



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# News:

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FOR RELEASE ON  
MARCH 5, 1987  
#87-09

CONTACT: PAUL STEUCKE

## FAA RELEASES DOCUMENTS ON REPORTED UFO SIGHTING LAST NOVEMBER

The Federal Aviation Administration today released documents relating to the reported sighting of an unidentified flying object (UFO) over Alaska by a Japan Air Lines flight crew on November 17, 1986, saying it was unable to confirm the event.

The material was issued by FAA's Regional Office in Anchorage, Alaska, and included transcripts of pilot-controller communications, interviews with controllers and the flight crew, radar plots and other data.

FAA's Regional Public Affairs Officer Paul Steucke pointed out that FAA normally does not investigate UFO sightings but pursued the JAL incident in its role as the operator of the air traffic control system. He said the agency's objective was to determine if there was an unreported aircraft in the vicinity of the JAL flight that could present a safety hazard.

As part of the inquiry, Steucke said, radar data of the JAL flight track was reviewed by FAA experts at the agency's Technical Center in Atlantic City, N.J., using identical equipment. They determined that a second radar target near the JAL flight at the time of the reported sighting was not another aircraft but rather a split radar return from the JAL Boeing 747.

Technically, this is known as an "uncorrelated primary and beacon target return." It means that the primary radar signal reflected off the aircraft's surface did not correlate exactly with the pulse emitted by the aircraft's radar beacon transponder. This phenomenon is not unusual and gives the impression of two separate radar targets.

Steucke also noted that FAA controllers who monitored the JAL aircraft said in their statements that they thought there might have been another aircraft because of the dual radar targets. However, a northbound United Air Lines jet that was diverted by controllers to intercept the JAL flight path did establish visual contact with that aircraft but the pilots saw nothing else.

The Nov. 17 UFO sighting was reported by JAL Captain Kenjyu Terauchi on a cargo flight over the polar cap from Iceland to Japan via Anchorage. Captain Terauchi said he had visual contact from approximately the U.S.-Canadian border to south of Fairbanks. On Jan. 11, 1987, Captain Terauchi also reported another sighting in the same general area as the first.

Steucke said FAA is satisfied that the safety of the air traffic control system was not compromised by the Nov. 17 incident and plans no further investigation of the circumstances.

Paul Steucke  
FAA Public Affairs  
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March 5, 1987

### UNCORRELATED RADAR SIGNALS

Radar data received by the FAA and used to track Japan Airlines flight 1628 on the night of the November 17, 1986, was retained by FAA. Review of this radar data by FAA experts using identical equipment at the FAA's research technical center in Atlantic City, New Jersey, revealed that the radar system was receiving what is called an "uncorrelated primary and beacon target".

This electronic phenomena is not unusual according to Steucke who said, "It is unfortunate that the uncorrelated target phenomena occurred just when a pilot was reporting seeing something outside his aircraft.

The controller's statements, released by the FAA, indicate that they thought there might be another aircraft or object in the area of the JAL flight. Steucke said, "The controllers were doing their job right because they have to work with what is right there in front of them on the screen, especially when you have a Captain that is reporting "other traffic" in his immediate area. The radar data they had was one target, moving slowly across the radar screen. They don't have the benefit of "Monday morning quarterbacking" with multiple radar images as was the case in regenerating the radar data." Review of the radar data by FAA experts revealed the "uncorrelated target" phenomena.

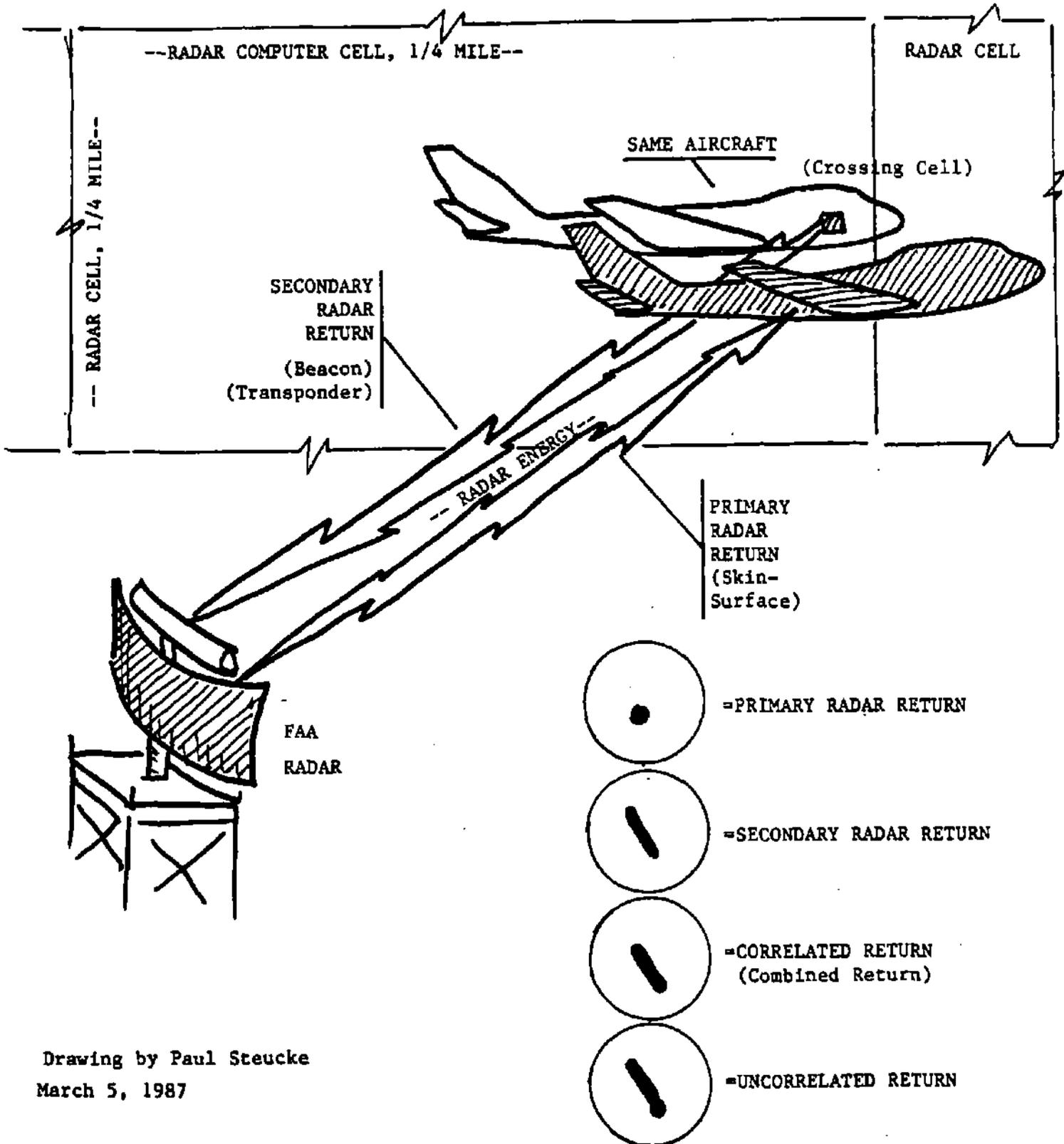
FAA electronic technicians explained that an "uncorrelated primary and beacon target" on the radar screen occurs when the radar energy that is sent up toward the aircraft, (primary signal) returns to the radar receiver along with the aircraft transponder (beacon) signal and the two do not match up as being at the same exact location.

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UNCORRELATED RADAR SIGNALS

An "uncorrelated primary and beacon(secondary) return on a radar screen occurs when the radar energy that is sent up toward the aircraft (primary signal) returns off the surface of the aircraft at a slightly different moment than the beacon (secondary) transponder signal and the two do not match up as being at the same place or same computer radar cell.



Drawing by Paul Steucke  
March 5, 1987



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# Memorandum

Subject: INFORMATION: Description of Radar Split Image;  
AAL-5 Memo of 2/5/87

Date FEB 27 1987

From: Manager, Airway Facilities Division, AAL-400

Reply to  
Attn of

To: Public Affairs Officer, AAL-5

This letter transmits our analysis of the radar targets associated with JAL flight 1628, on November 17, 1986, and supplements discussions we have had regarding what has been referred to as "split images".

We concur with the interpretation provided to you by the Alaskan Region Air Traffic Division.

The attached Analysis of Uncorrelated Primary and Beacon Targets by Dennis Simantel covers the subject in more detail, and addresses the questions raised in your letter.

Paul, I appreciate the team approach you have taken to more fully understand a complex issue. The issue is an excellent example of how "interdependent" we are. If we can provide any more information, please do not hesitate to call.

David F. Morse

Attachment

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27 FEB 87 10 25

ANALYSIS OF UNCORRELATED PRIMARY  
AND BEACON TARGETS  
(JAL-1628, 11/17/86 AKST)

Approximately 61 minutes of data was extracted from the EARTS CDR printouts relating to the November 18 incident involving JAL-1628 and the alleged UFO sighting.

Review of the data involving this incident did not show any abnormalities that could be associated with any type of target as indicated by the pilot of JAL-1628.

Radar returns from the aircraft and surrounding terrain vary with the different segments of the flight, but are considered normal for the area.

Returns relating to the incident can be categorized as three types: primary radar reinforced by a beacon reply (primary radar returns and beacon returns are both evident in the same 1/4 mile range cell), beacon only reply and beacon with an associated radar reply. Seventy-two percent of the replies were radar with beacon reinforcement (same range cell) which is normal for the Murphy dome radar system.

Approximately 25 percent were beacon only and of those that registered as beacon only, 90 percent of those had a primary only reply within 1/8 of a mile, either ahead or behind the beacon target (5 behind, 12 ahead).

These uncorrelated primary returns are not uncommon, due to the critical timing associated with the delay adjustments in the aircraft transponder for beacon systems and the target correlation circuitry within the radar equipment.

When an aircraft is being interrogated as it passes through the beginning of adjacent range cells the intricate timing between the two systems very often is off just enough to declare both a beacon and a radar target in different range cells, resulting in uncorrelated radar replies.

The data derived from the JAL-1628 flight is representative of the data from another aircraft in the same general area and is considered normal.

February 25, 1987

DS  
Dennis R. Simantel  
ZAN-AAL-ARTCC

CONCUR: David F. Morse, AAL-9015

Paul Steucke  
FAA, Public Affairs Officer  
Alaskan Region  
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March 5, 1987

### LACK OF "SCIENTIFIC" INVESTIGATION

The Federal Aviation Administration has a number of employees who do scientific research with regard to aircraft, aviation, and related electronic equipment. The FAA does not have the resources or the Congressional mandate to investigate sightings of unidentified flying objects.

We have not tried to determine what the crew of Japan Airlines flight 1628 saw based on scientific analysis of the stars, planets, magnetic fields, angle of view, etc. We have received letters from several persons suggesting that we ask the crew and others a variety of detailed questions from a scientific viewpoint. This we have not done and do not intend to do. We reviewed the data that was created by our systems, the interviews that were done by FAA to determine the status of the crew and the aircraft, and have provided that information to the public.

The FAA has completed its investigation of JAL flight 1628, and does not intend to pursue it any further."

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