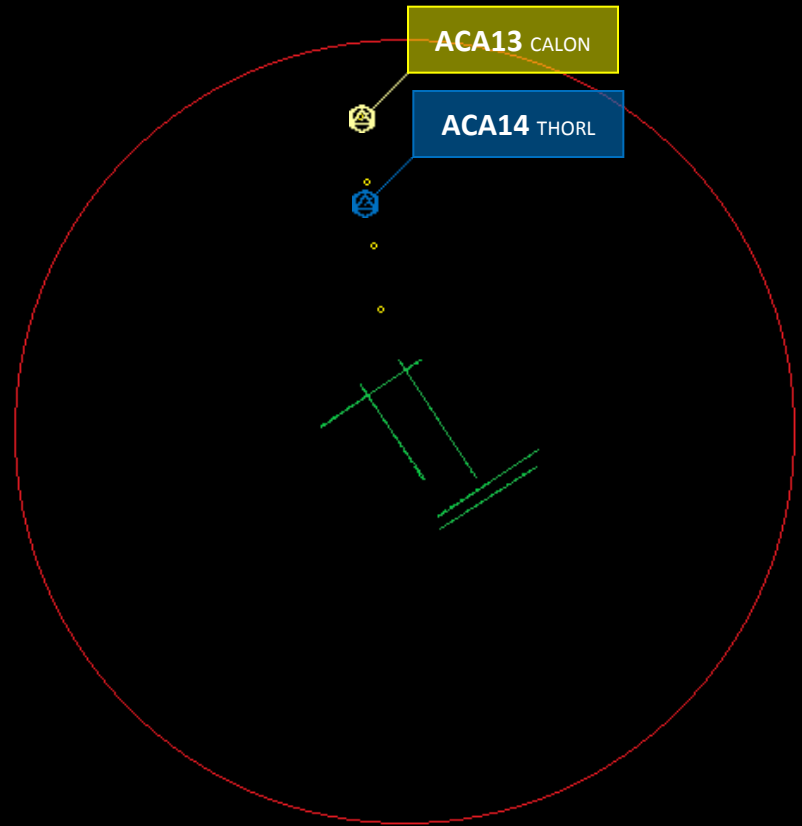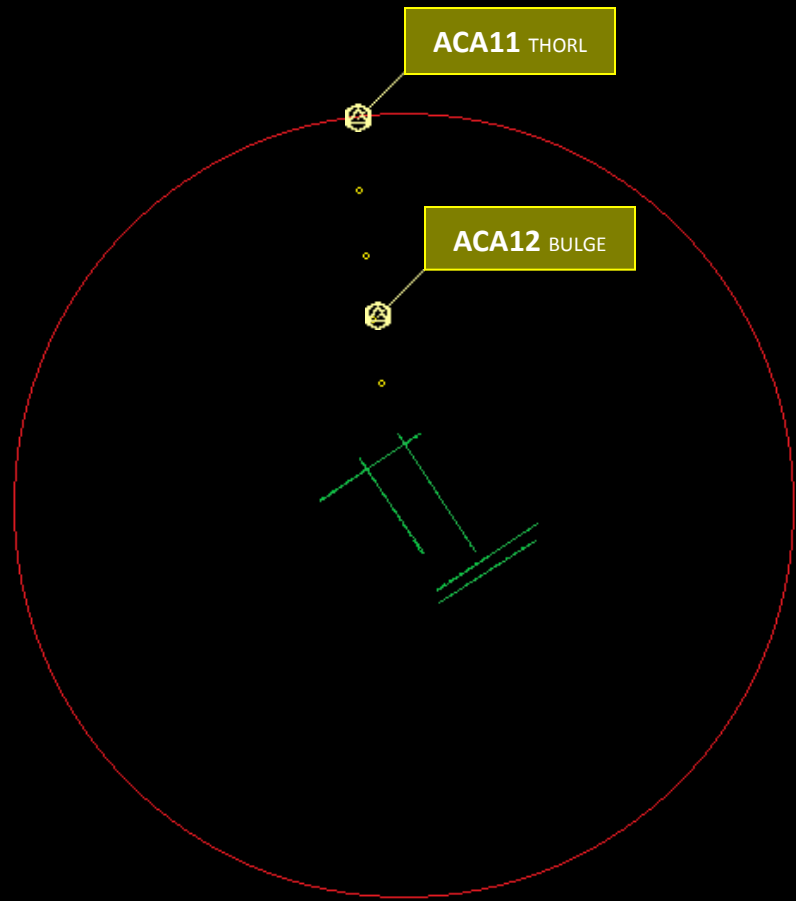
14   Departed Aircraft   17

3 miles Separation

3 miles Separation + Visual Departures

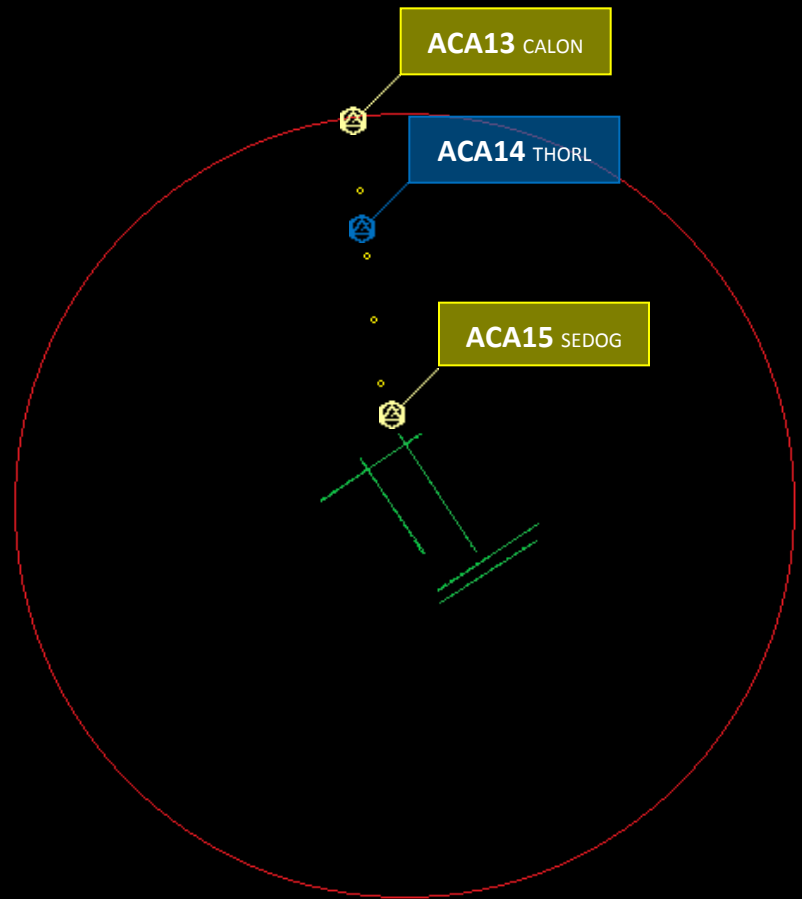**14**   Departed Aircraft   **17**

ACA13 CALON

ACA14 THORL

ACA15 TURNED ON COURSE

ACA16 BULGE

ACA17 THORL

3 miles Separation

3 miles Separation + Visual Departures

14 Departed Aircraft **17**
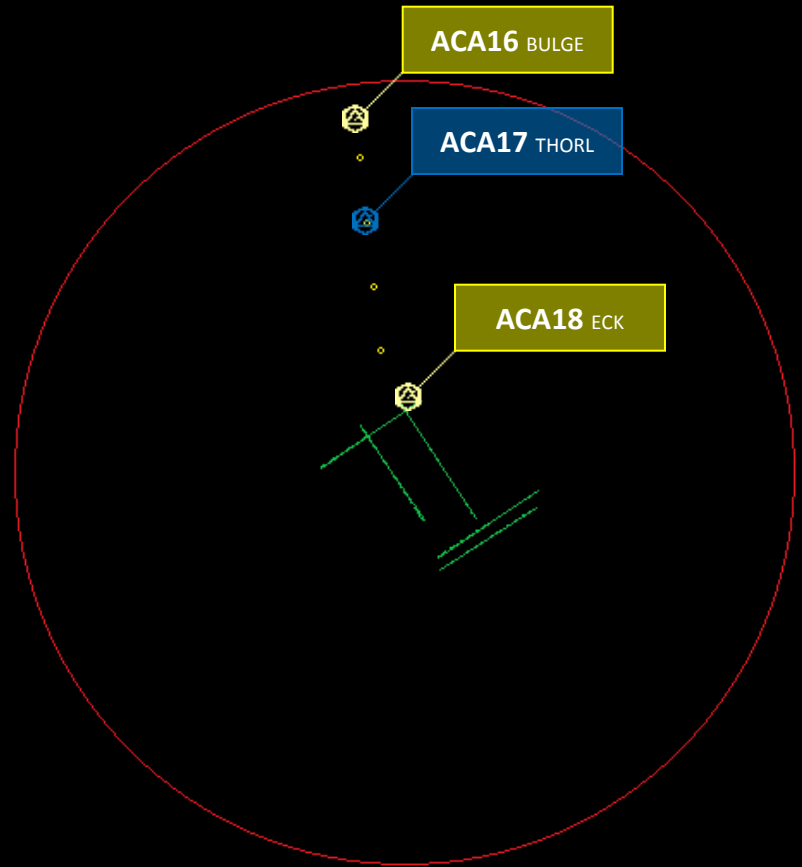
3 miles Separation

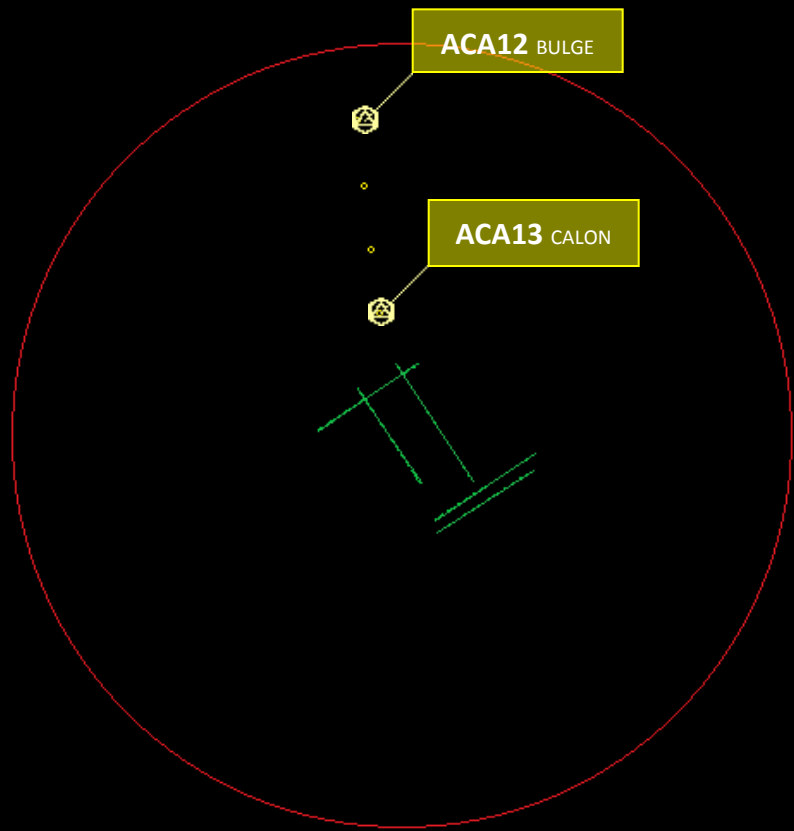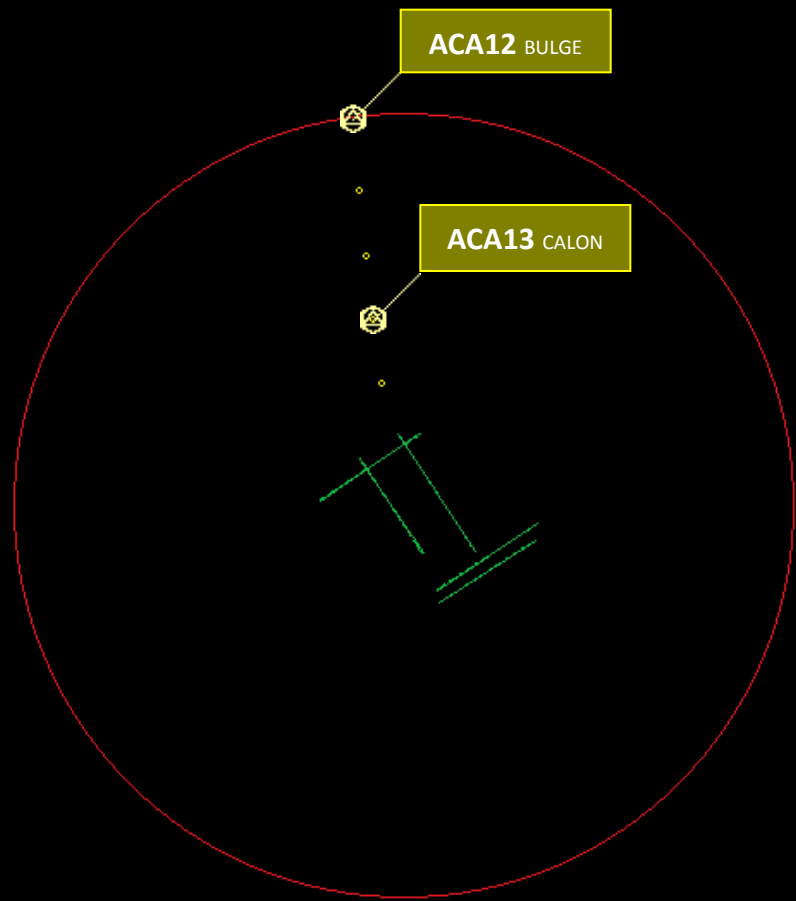3 miles Separation + Visual Departures

Elapsed Time: 14 minutes

15   Departed Aircraft   18

ACA14 THORL

ACA15 SEDOG

ACA16 TURNED ON COURSE

ACA17 THORL

ACA18 ECK

3 miles Separation

3 miles Separation + Visual Departures

15   Departed Aircraft   **18**

ACA14 THORL

ACA15 SEDOG

ACA17 THORL

ACA18 ECK

3 miles Separation

3 miles Separation + Visual Departures
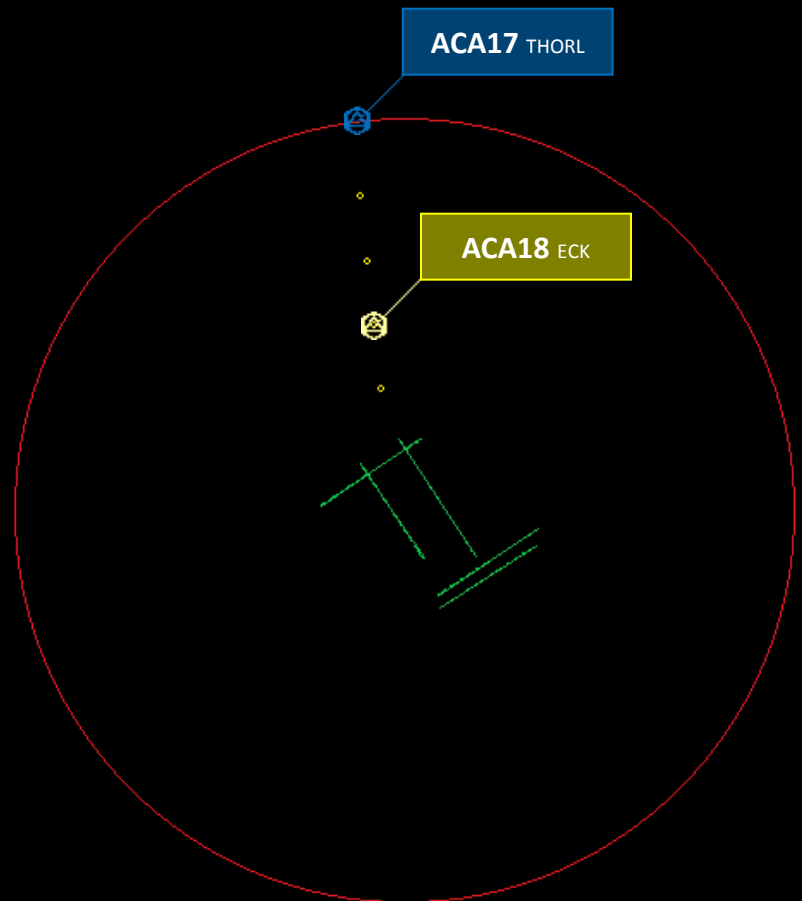
15　　Departed Aircraft　　**18**

ACA14 TURNED ON COURSE

ACA15 SEDOG

ACA16 BULGE

ACA17 TURNED ON COURSE

ACA18 ECK

ACA19 BULGE
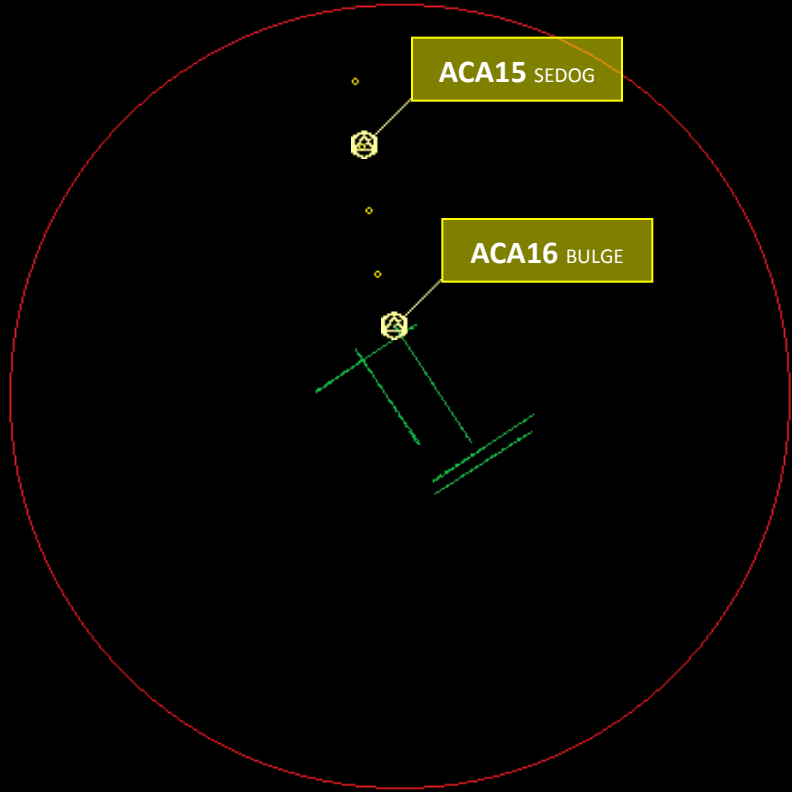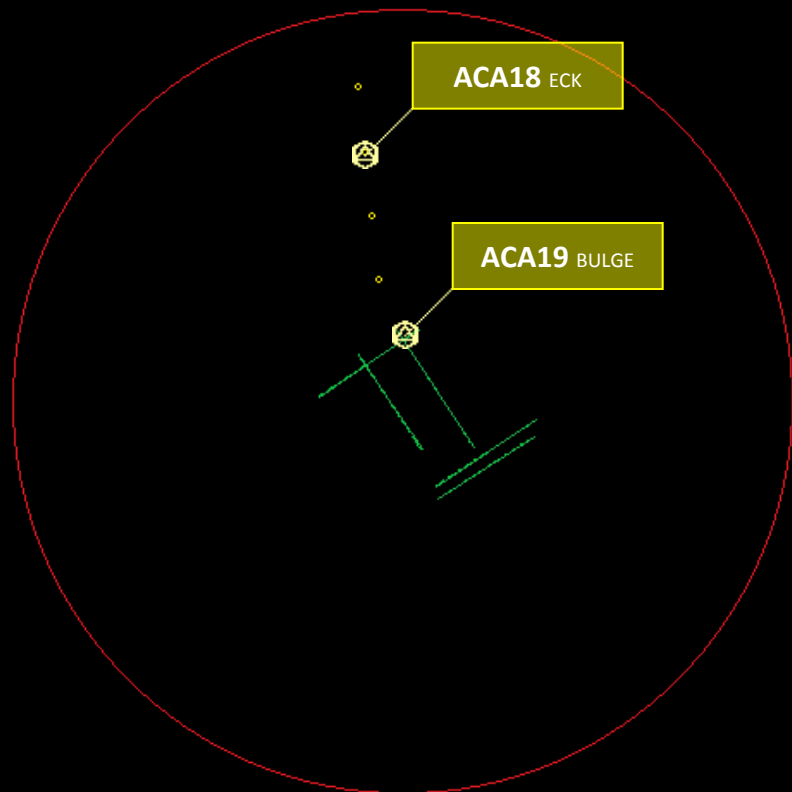
3 miles Separation

3 miles Separation + Visual Departures

Elapsed Time: 14 minutes

16 Departed Aircraft 19
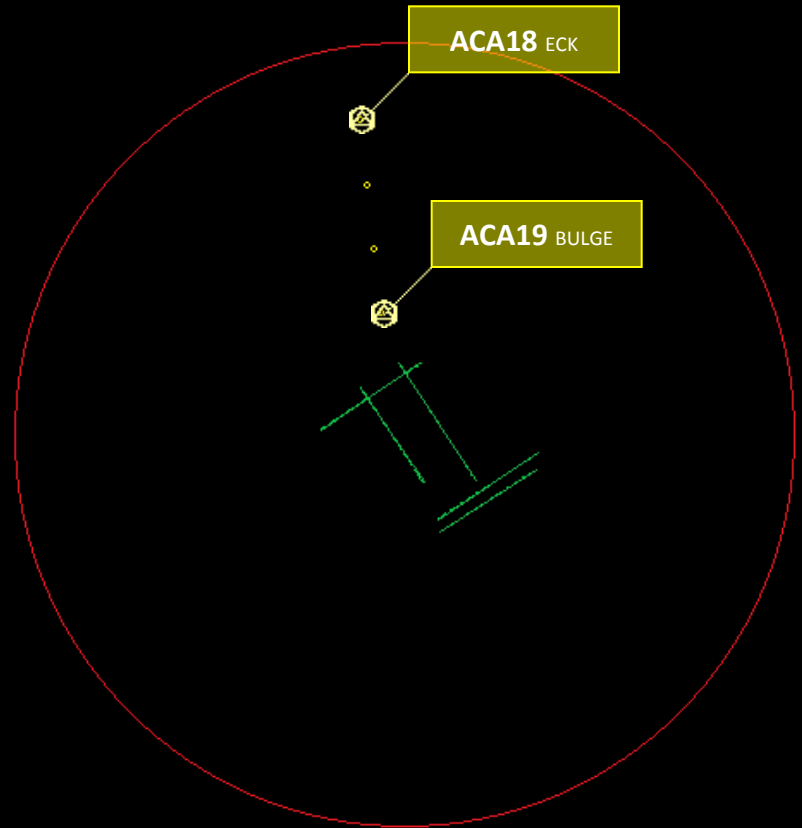
3 miles Separation

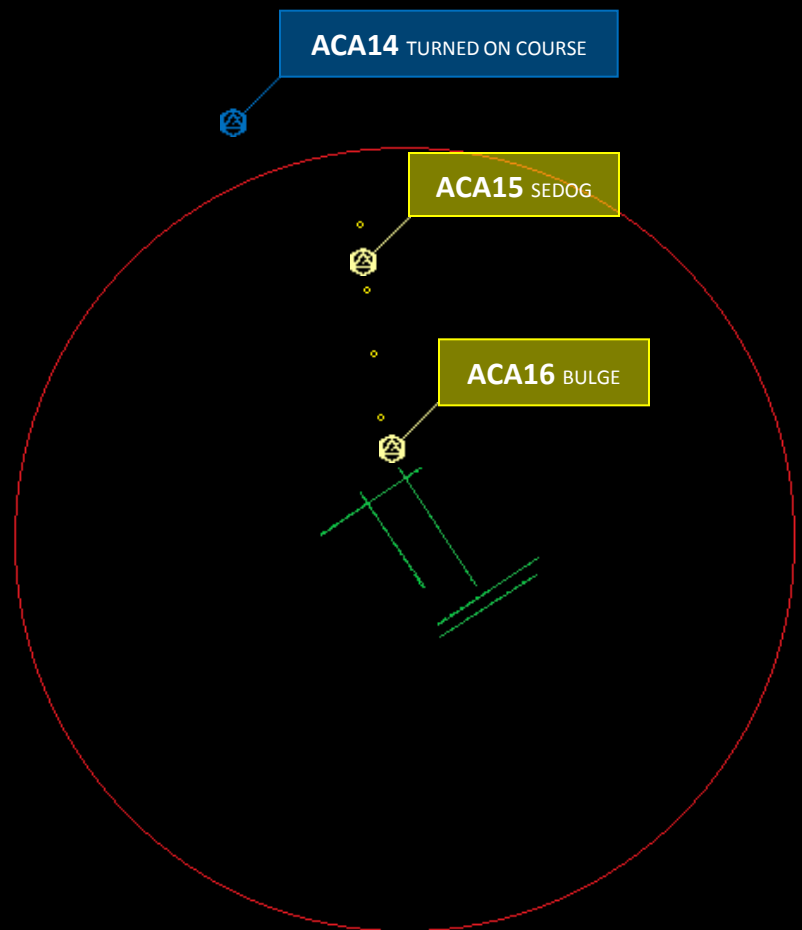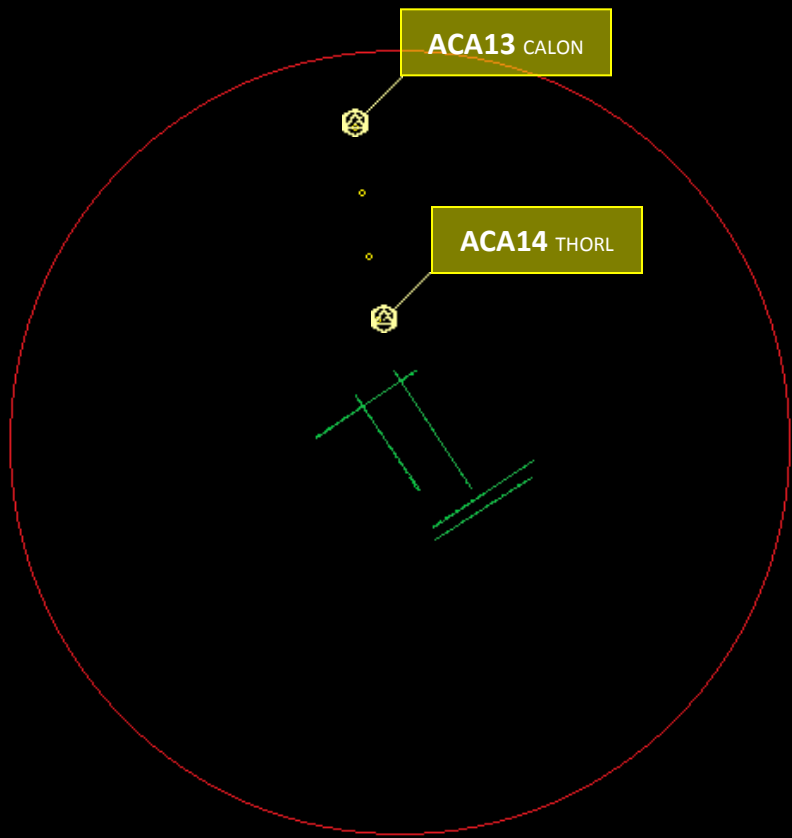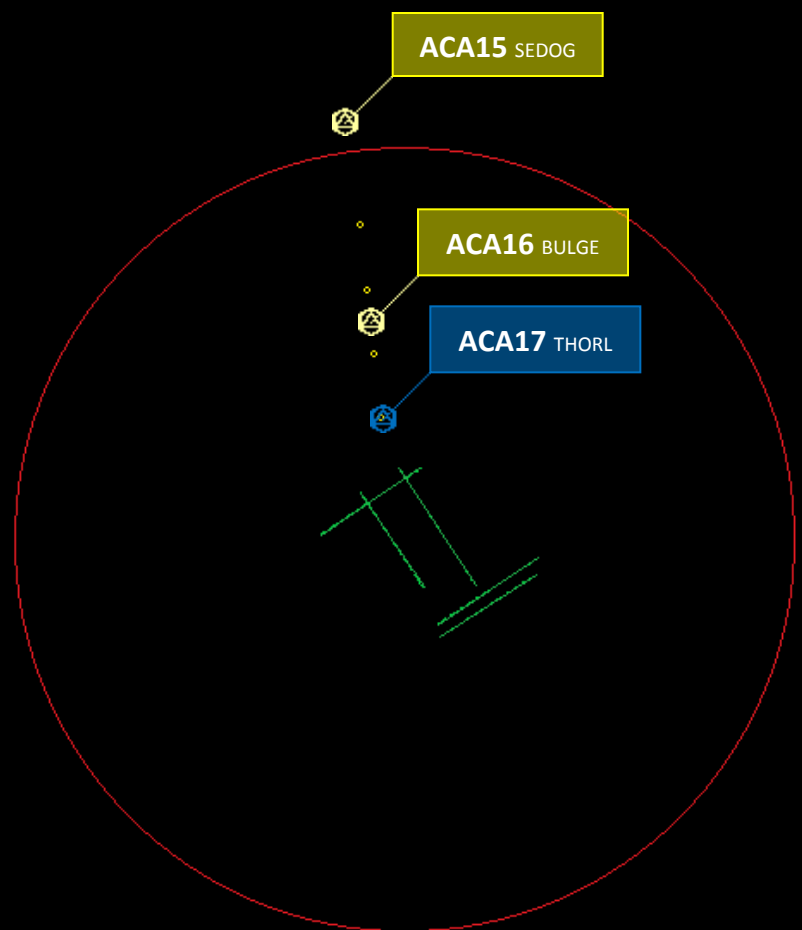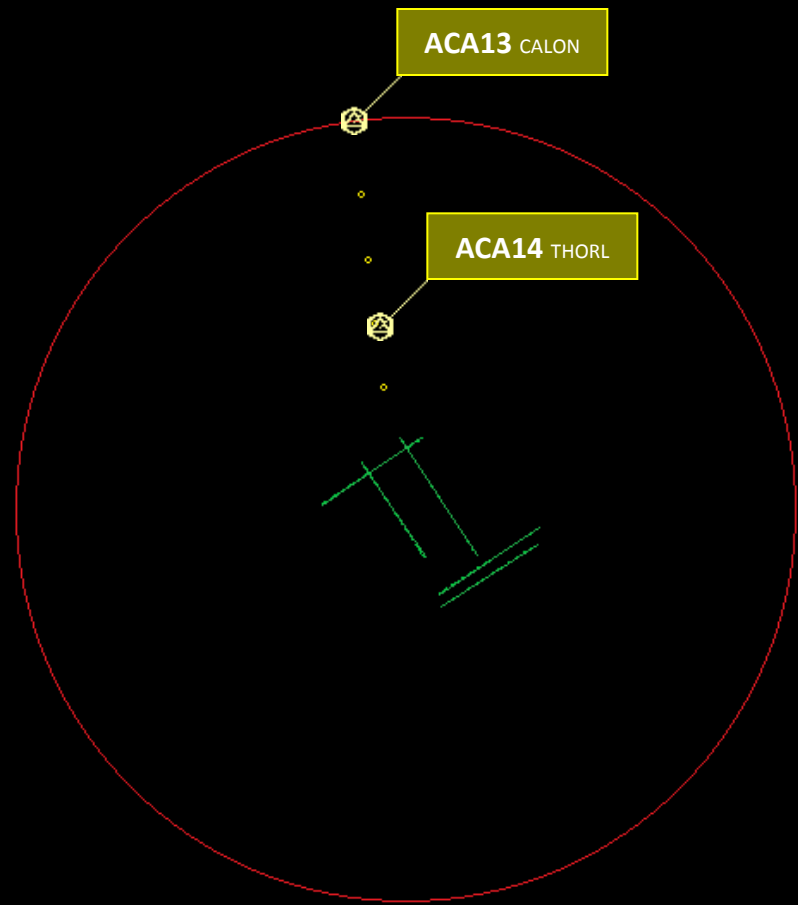3 miles Separation + Visual Departures

16 Departed Aircraft **19**
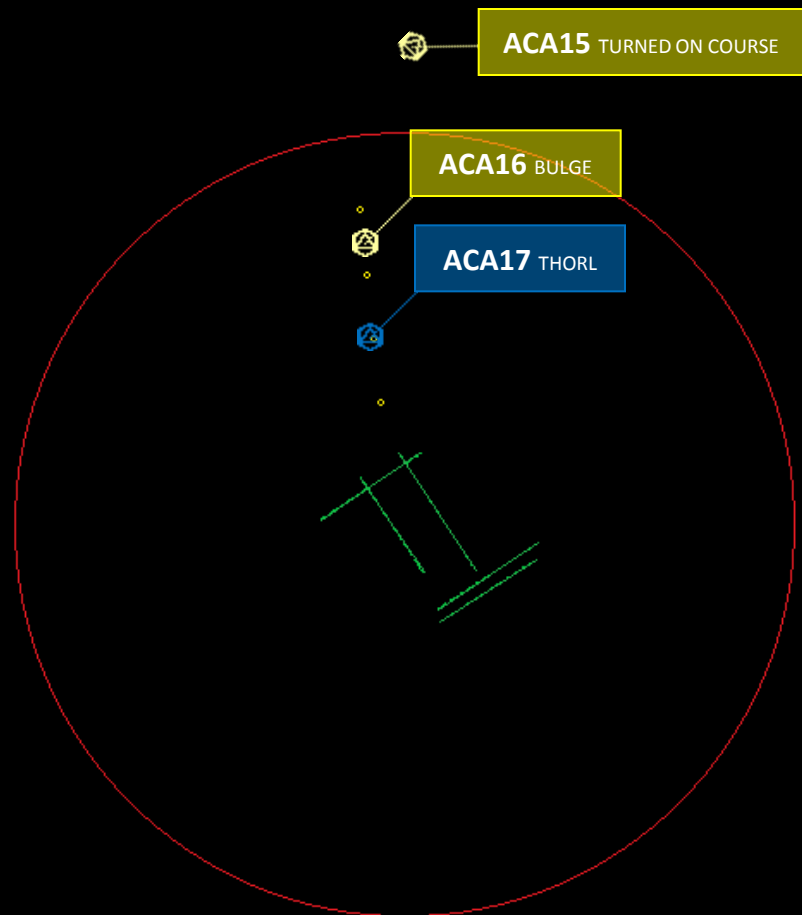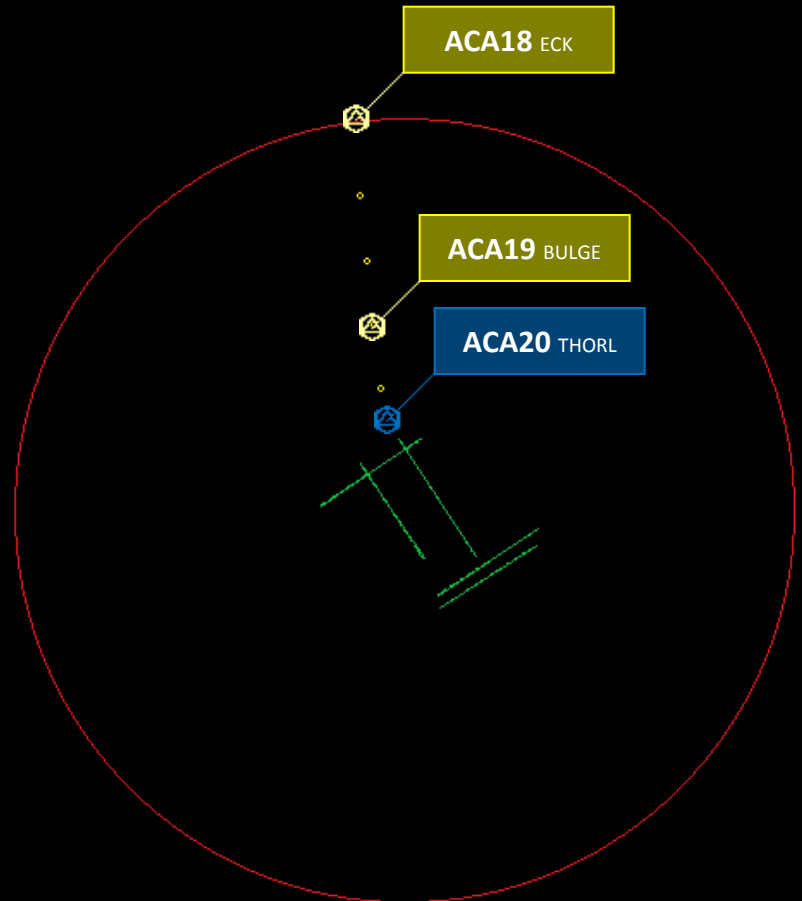
3 miles Separation

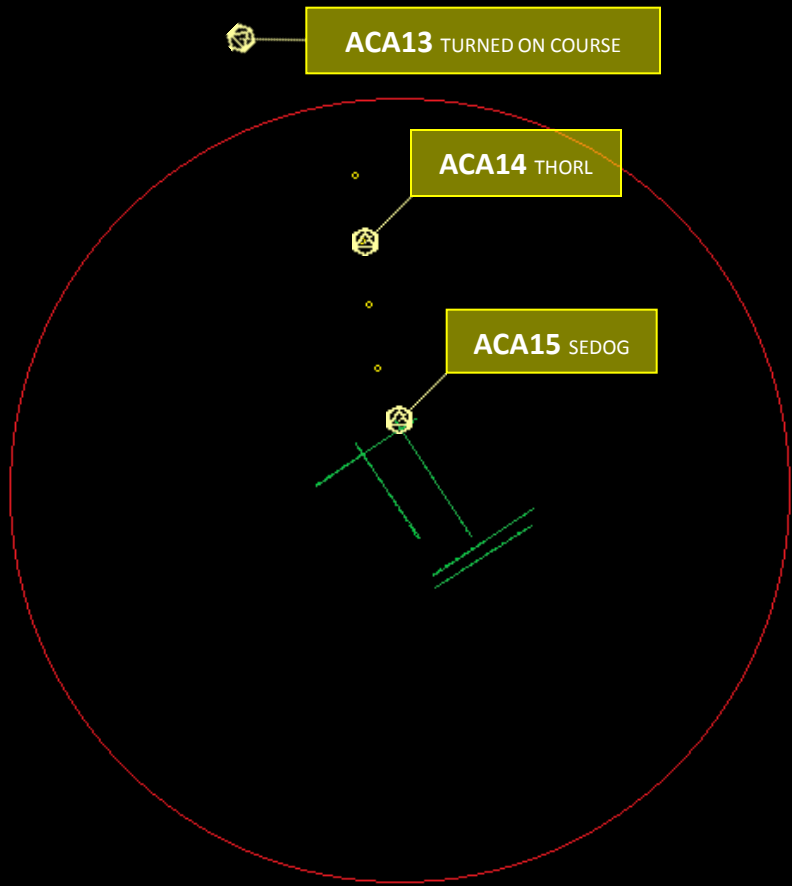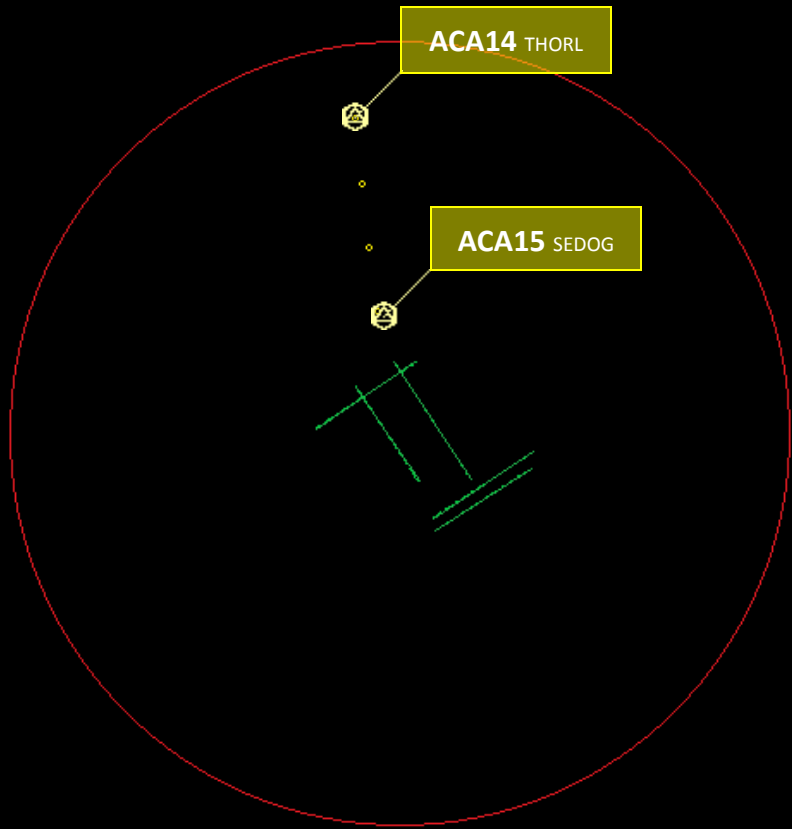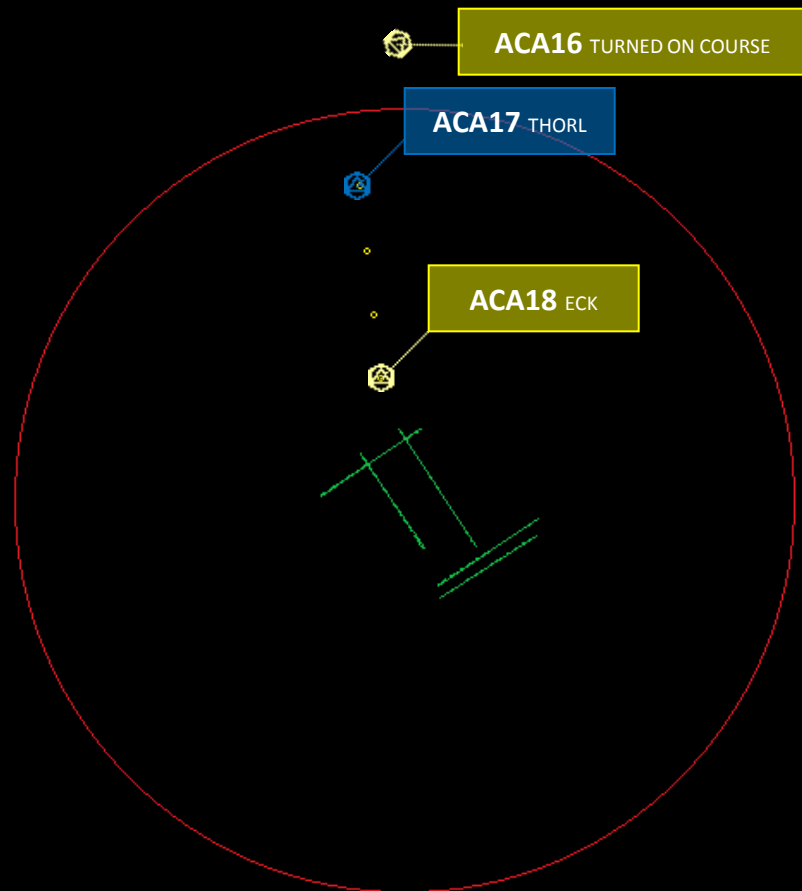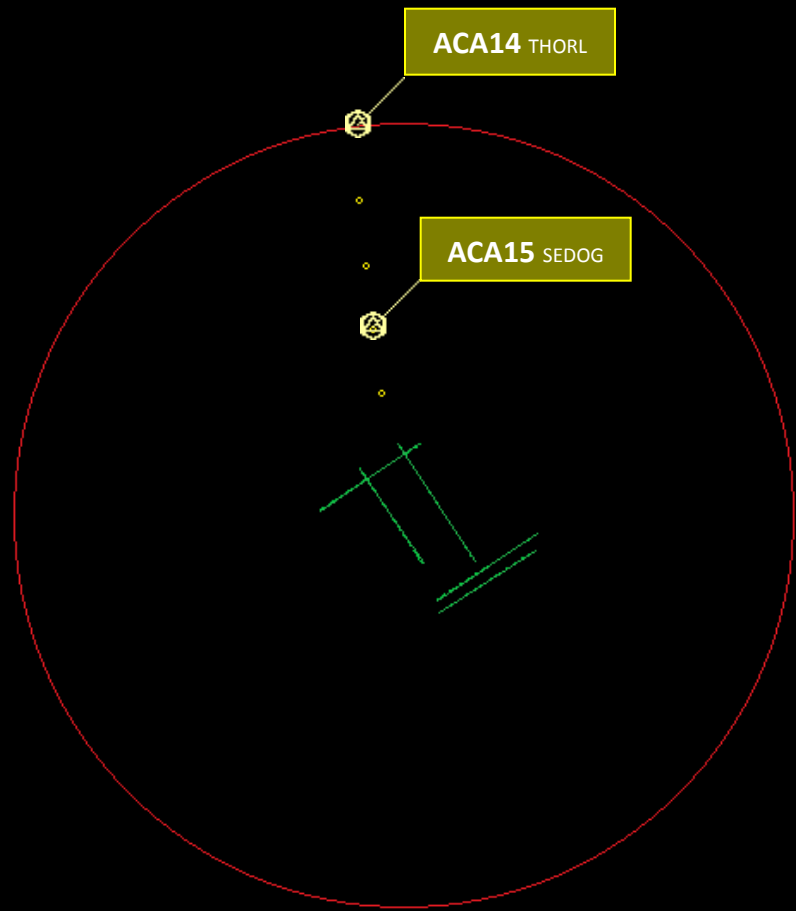3 miles Separation + Visual Departures

Elapsed Time: 15 minutes

16   Departed Aircraft   20
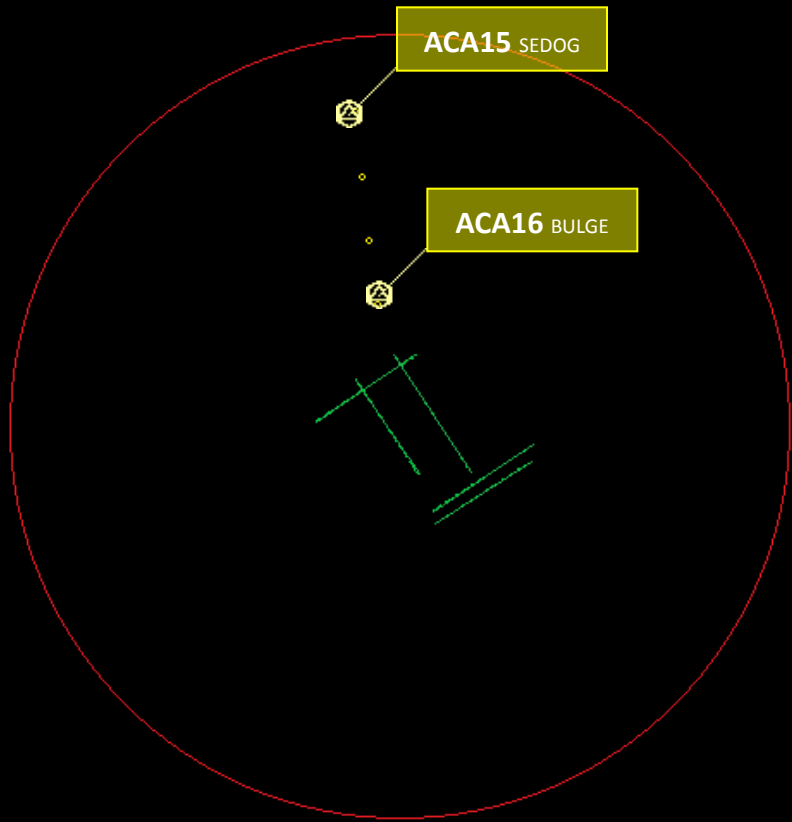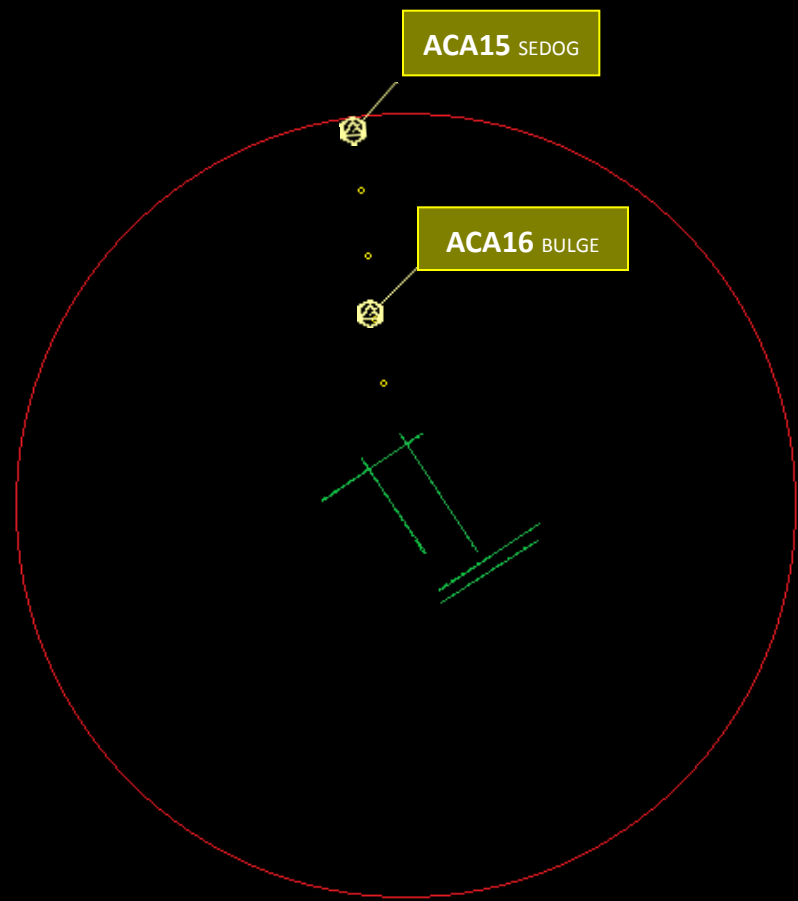
Benefits

- **Radar scenario demonstrates 4 more aircraft departures in a 15 minute timeframe**

- **Presently up to 6 aircraft an hour are "offloaded" onto 33R, this could increase by +1 per hour**

Potential Community Impact of Visual Departure Separation

Community

- Noise Management Program unchanged

Departures 33R

- Overall traffic level will not change
- Hourly departure rate productivity increase

Communities Potentially Impacted:

- Malton (Mississauga Ward 5)
- Etobicoke south of Airport affected by "Rollback" (Toronto Ward 3)

Arrivals 33R

- Slight traffic level increase related to "arrivals offloading"

Communities Impacted:

- South-west Etobicoke (Toronto Wards 3), under arrival flight path for Runway 33R

Communication

Communications related to Visual Departures:

- Presentation on Visual Departures to CENAC members

- Met with Elected Officials of potentially affected Wards

- Presentation at February 24th CENAC meeting

- Will provide update to CENAC of schedule for implementation

Impact Montoring

Operational and Community Impact Monitoring:

- Operations and complaints to be monitored following implementation

- Number of days on North/South Runways and Visual departures in effect

    - Departure rates

    - Arrival offloads on 33R

    - Complaints

- Recommendations for additional metrics/reporting