

**Aviation Safety Investigation Report  
199701538**

**Reims Aviation S.A.  
Caravan II**

**13 May 1997**

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**NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at [www.atsb.gov.au](http://www.atsb.gov.au).**

<b>Occurrence Number:</b> 199701538 <b>Location:</b> 160km NW Gove, Aerodrome <b>State:</b> Other <b>Date:</b> Tuesday 13 May 1997 <b>Time:</b> 0950 hours <b>Highest Injury Level:</b> None	<b>Occurrence Type:</b> Incident  <b>Inv Category:</b> 4  <b>Time Zone:</b> CST
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<b>Aircraft Manufacturer:</b> Reims Aviation S.A.	
<b>Aircraft Model:</b> F406	
<b>Aircraft Registration:</b> VH-ZZE	<b>Serial Number:</b> F406-0076
<b>Type of Operation:</b> Commercial	Coastal Surveillance
<b>Damage to Aircraft:</b> Nil	
<b>Departure Point:</b> Darwin NT	
<b>Departure Time:</b>	
<b>Destination:</b> Gove NT	

**Approved for Release:** Wednesday, July 15, 1998



## FACTUAL INFORMATION

A Reims F406 aircraft was conducting a coastwatch surveillance flight from Darwin to Gove. The aircraft was approximately 100 NM north-west of Gove operating below 2,000 ft in non-controlled airspace. The crew heard a broadcast on the marine very high frequency - frequency modulation (VHF-FM) radio. This broadcast was on the nominated emergency frequency of 156.8 MHz (which was Channel 16 on marine transceivers) and was from a foreign warship notifying an intention to commence live weapon firing in the area from the surface to 45,000 ft.

The F406 crew attempted to contact the warship crew on the marine frequency to advise them of the location of their aircraft, which was within the firing area. Reception with the foreign warship was unreadable, but eventually the F406 crew were able to talk to the radio operator of a Royal Australian Navy (RAN) warship that was also in the area. The F406 crew sought advice of a safe distance to avoid the ships. The radio operator in the RAN warship advised the crew of the ship's position and to remain outside a circle of 20 NM radius centred on that position. The intended track of the F406 was within 10 NM of the ships.

The F406 crew altered the aircraft's course to avoid the firing area. At the same time the crew reported their position to Adelaide Flight Service (FS) and also advised that they were aware of the live firing being conducted in the area. The FS operator checked the aeronautical information service for a notice to airmen (NOTAM) regarding the firing activity. There was no NOTAM for the activity. The operator requested the crew of the F406 to relay to the foreign warship to contact FS on high frequency (HF) radio. The foreign warship contacted FS and it was established that the firing was an unnotified live firing on the high seas. Shortly after, the operator on the warship advised FS on HF and broadcast on the marine VHF frequency, that firing was completed. The firing had been conducted for approximately 40 minutes.

The F406 crew were monitoring six radios which were selected to both aviation and marine, emergency and normal operating frequencies (HF, VHF and ultra high frequency (UHF)). The only notification of the firing activity that they heard was on the marine VHF emergency channel. No broadcasts were heard on the aviation emergency or the normal operational very high frequency - amplitude modulation (VHF-AM) or HF frequencies.

### Royal Australian Navy procedures

Royal Australian Navy personnel had briefed the crew of the foreign warship on the RAN procedures for weapons firings.

Warships planning to conduct firing operations were required to notify the appropriate local area command 4 days prior to the event. This was to enable the command to arrange for the issue of a NOTAM notifying the location, times and vertical limits of the operation. The investigation was unable to establish the reason for the short notice of the firing operation in this instance.

Operations could be conducted without this notification subject to a number of criteria being satisfied. In this situation the warship intending to conduct the firing had to either visually or electronically scan the area to be used. This scanning was to ensure that no vessels or aircraft were within the firing area. The firing was to be conducted no closer than 10 NM to controlled airspace or a published air route, and outside of 20 NM from land and 10 NM from offshore man-made structures.



The warship was also required to broadcast intentions prior to commencement and on completion of each operation on the marine VHF-FM and HF (2828 KHz) emergency frequencies. The actual frequencies on which the foreign warship did broadcast were unable to be confirmed by the investigation. There was no requirement to broadcast on aviation emergency or normal operational frequencies.

#### Civil aircraft radio requirements

Civil aircraft are only required to fit and use VHF-AM and/or HF radios. Civil aircraft would normally not be capable of receiving or transmitting on the VHF-FM band. Because of the nature of the coastwatch task undertaken by the F406, that aircraft was fitted with and used a number of non-aviation radios.

#### Air routes

Part of air route B472 between Gove and Ambon, Indonesia and air route J199, the published route between Kupang, Indonesia and Port Moresby, Papua New Guinea, traversed the area in which the firing was conducted.

Adelaide FS advised Brisbane air traffic control (ATC) of the firing once they were aware of the details. Subsequently, Brisbane ATC routed aircraft clear of the area until the activity was completed.

#### Airspace

Non-controlled airspace extended from sea level to flight level (FL) 245 in the firing area. FS was responsible for communications in non-controlled airspace. Above FL245 and up to FL450 the airspace was controlled airspace. Brisbane ATC was responsible for the management of this airspace.

#### ANALYSIS

The crew of the foreign warship would appear to have not conducted an adequate scan of the firing area prior to the firing operation and was unaware of the proximity of the coastwatch aircraft.

The warship's notification of firing was not broadcast on the aviation, emergency or normal operating frequencies. Consequently, civil aircraft, which may have been in the area, would not have received warning of the firing operation unless they had special equipment to monitor the marine VHF-FM emergency frequency.

Air traffic services (ATS) used VHF-AM and HF radios to communicate with crews of civil aircraft. The foreign warship crew could have used either of these radios to establish communications with ATS to notify the firing activity. FS would have then been able to notify aircraft in non-controlled airspace by broadcasting a hazard alert to known aircraft in the area. Also, crews of aircraft unknown to FS in the area, would probably have also been alerted if they were monitoring the appropriate area frequency. In controlled airspace ATC would have had prior notice to enable them to route aircraft clear of the firing area.

#### SIGNIFICANT FACTORS

1. A NOTAM was not issued for the firing activity.



2. The foreign warship conducted a firing activity at short notice.
3. The foreign warship crew was unaware of the approaching coastwatch aircraft.
4. Royal Australian Navy procedures did not require broadcasts to be made on either the aviation emergency or normal operational frequencies
5. Brisbane air traffic control was unaware of the firing activity that impinged on controlled airspace.
6. The firing activity was conducted in close proximity to two air routes in controlled airspace.

#### SAFETY ACTION

Following investigation of aspects of the notification of weapons training areas the Bureau of Air Safety Investigation issued the following recommendations to the Australian Defence Force and to Airservices Australia on 29 June 1998:

"IR980086

The Bureau of Air Safety Investigation recommends that the Australian Defence Force, with the assistance of Airservices Australia, review airspace activation procedures to ensure that appropriate and fail-safe notification actions have been completed prior to the commencement of military activities.

IR980087

The Bureau of Air Safety Investigation recommends that Airservices Australia assist the Australian Defence Force to review airspace activation procedures to ensure that appropriate and fail-safe notification actions have been completed prior to the commencement of military activities."

