

**Confidential**

**Ministry of Aeronautics  
Air Command of Air Defense**

Brasilia-DF, June 02, 1986

From Commander

To General Air Command

Subject: Occurrence Report

Ref.: Note Nº C 002/MIM/ADM, of April 13, 1978

Att: 01 report

Forwarding the attached document for your consideration.

[Signed]

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acting commander of COMDA (*Air Command of Air Defense*)

## **OCCURRENCE REPORT**

### **I – INTRODUCTION**

This report is intended to inform the authorities of the Ministry of Aeronautics, especially The Minister himself, about the events occurred in the night of May 19, 1986, regarding information pertaining to Air Traffic Control and Air Defense Organization, as well as the intercepting pilots involved in this event.

Due to time limitation and specific knowledge limitation regarding the nature of the facts, this Command has decided, within its operational sphere, to limit itself to simply narrate the facts and avoid any kind of speculations involving the Ministry of Aeronautics.

### **II – INITIAL CONSIDERATIONS**

The Brazilian Aerospace Defense System, concerning to RDA1, has so far relied on detection equipment based on radars whose main purpose is to control air traffic, not specifically designed for Air Defense.

Its technical limitations render air space vigilance deficient as far as targets detection is concerned, the initialization of which is made manually, that is, the controller is constantly required to personally manage radar contact and keep it steadily visible for a period that will allow deep evaluation. As a result, following the movements detected on the occasion was severely thwarted by the fact that it was not possible to maintain visualization, regardless of the controllers' efforts, because the contacts obtained were not strong enough to allow an initialization work.

The information transmitted to the pilots by the Military Operations Center was based on the evaluation and experience of the Air Defense Controllers until such a time as onboard equipment could be used to enable the pilots to carry on with the interceptions.

Regarding the interceptions in the Anápolis area, it was sometimes possible to obtain radar contact through DACTA network (LP-23 DPV-DT 61) and the vectoring only was made possible due to the detections by Anápolis Air Base radar.

### **III – FACTUAL DESCRIPTION**

In this section, all facts will be described on a chronological order, with measures and steps taken by the Air Command of Air Defense.

- 1 - 2315Z – The Area Control Center in Brasília informs COpM 1 that São José dos Campos Control Tower operator has seen lights moving over the city.

The lights, though predominantly red, shows changes in colors to yellow, green and orange.

The TWR-SJ operator simultaneously notifies the APP-SP, which confirms the radar contact on São José dos Campos area.

- 0008Z – (May 20) – The pilot of a PT-MBZ plane sees lights at radial 150 from VOR of São José dos Campos moving from East to West. The lights, according to information given by the pilot himself seemed like big red stars.

The pilot, by his own initiative, made an observation of the referred lights, but was unable to approach them.

- 0014Z – The COpM Alert Officer was activated.

- 0023Z – The Alert Officer from Air Defense Operations Center (CODA – *Centro de Operações de Defesa Aérea*) was activated.

- 0039Z – By determination of CODA's Chief, the alert airplane from Santa Cruz Air Base was activated.

The decision to activate the alert airplane was taken after the radar detection of some “PLOTS” in São José dos Campos area.

Such detections, although do not qualify as definitive radar echoes, were utilized in the vectoring of the intercepting airplanes in order to posit the vectors, allowing them to proceed with the interception using the on-board radar.

0110Z – The APP-AN reports the detection of some echoes in its radar.

The echoes reported by APP-AN were not captured by COpM equipment.

0111Z – Anápolis Air Base alert activated.

This activation, determined by CODA, was done after the APP-AN operator reported the continuing radar echoes, with definition of fore and velocity.

0118Z – CODA request that Santa Cruz Air Base activate additional alert airplanes.

This activation was requested because only one airplane remains at the Air Defense Command, available for possible activation and persistence of this airplane in flight for a time that exceeds its autonomy, which happened later, causing it to be recalled and replaced with another airplane.

0134Z – Departure of the first airplane from Santa Cruz Air Base.

From this moment on, after the proper transference of control, the Military Operations Center (COpM – *Centro de Operações Militares*) began vectoring the referred airplane to sector W, where some radar echoes were detected in São José dos Campos area.

The airplane's pilot reported when he was stabilized on FL 170 that he could see a white light below his own level and at a later time, ascending and maintaining itself at 10° above his airplane. He followed it as far as FL 330, and reported that the light changed momentarily from white to red, green and then back to white, the prevailing color.

While the pilot was following the light, he obtained contact through the on-board equipment, which indicated it was something between 10 and 12 miles away, and confirmed visual contact.

He followed it towards the sea, up to approximately 180 miles from Santa Cruz Air Base, when he gave up the pursuit because there wasn't any positive reason for approaching the lights and because he was coming close to the Minimum Fuel for Abandonment (CMA – *Combustível Mínimo para Abandono*).

0148Z – Anápolis Air Base alert airplane take-off.

After the proper transferences of control, the airplane was vectored to a spot which was being detected by the APP-AN's radar, which was transmitting information to COpM, who on their turn forwarded it to the pilot. This procedure was due to the fact that there wasn't any radar echo on COpM equipment.

The pilot proceeded to five presentations obtaining contact and acquisition with his on-board radar, but was unable to make any visual contact.

Of all the presentations, he was able to approach up to 2 miles within radar contact, whose trajectory alternated from zigzag to a sharp turn to the right.

The object's velocity would often change, sometimes letting the

airplane come closer, sometimes suddenly increasing distance, in spite of the interceptor's supersonic speed. Such maneuvers caused the contact to terminate, and the pilot gave up on the pursuit.

0150Z – Second airplane takes off from Santa Cruz Air Base (BASC).

After the normal control proceedings, the airplane was vectored to the same area, south of São José dos Campos.

The pilot reported the sighting of a red light at the location informed by COpM, and by doing so, confirmed the detection from the ground radar.

A few minutes later, he found out that the light wasn't coming any closer and, soon afterwards, disappeared at the same time as the radar contact was lost.

A striking detail during this vectoring was the momentary appearance of thirteen PLOTS behind the airplane, which was ordered to execute a 180° turn, and did not obtain any visual contact or on-board radar contact.

0217Z – Second airplane takes off from Anápolis Air Base (BAAN).

This airplane did not make any visual or radar contact.

0236Z – Third airplane takes off from Anápolis Air Base.

This airplane also did not make any visual or radar contact.

0237Z – Landing of the first airplane from BASC.

0246Z – Landing of the first airplane from BAAN.

0305Z – Landing of the second airplane from BASC.

0307Z – Landing of the second airplane from BAAN.

0330Z – Landing of the third airplane from BAAN.

All recalls and landings were done normally.

#### **IV – FINAL CONSIDERATIONS**

1. Based on the analysis of above-reported events, it is this Command's opinion that, according to the information from the controllers, pilots and previously elaborated reports from I CINDACTA, that there are some points of coincidence regarding radar echoes, accelerations, illumination, velocities and behavior, either by technical detection or by visual contact.
2. Some of those coinciding points that we can name are those phenomena which exhibited certain constant characteristics, as follows:
  - a. Produced radar echoes, not only on the Air Defense System, but also on the intercepting airplanes simultaneously, with visual comparisons by the pilots.
  - b. Change in velocity, from subsonic to supersonic, besides hovering capability.
  - c. Varied altitude, from below FL-050 to altitudes above FL-400.
  - d. Occasionally seen as white, green and yellow lights, and sometimes no luminous indication.
  - e. Sudden acceleration and deceleration capabilities.

- f. Sharp turns capabilities with constant radius, and sometimes with undetermined radius.
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- 3. As a conclusion of the observed constant facts in almost all presentations, it is the opinion of this Command that the phenomenon is solid and reflects intelligence by its capacity to follow and sustain distance from the observers, as well as to fly in formation, and are not necessarily manned craft.
  - 4. It is safe to emphasize the efficiency of the Air Units engaged in this operation, because each of these units maintained an expected alert airplane at 45 minutes and before 30 minutes after activation; and 7 (seven) armed vectors were available for deployment.

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