

### What is the function of Communication, Navigation and Surveillance facilities?

#### Communication facilities

1. Communication facilities enable air-to-ground communications between pilots and air traffic control, or communications between major air traffic control and other aviation facilities. Signal reception between aircraft and ground facilities is by line of sight or via a satellite link. Common communication facilities used in Australia are:
  - very high frequency radio transmitters and receivers;
  - high frequency radio transmitters and receivers;
  - Satellite Ground Station antennas; and
  - radio links.

#### Navigation facilities

2. A network of ground-based navigation aids is used for instrument navigation by pilots of suitably equipped aircraft. Generally, navigation aids are located at airports or at key points on air routes. Navigation aids used in Australia include:
  - the instrument landing system including associated localisers, glide paths and marker beacons;
  - the non-directional beacon;
  - Very High Frequency omni-directional range, conventional very high frequency omni-directional range and doppler VHF omni-directional range antennas;
  - distance measuring equipment; and
  - Tactical Air Navigation – provides range and bearing for military aircraft, civil aircraft can extract range information.

#### Surveillance facilities

3. Surveillance facilities monitor air routes and aircraft movements to assist air traffic control with more accurate information on aircraft position. This reduces the need for voice communications between air traffic control and the pilot. Surveillance facilities often in use are:
  - Primary Surveillance Radar;
  - Secondary Surveillance Radar;
  - Radar Site Monitors;
  - Automatic Dependent Surveillance Broadcast surveillance system;
  - Advanced Surface Movement Guidance and Control System.

## **Broadcast facilities**

4. Applications for development in a BRA should contain sufficient information about the site and development proposal for the assessment manager and Airservices Australia to be able to establish that the proposed use would not adversely affect the functioning of aviation facilities.
5. Height limits for development within/beneath a CNS facility's BRA may be relaxed if the impacts of any proposed use are shielded by existing structures. Airservices can identify areas of 'obstacle shielding' where buildings or other structures to an agreed height would not cause an obstruction in the BRA.
6. Whilst these guidelines relate to infringement by individual developments, which may cause unacceptable interference to facility performance, particular attention should also be paid to multi-structure developments such as wind farms and overhead power lines and the cumulative impacts of developments over time.
7. For the purposes of this document a Broadcast Facility is classified as:
  - any High Power (>100W) transmitter facility;
  - any AM/FM Radio transmitter facility; and
  - any television transmitter facility including facilities with ACMA Emission Designators of A3E/A3EG, F2D, F8E/F8EH, or C3F/C3FN.

More information can be found at:

[http://www.airservicesaustralia.com/wp-content/uploads/12-058BKT\\_Guide-to-our-operations\\_WEB.pdf](http://www.airservicesaustralia.com/wp-content/uploads/12-058BKT_Guide-to-our-operations_WEB.pdf)