

Blue Book UFO Reports at Sea by Ships

Analysis of the Blue Book Ship Database

FOR EARLY WARNING IN DEFENSE OF THE NORTH AMERICAN CONTINENT

MERINT

RADIOTELEGRAPH PROCEDURE

1. WHAT TO REPORT

 Guided Missiles  Surface warships positively identified as not U.S. or Canadian
Aircraft or controls which appear to be directed against the United States, Canada, their territories or possessions  Submarines  Unidentified Flying Objects

2. SEND TO ANY

United States Naval Radio Station Receiving station will relate to military destination
Canadian Naval Radio Station
United States Coast Guard Radio Station
United States Commercial Radiotelegraph Station
Canadian Department of Transport Coastal Station

3. HOW TO SEND

* MERINT MERINT MERINT (Coastal Station) DE
(Own Signal Letters) K (Own Signal Letters) DE
EMERGENCY (For U.S. or Canadian Naval or Coast Guard Radio Stations) or
RAPID US GOVT COLLECT (For U.S. Commercial Coastal Stations) or
RUSH COLLECT (For Canadian Dept of Transport Coastal Stations)

4. SEND TO ONE DESTINATION

ComWestSeaFron Navy SFran Select destination nearest to your receiving station
NavyCharge Halifax
NavyCharge Esquimalt

5. SEND THIS KIND OF MESSAGE

Content—

- Begin your message with the word "MERINT"
- Give the reporting ship's name and signal letters
- Describe briefly the objects sighted
- Give ship's position when objects are sighted, also TIME and DATE
- If objects are airborne, estimate altitude as "low", "medium", "high"
- Give direction of travel of sighted objects
- Estimate and give speed of sighted objects
- Describe condition of sea and weather
- Give other significant information

Example—

S5 TOLOA	WHDRA
TWO UNIDENTIFIED SURFACED	SUBMARINES
5034N 4012W	071450 GMT
(not applicable)	
HEADING 270 DEGREES	
15 KNOTS	
SEA CALM	
ELONGATED CONNING TOWERS	

6. SEND IMMEDIATELY

- DO NOT DELAY YOUR REPORT DUE TO LACK OF INFORMATION
- EVERY EFFORT SHOULD BE MADE TO OBTAIN ACKNOWLEDGMENT FROM RECEIVING STATION THAT MESSAGE HAS BEEN RECEIVED.

* The International urgency signal (XXX XXX XXX) may be used as an alternate to clear circuit.

Authorized by Secretary of the Navy OPHAV 94-P-3B

A.F. Rullán
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Martinez, CA

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1 Introduction and Objective of Study

The objective of this study was to better understand the Project Blue Book¹ UFO report database from ships at sea. The study focused on UFO reports that were submitted by ships in the Atlantic and Pacific Oceans to the USAF Project Blue Book. Ships submitting reports to Blue Book included Navy, US Coast Guard and Commercial Vessels. Some of the questions that this study wanted to answer were:

1. What was the mechanism used to report UFO sightings to Blue Book by the US Navy ships?
2. What was the most common reporting mechanism used by commercial shipping and by the US Coast Guard?
3. How many US Navy ships reported UFO sightings to Blue Book and what types of sightings were these?
4. How did the US Navy sightings compare to those from commercial and USCG ships?
5. Are UFO reports at sea very similar to each other or do they differ? Was the type of UFO report dependent on the agency making the report?

The resulting database of ship reports does not contain all UFO reports by ships in the Blue Book files. The scope of this study was limited to the Atlantic and Pacific Oceans. Moreover, UFO reports from coastal regions that were categorized under a State or Country would have been missed due to the screening methodology used. Section 3 describes in detail the methodology used to create the database.

2 Background and History of UFO Reports by Ships at Sea

Ships at sea have a long history of reporting sightings of meteors, weird nocturnal lights, and other anomalous atmospheric phenomena either in their deck logs or in reports to Hydrographic offices at port. Early documentation of anomalous lights in the sky is found in the *Hydrographic Office Bulletin* (published in the US) and the *Marine Observer* (published in the United Kingdom). Post World War II, after the experience with the surprise attack on Pearl Harbor, new procedures were established by the US military for National Defense and early warning. These procedures also led to numerous reports by merchant and naval vessels of unidentified objects in the sky. However, the driving force for these reports was not the investigation of “flying saucers” reports but the detection of and quick identification of possible unidentified threats to the continental USA. Project Blue Book was the first effort by the US Military to systematically collect reports of unidentified flying objects (UFOs) and to try to identify them. In this paper the term Blue Book refers to all projects conducted by the Air Force to investigate UFOs; starting with Project Sign in 1948 and including Project Grudge. The focus of this study, however, is very narrow since it looks at only those reports that reached Project Blue Book in the period of 1948-1968 by ships at sea.

2.1 Oldest Source of Marine UFO Reports

Some of the oldest reports of unidentified objects reported by ships at sea are located in the *Hydrographic Office Bulletin*. In 1842, Matthew Fontaine Maury (commander of the naval Oceanographic Office 1842-1862) instituted a system for collecting and using oceanographic data by asking all shipmasters to submit reports of their experiences to the Naval Oceanographic Office (NOO). The NOO then digested, compiled and published the information in a bulletin. In 1866 the office was renamed the Hydrographic Office and in 1962 it was designated as the U.S. Naval Oceanographic Office.² Since the later half of the 19th century, the *Hydrographic Office Bulletin* has published many sightings at sea of meteors and other anomalous atmospheric phenomena. During the search of Blue Book files for sightings at sea, numerous Hydrographic Office Bulletins (HOB) were

found. These Hydrographic Office Bulletins started appearing in Blue Book files in 1952 as information only (not official Blue Book cases). There were about six cases from HOB in 1952, ten in 1953, and eight in 1954. Afterwards there was a long hiatus with occasional HO bulletins used for information only until 1962 and 1963 when eight reports sent to the Hydrographic Office became official Blue Book reports instead of information only.

Another early publication of odd reports of nocturnal lights and other anomalous marine phenomena was the *Marine Observer*. This is a publication from the United Kingdom that used to be published monthly and is now a quarterly. The publication focuses on meteorology and marine sciences. William Corliss refers to it numerous times in his book Lighting, Auroras, Nocturnal Lights, and Related Luminous Phenomena³. The two oldest references to the *Marine Observer* in Corliss' book date to 1924. One was about ball lightning and the other was about marine phosphorescence⁴. The University of Colorado study (lead by Dr. Edward Condon) that investigated UFO reports for the US Air Force also referred to the *Marine Observer* in their final report in 1968. In the chapter on Optical Mirage, William Viezee (a meteorologist from Stanford Research Institute) quotes from the *Marine Observer* to illustrate examples of mirages at sea⁵. He quotes from issues dating from 1951 through 1957. No reports from the *Marine Observer* were found in the Blue Book files.

2.2 Continental Defense and the US Navy Role

An excellent summary of the U.S. Navy's Role in Continental Air Defense was written by Captain Joseph F. Bouchard USN in the Naval War College Press⁶. The following section is a summary of the key points from Captain Bouchard's paper that are relevant in order to better understand UFO reports sent to Blue Book by the US Navy.

During the Cold War the US Military implemented several Continental Defense systems for early warning of potential air attacks from the Russians. From 1949-1954 a program called LASHUP provided air defense for California, the upper Middle West and the

Tennessee Valley. This system included early warning patrol by Navy radar picket destroyer escorts and PB-1W and PO-1W airborne early warning aircraft to guard the seaward approaches to the northeastern US. In 1951, the first air surveillance radar system for the entire northern approach to the US became operational and was known as the Pine Tree Line. In 1954, The Continental Air Defense Command (CONAD) was established and headquartered at Ent Air Force Base in Colorado Springs. The Eisenhower administration, however, was concerned about gaps in the US air defenses and started to build the Distant Early Warning (DEW) Line. The DEW line was completed across Alaska in 1953 and across northern Canada in 1956.

Since 1951, the Navy's role was to provide radar picket destroyer escorts (modernized with the latest air search radar) to conduct limited radar picket patrol off the East Coast of the United States and to extend radar coverage beyond the eastern end of the Pine Tree Line. In 1954, a system of two radar barriers was established to guard the Atlantic and Pacific flanks of the United States. The Navy took responsibility for the offshore barriers. These barriers were named the Atlantic and Pacific Contiguous Barriers. The Atlantic Contiguous Barrier stretched along the East Coast from Cape Cod to North Carolina. It consisted of five radar picket stations that were located about 300 nautical miles off the coast. The Pacific Contiguous Barrier stretched from Washington to central California. It consisted of five radar picket stations that were also about 300 nautical miles off the coast. All Navy efforts for Air Defense reported to CONAD. The radar picket stations originally consisted of converted Destroyer Escorts (DERs) and in 1960 they were replaced with radar picket ships (AGRs).

By 1955, it was recognized that the DEW line needed to be extended farther out at sea and that new Barriers were needed. The new Atlantic and Pacific Barriers in support of the DEW system were operational on 1956 and 1958 respectively. The Atlantic Barrier consisted of four radar picket stations at 250 nautical mile intervals from Newfoundland to the Azores. The Pacific Barrier extended from Midway Island in the central Pacific to Kodiak in the Aleutians. Five radar picket ships were stationed at 200 nautical mile

intervals in the Pacific Barrier. Any unidentified air contacts detected by the Atlantic or Pacific Barrier stations were passed on to the North American Air Defense Command (NORAD – established in 1957 to replace CONAD) headquarters for further evaluation.

By 1965, these sea based radar barriers became obsolete due to improvements in Air Force shore-based air surveillance radar. In September 1965, the Navy's role in continental air defense ended and these barriers were disestablished.

The DER's and AGR's radar picket ships' mission was, in order of priority:

- to provide early warning of air contacts approaching the north American continent,
- to provide surface and antisubmarine surveillance,
- to report weather conditions at their stations, navigational aid to civilian airliners and to assist in search and rescue efforts.

2.3 JANAP-146 Instructions and its Impact on Ships at Sea

The Joint Army-Navy-Air Force Publication (JANAP) number 146 consisted of instructions for military and civilian personnel on how to report sightings of enemy aircraft, missiles, submarines, surface vessels, and unidentified flying objects. The JANAP instructions evolved from ones used during World War II titled Communication Instructions for Reporting Enemy Sightings (CIRES)⁷. During the early years of the Cold War, the United States did not know the air offensive capability of the Soviet Union and did not have a sophisticated radar system to detect a potential surprise attack from the Soviet Union. As a result, military intelligence had to rely on numerous sighting reports from all parts of the country and its military services. JANAP-146's objective was limited to the reporting of information of vital importance to the security of the United States and later Canada. JANAP-146 was mainly concerned with potential enemy crafts and not with flying saucers. JANAP included Unidentified Flying Objects as a reported category because of the potential of identifying them as enemy crafts.

JANAP 146 procedures changed incrementally 5 times since their inception in 1948.

Table 1 shows the dates when the five versions of JANAP-146 were issued and the key differences in each version. The change that affected marine vessels for the first time was JANAP-146 version C. This version required all US Flag vessels, all fishing vessels of US registry, all US Government vessels, and all US military vessels to report information of vital importance to the US Navy. Before this version of JANAP, all intelligence reports were expected only for aircraft (military and civilian). Sighting reports made by waterborne sources were identified by the word MERINT. While those reports made from airborne sources were identified by the word CIRVIS. Sightings in the Atlantic Ocean were reported to the Commander Eastern Sea Frontier and sightings in the Pacific Ocean were reported to the Commander Western Sea Frontier. These Commanders then forwarded all airborne sightings and the waterborne sightings evaluated as unknown or hostile to the Commander, Eastern Air Defense Force or Western Air Defense Force.

Table 1: History and Evolution of JANAP-146

US Regulation	Date Issued	Key Differences
JANAP 146	October 1, 1948	<ul style="list-style-type: none">• Issued regulation and then it was tabled by Major General Cabell⁸
JANAP 146(A)	September 25, 1950	<ul style="list-style-type: none">• Start of CIRVIS reporting for commercial and military pilots⁹• Added UFOs to the list of sighting categories
JANAP 146 (B) ¹⁰	September 2, 1951	<ul style="list-style-type: none">• Not Available
JANAP 146 (C) ¹¹	March 10, 1954	<ul style="list-style-type: none">• Allowed Waterborne sources and added MERINT reports
JANAP 146 (D) ¹²	February 1, 1959	<ul style="list-style-type: none">• Integrated Canada into the reporting instructions
JANAP 146 (E) ¹³	March 31, 1966	<ul style="list-style-type: none">• Added that Photographs should be sent to the Director of Naval Intelligence• Added special reporting instruction for unidentifiable objects

In JANAP-146(C), all MERINT reports were sent first to the Navy Commanders of the Eastern and Western Sea Frontiers (COMEASTSEAFRON and COMWESTSEAFRON). COMEASTSEAFRON and COMWESTSEAFRON then passed all airborne sightings and only those waterborne sightings that were evaluated as unknown or hostile to Air Defense Forces.¹⁴ In February of 1959, JANAP-146 (D) changed the requirement that only airborne and unknown or hostile waterborne sightings had to be forwarded to the Air Defense Forces. In JANAP-146 (D), all MERINT reports had to be sent to the Commander in Chief of North American Air Defense Command (CINCNORAD), the Chief of Staff of the United States Air Force, the RACF Air Defense Command, and the Appropriate Canadian Flag Officer in Command.¹⁵ By 1966, in JANAP-146 (E), the list of military agencies in the US and Canada that required copies of the MERINT reports grew to include the Commander-in-Chief Strategic Air Command (CINCSAC) and Antisubmarine Warfare Forces in the Atlantic and Pacific Fleet.

2.4 Navy Instructions on UFO Reporting

On April 29, 1952, the Department of the Air Force issued Air Force Letter No. 200-5, which set forth Air Force responsibility and reporting procedures for information pertaining to UFOs. Henceforth, all incidents observed by Air Force personnel or received by any Air Force installation from a civilian source had to be reported in accordance with this letter. On September 25, 1952, the Navy issued a similar directive that commanded all naval installations to report sightings to ATIC and/or the Pentagon and Air Defense Command (ADC).¹⁶ The Navy instructions were titled OPNAV Instruction 3820 (OpNav: Office of the Chief of Naval Operations).

In the search through ship reports in Blue Book files, references to three Naval Instructions were found:

- OPNAV INST 3820.9
- CINCPACFLT INST 3820.3
- CINCLANTFLT INST 03360.2C

OPNAV 3820 was the umbrella instruction for the US Navy on UFO reporting. CINPACFLT INST 3820.3 was the instruction issued by the Commander in Chief of the Pacific Fleet in response to the higher level instruction. CINLANTFLT INST 03360.2C was the equivalent instruction issued by the Commander in Chief of the Atlantic Fleet. Since these OPNAV instructions preceded JANAP-146(C) in 1954, they were the first instructions issued to Navy ships to report unidentified flying objects. No copies of these three OPNAV Instructions have been found despite several attempts via Freedom of Information Act requests.¹⁷

Similar instructions were issued by other Navy commands. For example, the Commandant of the Potomac River Naval Command issued his own instruction PRNC 3820.1 on July 23, 1954, based on OPNAV Notice 3820 and on COMEASTSEAFRON Instruction 3820.2¹⁸. This instruction was very similar to AFR Letter 200-5.

2.5 US Coast Guard – Ocean Stations

Many of the US Coast Guard ships that reported UFO sightings to their Commands were ocean going cutters doing Ocean Station duty in the middle of the Pacific or Atlantic Oceans. Below is a brief summary of the history and role of Ocean Stations.

In 1946, the US Navy terminated its participation in Ocean Weather Stations and the US Coast Guard took over the responsibility. The Coast Guard started manning open-ocean stations and provided meteorological, oceanographic and search and rescue services. This service lasted until 1977, when increased aircraft reliability and improved electronics removed the need for the stations.

The first Ocean Stations started operating in the Atlantic Ocean. Subsequently, other Stations were added to the Gulf of Mexico and the Pacific Ocean. There were 9 ocean stations in the Atlantic and 6 in the Pacific (locations are listed in Table 2 below). All nine Atlantic stations were located in the North Atlantic. Three of the Pacific Stations were located about 1,000 miles West of three North American cities (Los Angeles, San

Francisco and Victoria, Canada). The other 3 Pacific stations were about 1,500 miles NE of Tokyo, 1,425 miles East of Tokyo and 450 miles SW of Tokyo. The early large sea-going cutters were old Navy Destroyer Escorts. Not only did they provide weather observation, but they also served as aids to navigation. They served as checkpoints for military and commercial maritime and air traffic and as communication relay stations for aircraft on transoceanic flights¹⁹. The radar and radio were manned 24 hours a day on these Ocean Stations. The Ocean Stations contacted passing aircraft and ships by radio and provided radar and navigation fixes.

Table 2: Coast Guard Ocean Stations²⁰

Station Code	Atlantic Ocean Locations	Station Code	Pacific Ocean Location
A	62° 00'N x 33° 00'W	N	30° 00'N x 142° 00'W
B	56° 30'N x 51° 00'W	O	40° 00'N x 142° 00'W
C	52° 45'N x 35° 30'W	P	50° 00'N x 145° 00'W
D	44° 00'N x 41° 00'W	S	48° 00'N x 162° 00'E
E	35° 00'N x 48° 00'W	T	29° 00'N x 135° 00'E
I	59° 00'N x 19° 00'W	V	34° 00'N x 164° 00'E
J	52° 30'N x 20° 00'W		
K	45° 00'N x 16° 00'W		
M	66° 00'N x 02° 00'E		

2.6 Summary of History

Since the inception of JANAP-146 in 1948, the Navy has had a role in providing intelligence on unidentified targets. However, the early Navy participation in JANAP was limited to sightings by Navy aircraft and not by ships at sea. It was not until 1952, via OPNAV Instruction 3820, that Navy ships were commanded to send UFO reports to the ADC, ATIC, and the Pentagon. By 1954, when JANAP 146 (C) was issued, all military, government, and merchant vessels had to report unidentified sightings to CONAD. 1954 was not only the year that CONAD was established but also the year when the Navy established the Pacific and Atlantic Contiguous Barriers. This does not mean that Navy

ships were not doing radar surveillance before 1954. Navy radar picket ships participated in the LASHUP program as early as 1949 to guard the seaward approaches to the northeastern US and this continued in 1951 to support the extension of the Pine Tree Line eastward. Nevertheless, these were pre-CONAD air defense programs and only these Navy ships had to report unidentified targets to the U.S. Air Force. After JANAP 146 (C), all Navy ships had to report unknown airborne targets to CONAD.

Since the scope of this study was in the Atlantic and Pacific oceans, USCG ships that reported UFOs were mainly ocean going cutters that were performing Ocean Station duty. The first USGC ship to report a UFO was from an Ocean Station in the Atlantic in 1952. This report, however, did not quote any specific instruction (Naval or JANAP). USCG Ocean Stations started in 1946 but were not part of the Continental Defense Plan. Officially, the USGC did not start sending reports to CONAD and Blue Book until 1954 when JANAP-146(C) included all government ships in the reporting instructions. By then, the Ocean Stations were a perfect source for visual and radar contact with unknown targets.

3 Methodology

The first step in the analysis was to generate the database. At the start of this research, no database existed which contained only Blue Book reports by ships. Thus, I had to go through all Blue Book reports and extract the relevant cases. To avoid reading every single case file in Blue Book, I went through two screening mechanisms of the Blue Book database.

First I screened all Blue Book cases using the Index to the Case Files of Project Blue Book compiled by FUFOR and Don Berliner in 1997. I read every case description in the Index and selected those that met the following criteria:

- In the column heading titled Nearest City, I selected those cases that stated an ocean, a sea, the name of a ship, the name of an island in the Pacific or Atlantic Ocean. Lakes and Rivers were excluded.
- In the column heading for the Nearest State or Country, I selected those cases that indicated the Pacific Ocean (P), the Atlantic Ocean (T), and the North Sea (EC).

One problem I found with these criteria was that USCG ships that have UFO sightings are usually indexed under the Homeport City of the ship. To try to solve this problem, I selected all reports that indicated USCG as a source of the report. Since the target of this study was UFO sightings at sea and not coastal or beach sightings, I decided not to review any Blue Book case reported in US Coastal Cities. The only exceptions were Hawaii, Alaska, and Puerto Rico. These States and US territory had headquarters for Navy and Air Force commands, and thus received numerous UFO reports from ships at sea.

Of the 14,613 entries in the FUFOR Index (which includes duplicate and information only entries), I ended up with 718 cases of UFO's reported at Sea. Unfortunately, the FUFOR Index does not say whether the UFO sightings over the Atlantic or Pacific were sighted from Ships or Aircraft. Thus, I needed to read every one of these 718 cases.

The second screening mechanism used was to review the monthly indexes included in the Blue Book files at the beginning of every month. I obtained copies of the microfilm rolls for all the relevant Blue Book files. At the beginning of almost every month, there is a summary list of the cases indicating where the incident took place and whether it was an official Blue Book case or Information Only. In every microfilm roll, I went through this list to check that the original screening of cases using FUFOR's Index was correct and to either add cases I missed or delete cases that were "Information Only" or ground visuals. Then I read every case that passed the 1st screening criteria plus any new ones that were added. After reading the case files, cases were removed from the database based on the following criteria:

- Removed cases that were not official Blue Book cases. These included all Information Only cases that Blue Book collected from the US Hydrographic Office, published books and magazines, and foreign/domestic newspaper clippings.
- Removed cases reported by USCG that were very close to the shore of the continental USA and were more appropriate as Ground Visuals.
- Removed cases that were reported under Atlantic/Pacific but were truly ground visuals from small islands. There were about 34 ground visual cases that were originally indexed under Pacific or Atlantic Ocean. These reports came mainly from islands like: Hawaii, Guam, Wake, Saipan, Tarawa Island, Cook Islands, Truk, Manus Island, Saipan Island, Midway, San Lorenzo Island, Yap Island, Johnston Island, and Azores. They included reports also from places like Keflavik, Iceland, and coastal reports from Florida, Virginia, and Maine.
- Removed cases reported in Pacific islands like Japan, Taiwan, and Philippines. These were considered ground visuals. The only exception was Hawaii, since many Navy and USCG ships were reporting their sightings via Hawaii.
- Removed cases reported in Atlantic islands like Cuba, Bermuda, and Bahamas. These were considered ground visuals. The only exception was Puerto Rico, which had several Navy and USCG ships that were operating from the island.
- Excluded ship sightings in the Mediterranean and Indian Ocean. Database focused only on the Atlantic and Pacific Oceans. Caribbean Sea and Gulf of Mexico were considered part of the Atlantic. Bering Sea and Sea of Japan were considered part of the Pacific Ocean.

I reviewed 80 Blue Book microfilm rolls and read every one of the cases that had passed the two screening criteria. All ship reports to Blue Book were printed for further analysis. Air visual reports were read and notes taken but these were not printed.

After the second screening was completed, the total number of cases reported in the Atlantic and Pacific decreased to 623. These were further segregated into ship visuals and air visuals. In the end, there were only 258 Blue Book UFO reports by ships in the Atlantic and Pacific Ocean.

After obtaining print copies of all UFO sighting reports from Blue Book that involved ships at Sea, a database was created with the following categories:

- Case #
- Blue Book Roll #
- Date (GMT)
- Time (GMT)
- Location (Longitude and Latitude)
- Ocean (Atlantic or Pacific)
- Name of Ship
- Reporting Agency (US Navy, US Coast Guard, or Civilian)
- Number of Objects
- Object Shape
- Object Size
- Object Lights/Color
- Object Motion/ Behavior
- Object Propulsion
- Distance to Object
- BB Classification
- Sighting Duration
- Number of Witnesses
- Who Reported
- Angle of Observation
- Course
- Reporting Method
- Rule Invoked

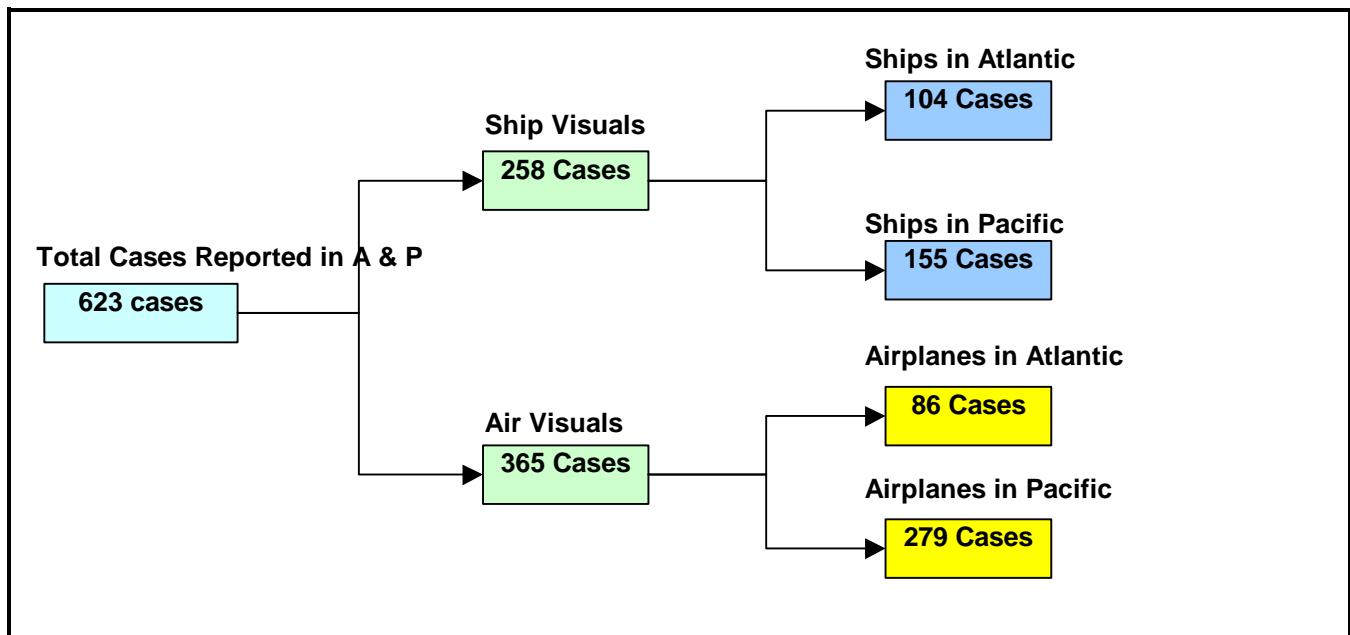
The full Blue Book ship database is shown in the Appendix.

4 Summary of Database

4.1 Number of Reports

According to Dr. Allen Hynek²¹, the total number of official Blue Book UFO reports was 13,134. Thus, the number of UFO reports by ships in the Atlantic and Pacific Oceans (258) represents only 2% of the total number of cases. This low percentage is not surprising given that the sea has the least population density compared to land and the air above land. The breakdown on UFO reports in the Atlantic and Pacific Oceans between ships and airplanes is shown in Figure 1. This breakdown shows that 40% of the ship reports were in the Atlantic and 60% were in the Pacific Ocean. Aircraft sightings also tended to be higher in the Pacific Ocean at 76%.

Figure 1: Number of UFO Reports to Blue Book over the Atlantic and Pacific Oceans by Ships and Airplanes



A trend plot of UFO sighting reports at sea (shown in Figure 2), shows that the pattern of reports from ships and aircrafts was similar but not identical. UFO reports by ships peaked in 1962 while UFO reports by aircraft had two peaks (one in 1961 and one in

1964). When the data is split between the Atlantic Ocean sightings and the Pacific Ocean Sightings, (Figure 3 and 4 respectively), the trend charts show a stronger correlation between ship and aircraft sightings in the Pacific Ocean than in the Atlantic Ocean. Figure 3 shows that in the Atlantic, ships had another peak in 1958 besides the peak of 1962. Whatever caused this 1958 peak in the Atlantic did not yield a similar response by airplanes.

Figure 2: UFO Reports to Blue Book over the Atlantic and Pacific Oceans

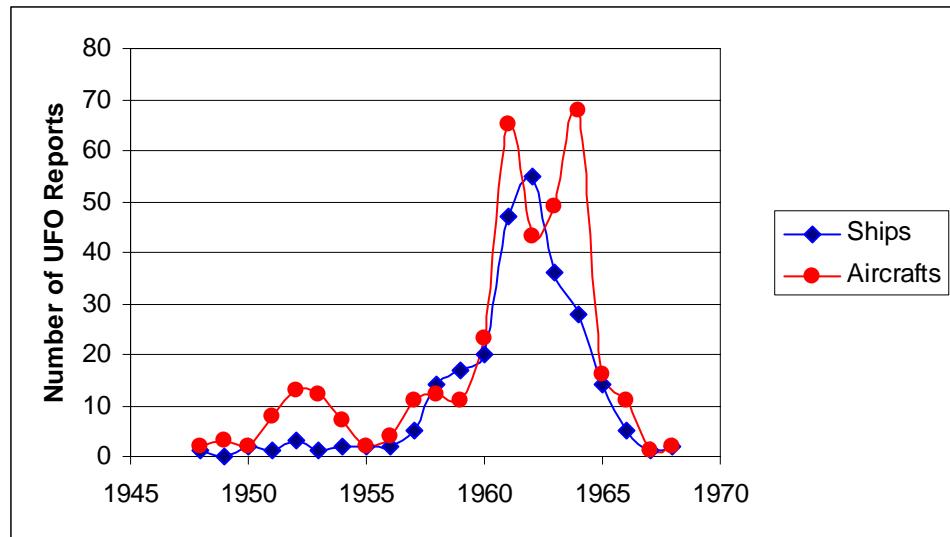


Figure 3: UFO Reports to Blue Book over the Atlantic Ocean

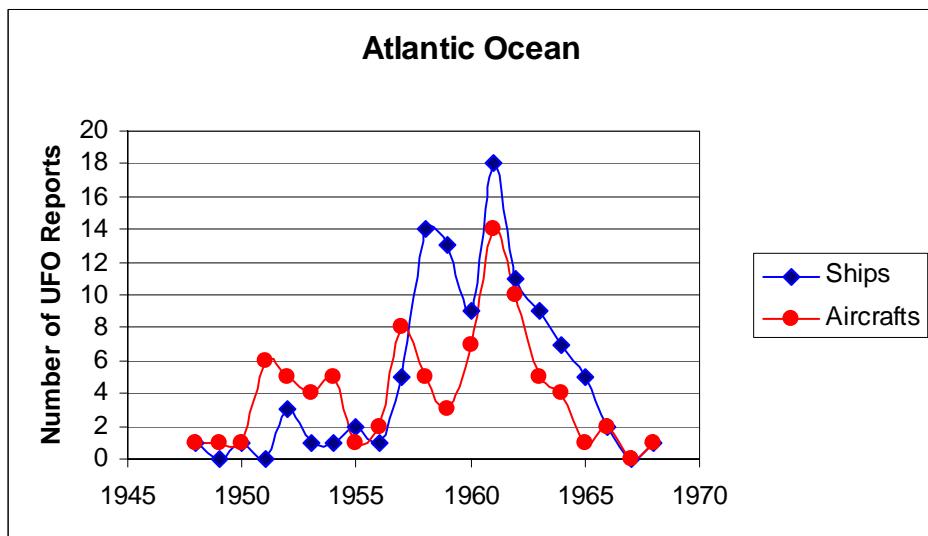
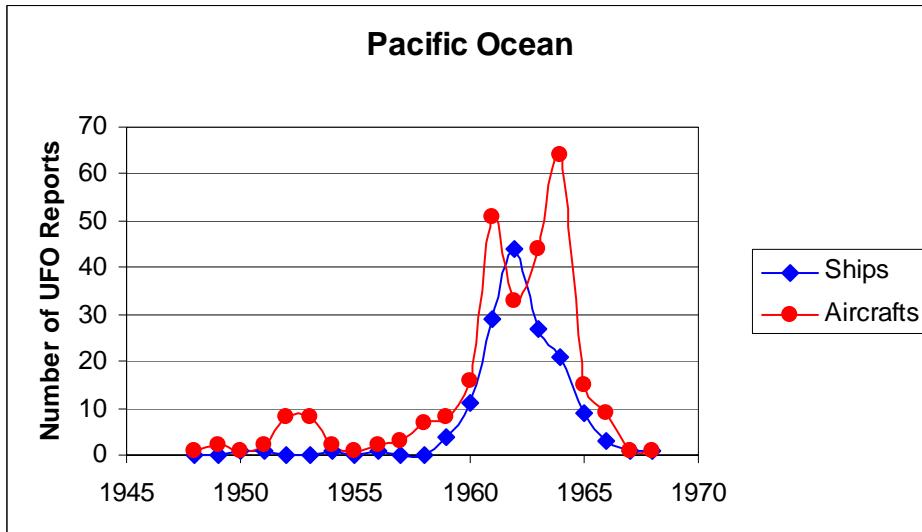


Figure 4: UFO Reports to Blue Book over the Pacific Ocean



4.2 Blue Book Explanations for UFO Reports

Of all the UFO reports over the Atlantic and Pacific Oceans reported by ships, only 5 cases were categorized as unknown by Blue Book. This represents about 2% of all ship cases. The air visual cases over the Atlantic and Pacific included 7 Blue Book unknowns (also about 2% of their total). The five Blue Book unknowns reported by ships are listed in Table 3 below. None of these Blue Book unknown cases were reported by the US Navy.

Table 3: Blue Book Unknowns Reported by Ships in the Atlantic and Pacific Oceans

Date	Time	Location	Ship Name	Type of Ship
04-Aug-50	10:00 EDT	North Atlantic	MV Marcalia	Civilian
14-Sep-52	22:13 local	North of Island of Bernholm in North Atlantic	Danish Destroyer - Operation Mainbrace	Danish Navy
12-Aug-54	12/05:55 GMT	Ship anchored off Yoron-Jima	SS Docteur Angier	Civilian
19-Nov-64	11:00 GMT	Pacific Ocean	USS Matagorda	US Coast Guard
27-Jun-66	04:00 Local	Pacific Ocean	SS Mt. Vernon Victory	Civilian

The explanations given by Blue Book for the 258 UFO reports by ships at sea were diverse. Figure 5 shows the type of explanation given by Blue Book per year for the cases. Figure 6 shows the distribution of these explanations by year. 1949 was the only year where a ship did not report a UFO sighting either in the Atlantic or Pacific Oceans. It is of interest to note that the main driver for the peak reports in 1962 was the number of satellites being reported as UFOs. Blue Book started identifying UFOs as satellites in 1960 and by 1962, 32 of the 55 cases were explained as satellites (58% of the cases that year). After 1962, the number of reports reaching Blue Book that matched the description of a satellite started to diminish until it reached zero in 1967. The satellite explanation was the most common for UFO reports at sea. Satellite IFOs represented 36% of all the explanations given by Blue Book for ship UFO reports. It was followed by Insufficient Information (22% of ship cases), Meteors (18% of ship cases), and Missile/Rockets (10% of ship cases). The remaining explanations included balloons, aircraft, flares, stars/planets, auroras and other unique events.

Figure 5: UFO Reports to Blue Book over the Pacific Ocean

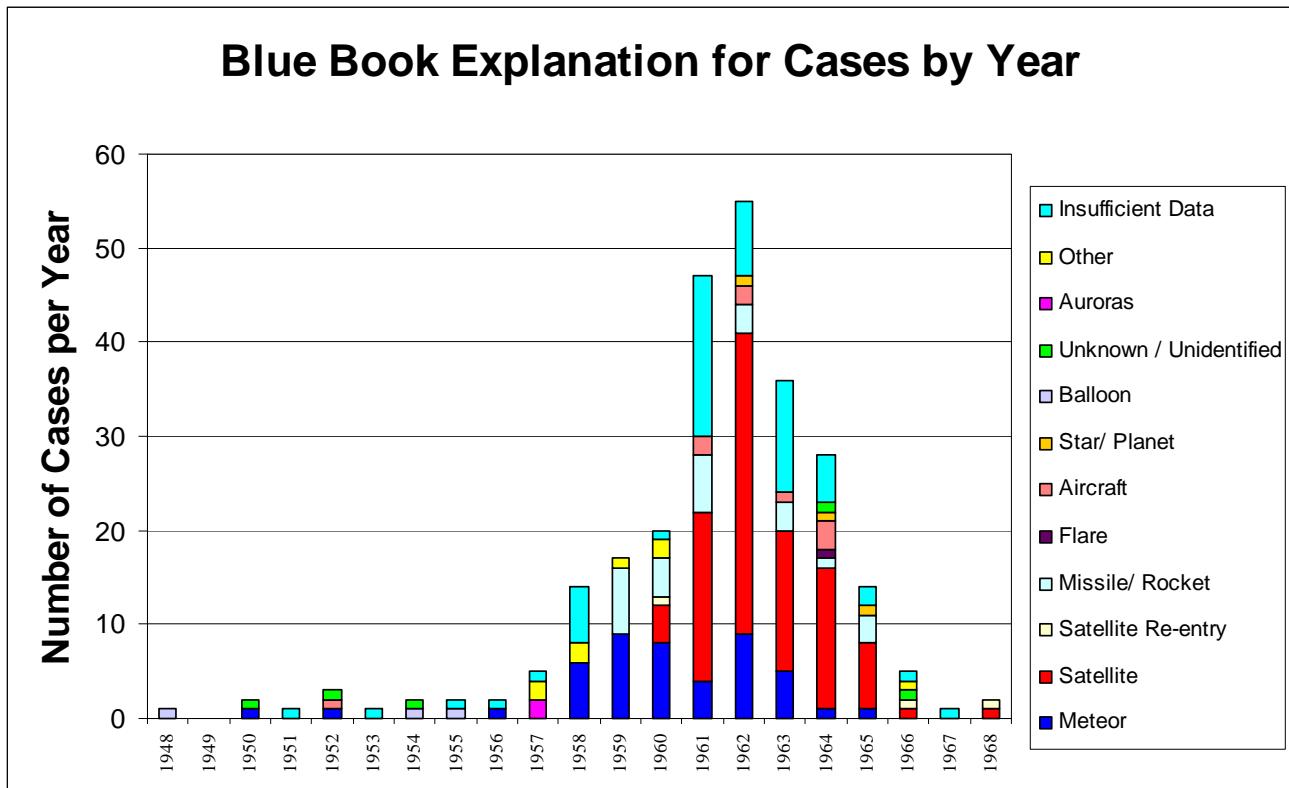
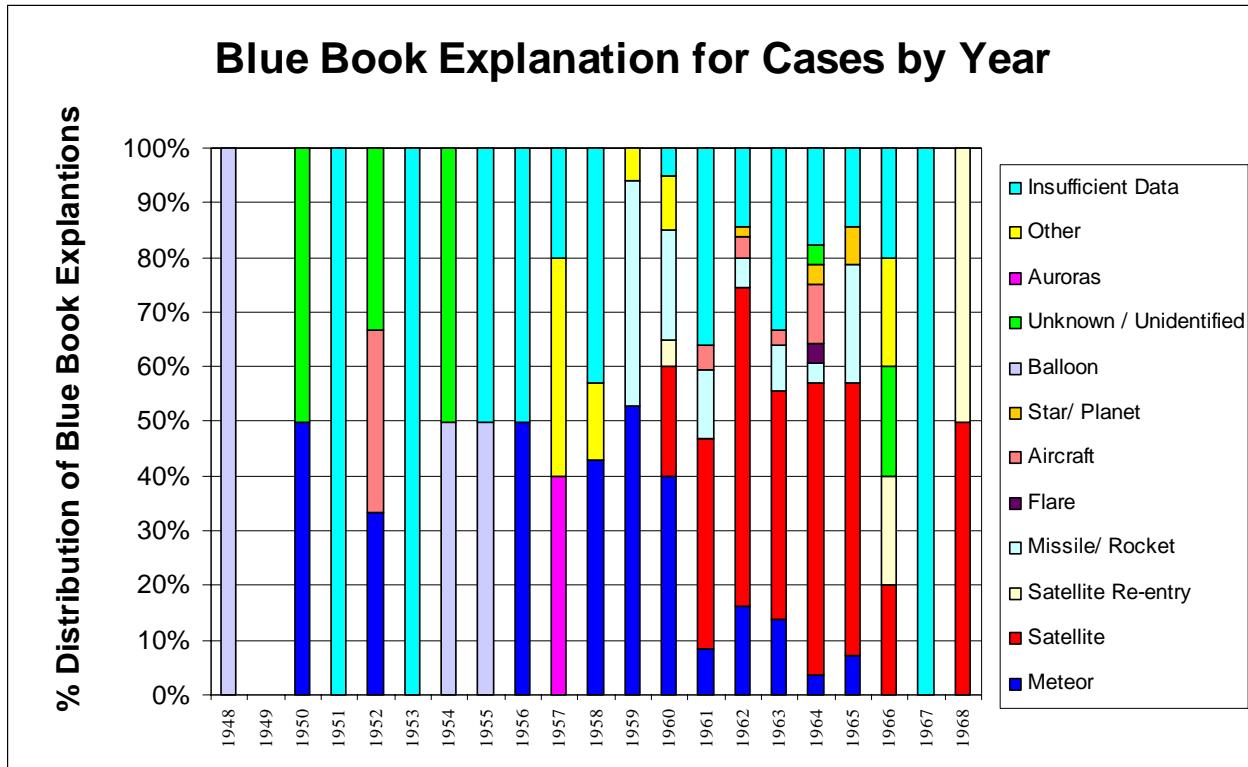


Figure 6: UFO Reports to Blue Book over the Pacific Ocean



4.3 Description of UFOs Reported

The descriptions of the UFO reported to Blue Book were deconstructed into two descriptive codes. One code was used to describe the appearance of the object and another code was used to describe the behavior of the object. The appearance of the object was divided into six distinct types. These six UFO types are described in Table 4 and were listed in ascending order of complexity. An additional category was added called Radar, for those cases where the UFO was not observed (and thus no appearance category is appropriate) but a radar contact was made.

Table 4: UFO Descriptions by Appearance Type

Type	Description of Appearance
1	Single light
2	Multiple colored lights within same object
3	Single light pulsating or blinking
4	Multiple lights pulsating or blinking
5	Multiple independent lights
6	Distinct shape (disk, rectangular, rocket, etc.)
Radar	Radar Case

The behavior of the object was also divided into six distinct types. These six UFO behavior types are described in Table 5 and were listed in ascending order of complexity.

Table 5: UFO Descriptions by Behavior Type

Type	Description of Behavior
1	Stationary
2	Fly by in straight or orbital course
3	Fly by and change course
4	Circling motion
5	Fly by and hover/stop
6	Fly by, hover/stop, and then fly again

The type of UFO reported to Blue Book by ships did change over time but it was always dominated by the Type 1 sighting. Figure 7 shows the 20-year trend. 78% of the UFO cases reported to Blue Book by ships were of Type 1 appearance or simply single nocturnal lights. Figure 8 shows the distribution of Appearance Type by year. It is interesting to note that before 1958, about 50% of the UFO reports by ships were of Type 6. After 1958, with the flood of UFO reports by Satellites and meteorites, these Type 6 reports were buried.

Figure 7: Description Type of UFO Reports by Year

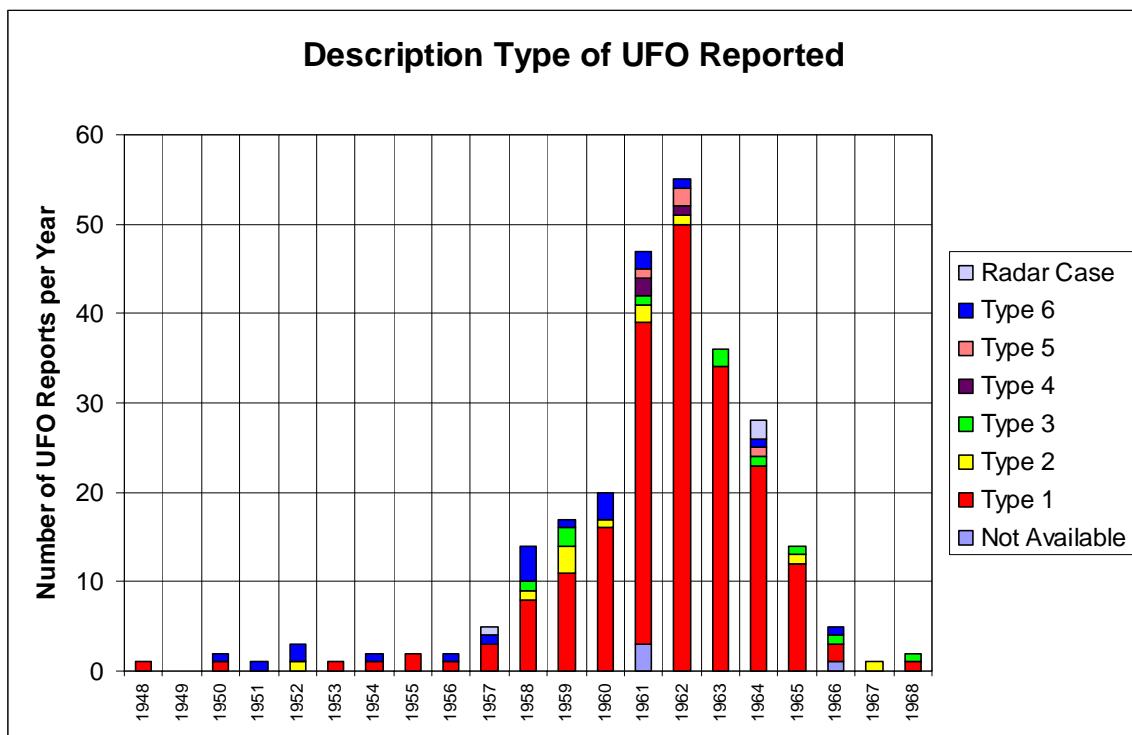
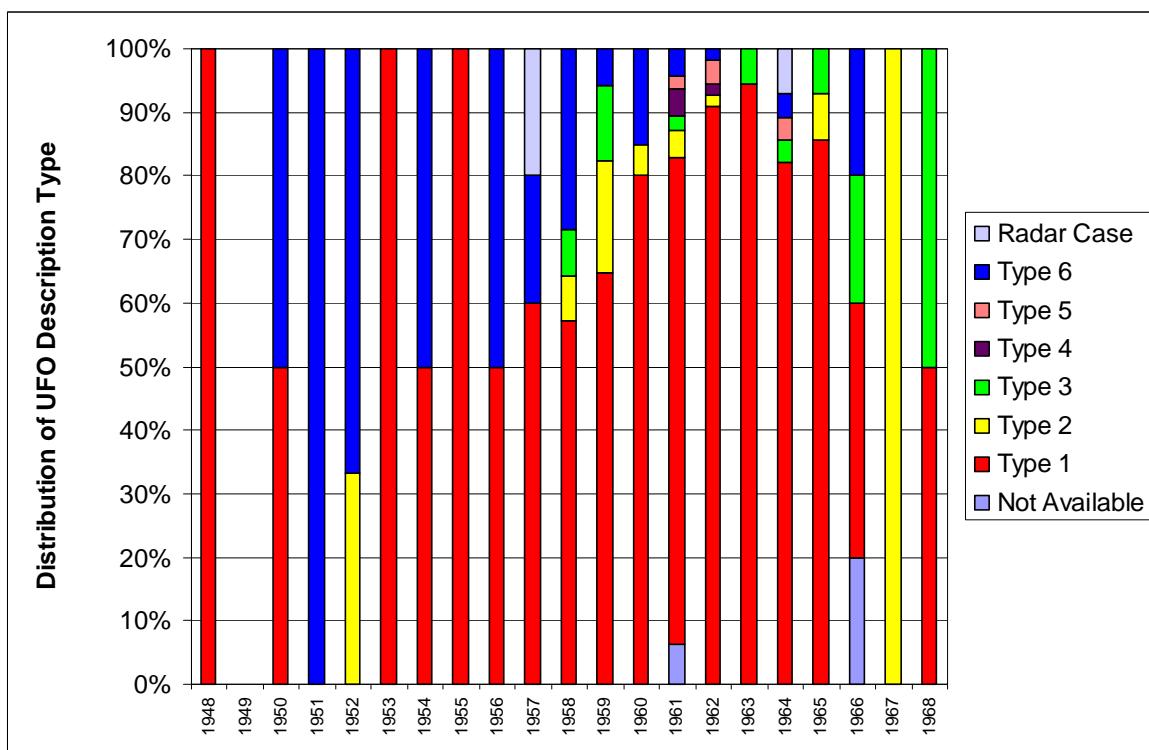
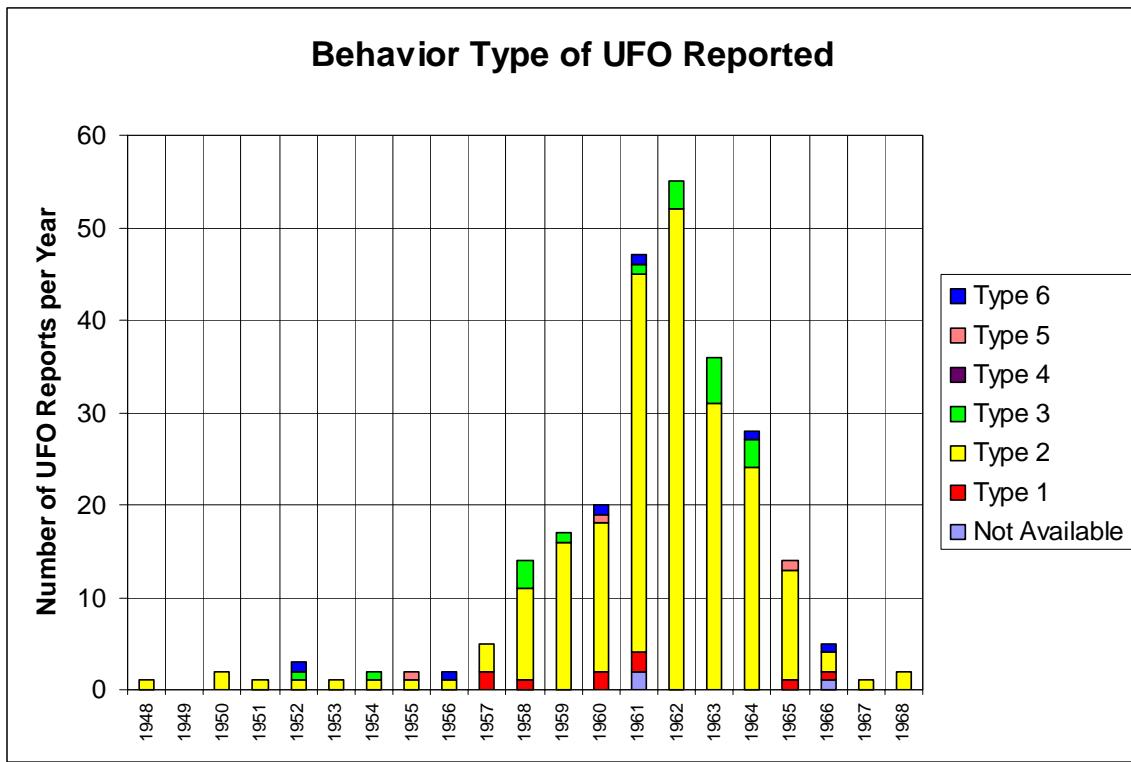


Figure 8: Distribution of UFO Appearance Type by Year



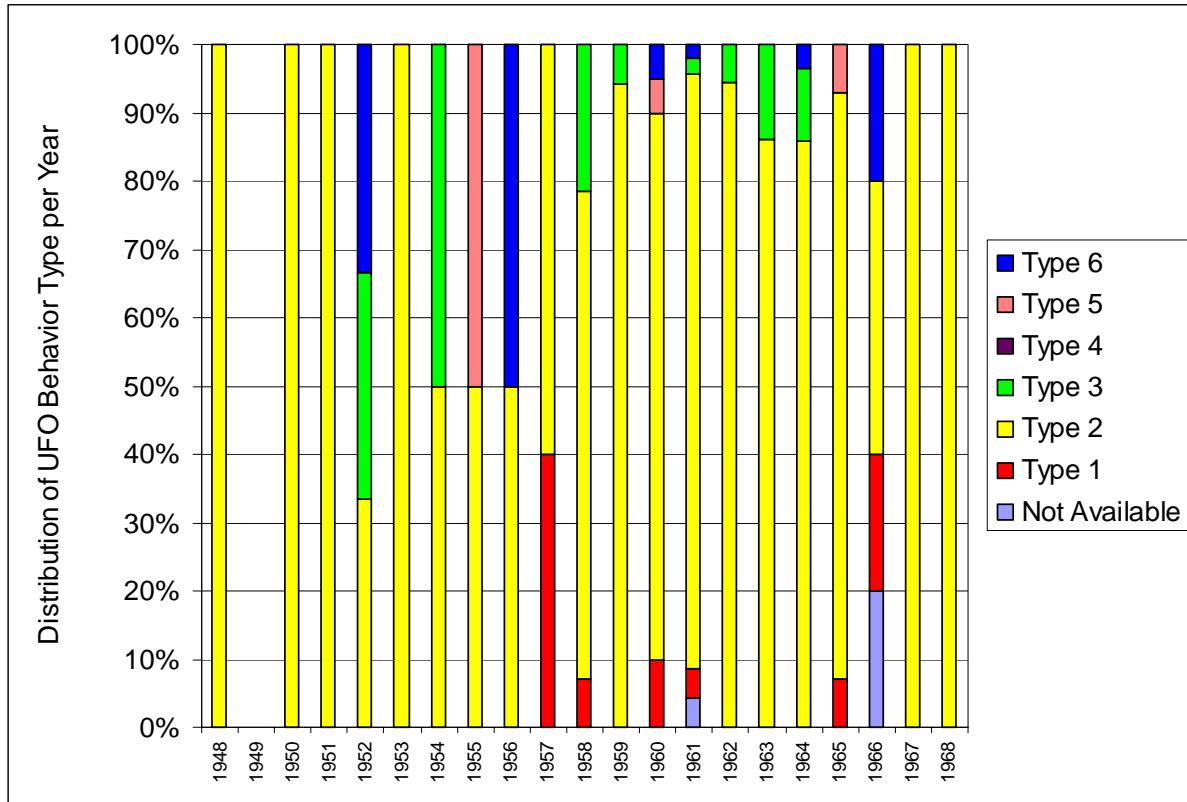
The behavior of the UFO in the majority of ship reports was that of an object flying by in a straight or orbital course. This type of behavior (Type 2) was reported in 85% of the UFO reports by ships. No reports indicated a circling motion and very few reports indicated a stationary object. Figure 9 shows the number of reports by year and by Type of Behavior.

Figure 9: Behavior Type of UFO by Year



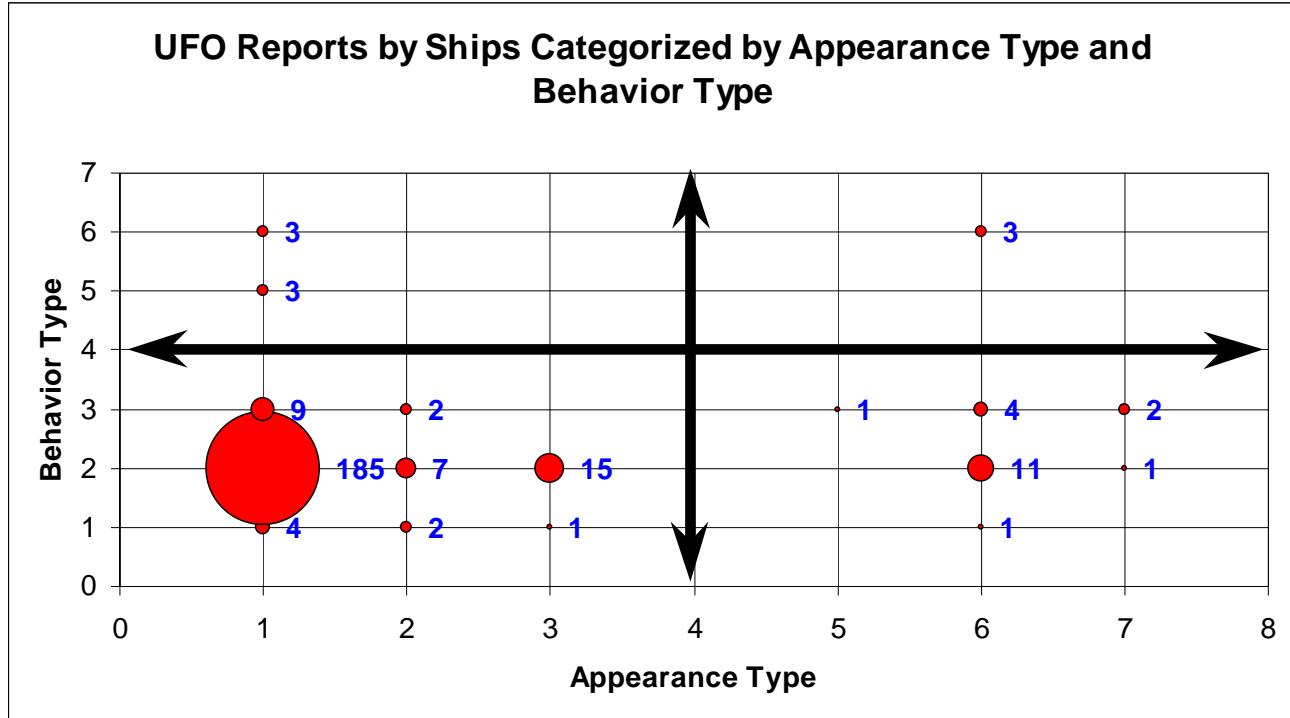
The distribution of UFO behavior by year (shown in Figure 10) also shows that the dominant behavior every year was Type 2. The most complex type of behavior (Type 6), where the object flies by, hovers, and then continues, was only reported in six years (1952, 1956, 1960, 1961, 1964, and 1966).

Figure 10: Distribution of Behavior Type of UFO by Year



In order to identify the overall complexity of the UFO reports sent to Blue Book by ships; a matrix was created whereas Behavior Complexity is plotted on the Y-axis and Appearance Complexity on the X-axis. The matrix was split into four quadrants at the Type 4 Appearance level and the Type 4 Behavior level. The resulting matrix is shown in Figure 11. The numbers shown in the figure represent the number of cases that fit the two complexity parameters in the graph. Figure 11 shows that the majority of the cases (about 71%) were describing Type 1 appearance and Type 2 behavior (a single nocturnal light moving in a straight course or orbital course). Most of the UFO reports were of low complexity and fell on the lower-left quadrant. The cases with highest complexity fell in the upper-right quadrant. But only 3 cases met this description (case 7, 65, and 251 of the database). These 3 cases were explained by Blue Book as aircraft, 1960 epsilon Reentry, and Cosmos-53 Satellite decay.

Figure 11: Complexity Matrix for Descriptions of UFO Reports



4.4 Agency Who Reported UFOs to Blue Book

Agencies who reported UFOs to Blue Book were divided into three broad categories: US Navy, US Coast Guard, and Civilian. The Civilian category included any merchant, research or pleasure vessel (foreign or domestic) whose UFO report reached Blue Book. There were only 2 reports that did not fit into these three categories: a report from the Danish Navy and a report from the Brazilian Navy. These two reports were placed in a category called “Other”. Among the 258 Blue Book cases involving ships, 43% were reported by the US Navy, 37% by civilians, and 19% by the US Coast Guard. Figure 12 shows the number of cases per year reported by each agency to Blue Book. Figure 13 shows how the percent distribution of marine agencies reporting UFOs to Blue Book changed over time.

Figure 12: Agency Who Reported UFO to Blue Book

Agency Who Reported UFO to Blue Book

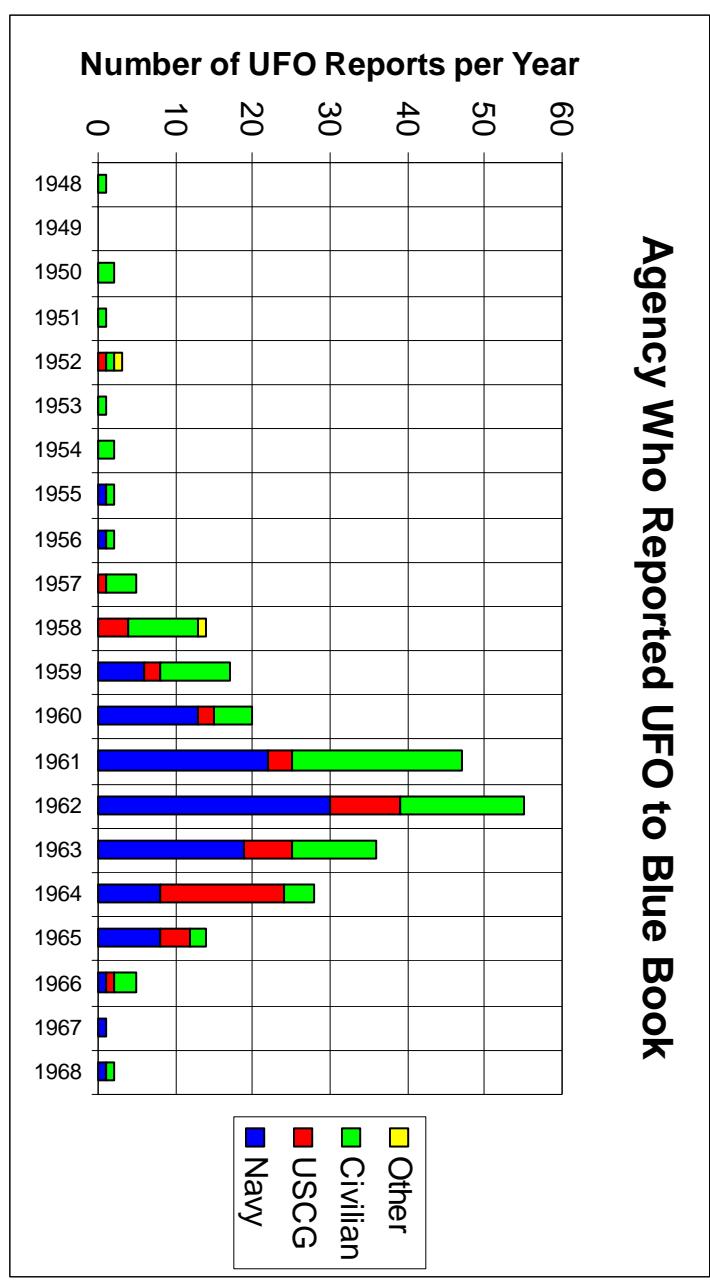
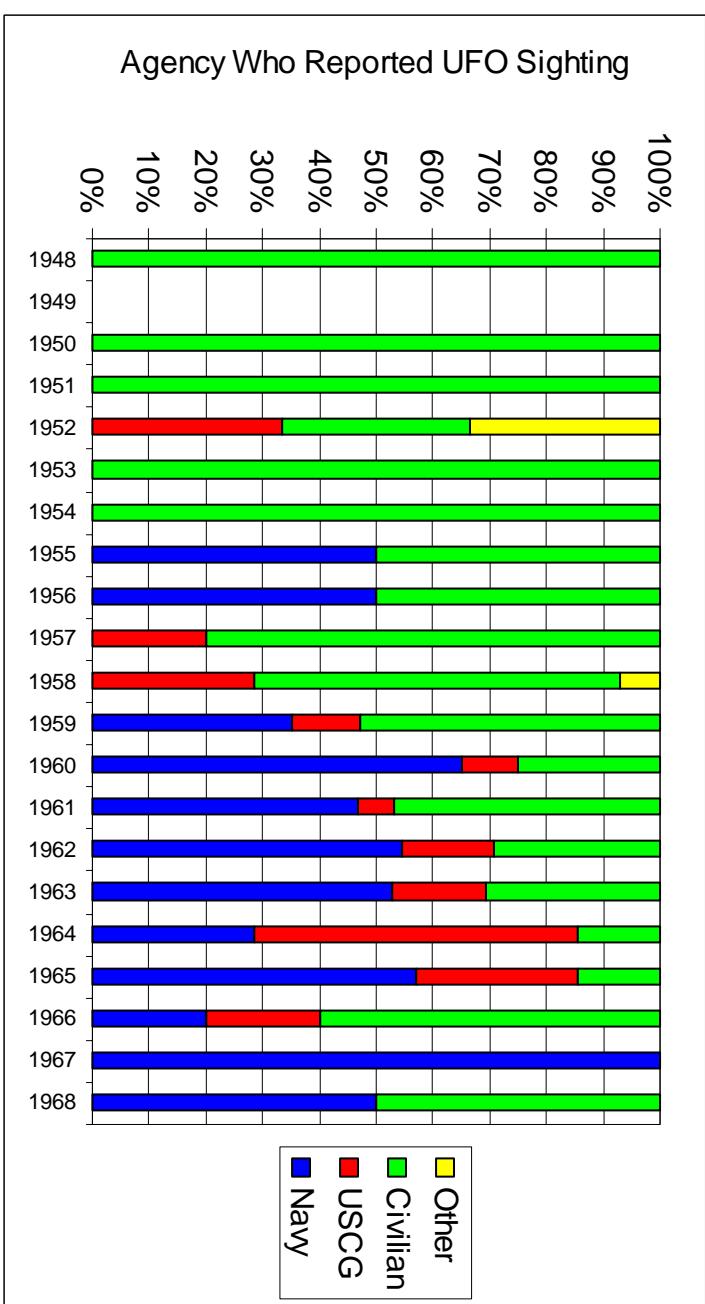


Figure 13: % Distribution of Agency Who Reported UFO to Blue Book



4.5 Quality of the Blue Book Reports

To better understand the investigation process used by Blue Book, it was deemed important to measure the quality of the information content received. Table 6 shows the information required in JANAP's CIRVIS/MERINT reports and compares it to the information required by Air Force Regulation 200-2. Table 6 shows that the quantity and quality of the information required by JANAP was not sufficient to make a thorough evaluation. Moreover, a key piece of information was missing from the JANAP instructions: the duration of the sighting. Reporting the duration of sighting was part of the Air Force Instructions but not of JANAP's²².

Those reports that did not meet the minimum information requirements of a standard JANAP-146 UFO report and did not provide the time duration of the sighting were categorized as Poor. Those reports that contained the information required by JANAP-146 plus the duration of sighting were categorized as Fair. Those reports that exceeded these minimum information requirements and included other documentation and witness interviews were considered Good. For example, a report that did not document any one of the following items: the duration of the sighting, direction of travel, angle of observation, location, or time, was considered a Poor Report.

The majority (64%) of the reports sent to Blue Book by ships was of Poor quality. While 32% of them were of Fair Quality, only 2% of them were of Good quality and provided additional documentation of the UFO incident. Figure 14 shows the number of UFO reports per year based on the Report Quality Type. Figure 15 shows how the distribution of Report Quality changed over the years. In summary, most of the reporting agencies did not follow the JANAP-146 procedures by the book since the majority of the reports were incomplete.

Table 6: Information Required in JANAP-146 MERINT Report

Information Requested	JANAP 146 MERINT Reports	AFR 200-2 Instructions
1. Name and call letters of reporting ship	X	X
2. Category of object sighted (aircraft, vessel, missile, submarine, UFO, etc.)	X	X
3. Number of objects sighted	X	X
4. Size	X	X
5. Shape	X	X
6. Type of propulsion	X	
7. Ship's position at time of sighting	X	X
8. Date and Time of sighting (GMT)	X	X
9. Altitude of object (Low, Medium or High)	X	X
10. Direction of Travel	X	
11. Speed of object	X	
12. Object identification or Insignia	X	X
13. Conditions of Sea and Weather	X	X
14. Color of Object		X
15. Formation, if more than one		X
16. Tail, trail, or exhaust, including size of same compared to size of object		X
17. Sound		X
18. Angle or elevation and azimuth of object when first observed		X
19. Angle or elevation and azimuth of object upon disappearance		X
20. Description of Flight path and maneuvers		X
21. How did the object disappear?		X
22. How long was the object(s) visible?		X
23. Optical aids used		X
24. Light conditions		X
25. Observer Identification (name, age, occupation or military grade, and estimate of reliability)		X
26. Existence of any physical evidence, such as materials and photographs		X
27. If sighting was electronic, specify type of radar		X

Figure 14: Quality of Blue Book Reports

Quality of Blue Book Report

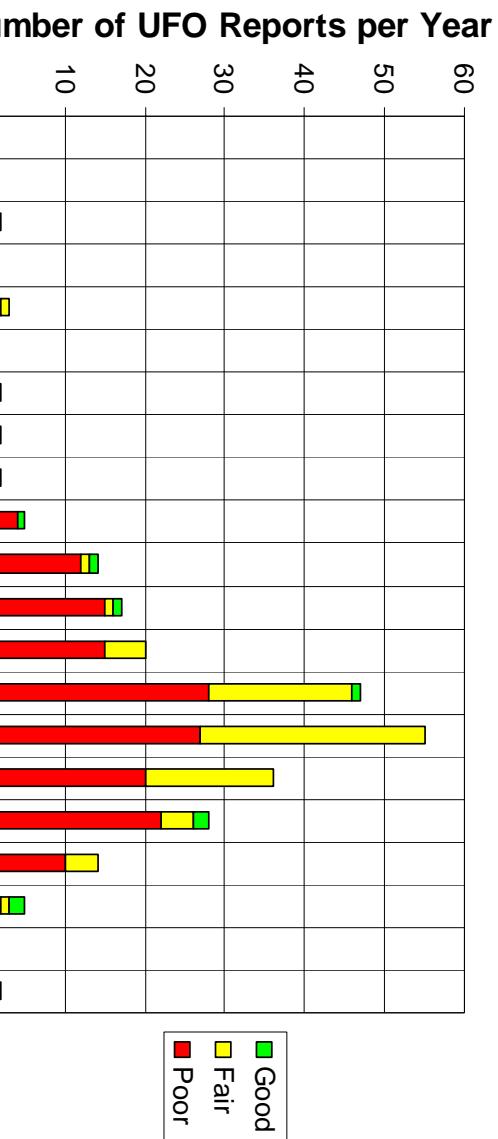
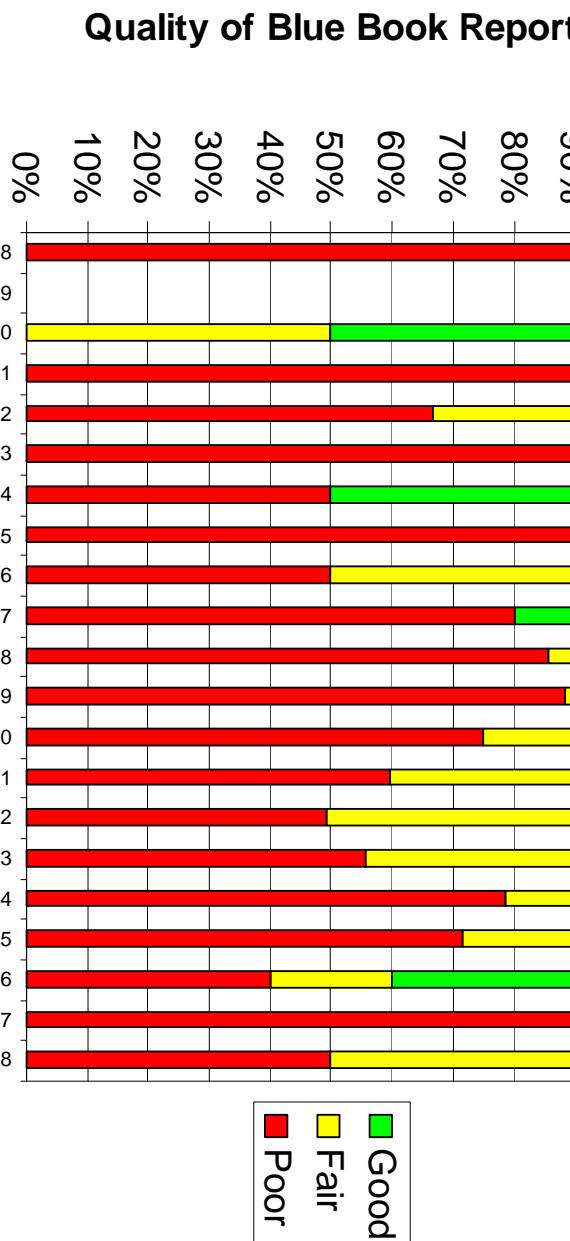


Figure 15: Quality of Blue Book Reports



4.6 UFO Reporting Instructions Used by Agencies

UFO reports from ships arrived to Blue Book via numerous routes and instructions. The most common (40% of total) route was via MERINT reports per JANAP-146. The next most quoted regulation was OPNAV Instruction 3820. Many reports that arrived at Blue Book did not quote a regulation, especially those by civilian ships. The annual trend and distribution in UFO regulation usage by ships is shown in Figure 16 and Figure 17.

The first MERINT report that reached Blue Book occurred in 1957. This first MERINT report was sent on November 5, 1957, by civilian ship *SS Hampton Roads*, which was located SSW of New Orleans. MERINT reports reaching Blue Book peaked in 1961 and then continued until 1968. Before 1957, there were very few reports from ships and these were made mainly by civilians directly to the US Coast Guard or Air Force (74% of all ship reports to Blue Book were by civilians from 1948-1957).

The first report to Blue Book by a US Navy ship was in April 7, 1955. A telegram was sent by CTG 45.2 (Commander Task Group in the Atlantic) to COMCARIBSEAFRON (Commander Caribbean Sea Frontier), but no regulation was mentioned in that report. Since copies of the telegram were sent to Air Defense Command at Ent Air Force Base and to ATIC, it appears that this was an OPNAV regulation and not a MERINT report.

The first mention of the OPNAV regulation was in January 21, 1956. The District Intelligence Officer (6th Naval District) got the UFO report information from the Log of a civilian Danish ship. His intelligence report referred to ONI Instruction 03820.19B and ONI Instruction 08320.17C. The first report sent by a Navy ship, invoking directly OPNAV Instruction 3820 was in May 10, 1960 by the USS Navasota in the Pacific. This Navy oil tanker sent its report to the PACAF quoting OPAVINST 3820.9 and CINPACFLTINST 3820.3

If we look at the percentage distribution of reporting instructions invoked by the US Navy, US Coast Guard and Civilians we get a better picture of how Blue Book was receiving its reports from ships at sea. Figures 18, 19, and 20 show the percent distribution of reporting instructions used by the Navy, Coast Guard and Civilians respectively. These charts show that the US Coast Guard relied most heavily on JANAP-146 for reporting sightings to Blue Book. 71% of all US Coast Guard reports invoked JANAP-146, while the Navy only invoked it in 21% of its reports. Civilians also invoked JANAP-146 frequently with 48% of their reports quoting JANAP-146. Since merchant vessels were independent entities and not organized into a command like the Navy or Coast Guard, they tended to have more diverse mechanisms to report sightings to Blue Book. Civilians could contact the US Coast Guard, the US Air Force, the Hydrographic Office or other government agencies. US Navy ships, on the other hand, invoked mainly the OPNAV Instructions (36% of Navy reports) and JANAP Instructions (21% of Navy reports). Unfortunately, 36% of all Navy ship reports did not indicate which regulation they were invoking to send the report to Blue Book.

Figure 16: UFO Reporting Instruction used by Agencies

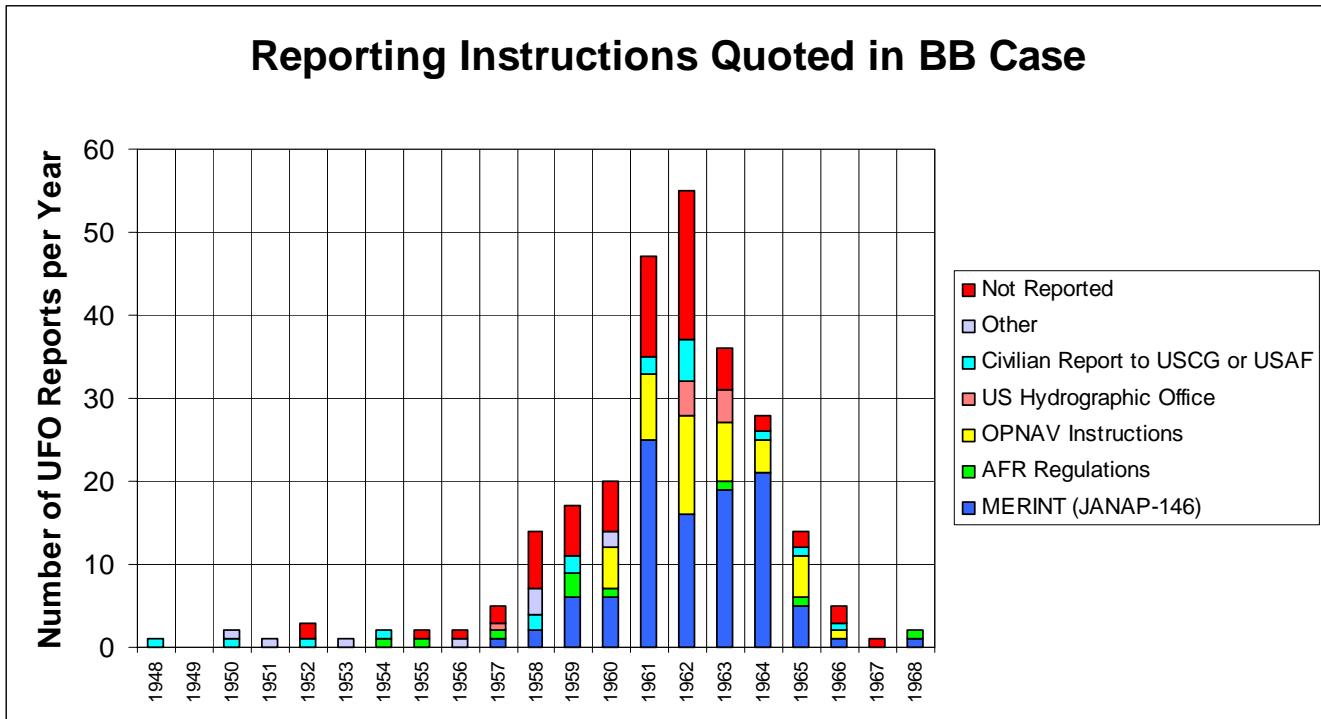


Figure 17: % Distribution of UFO Reporting Instruction Use per Year

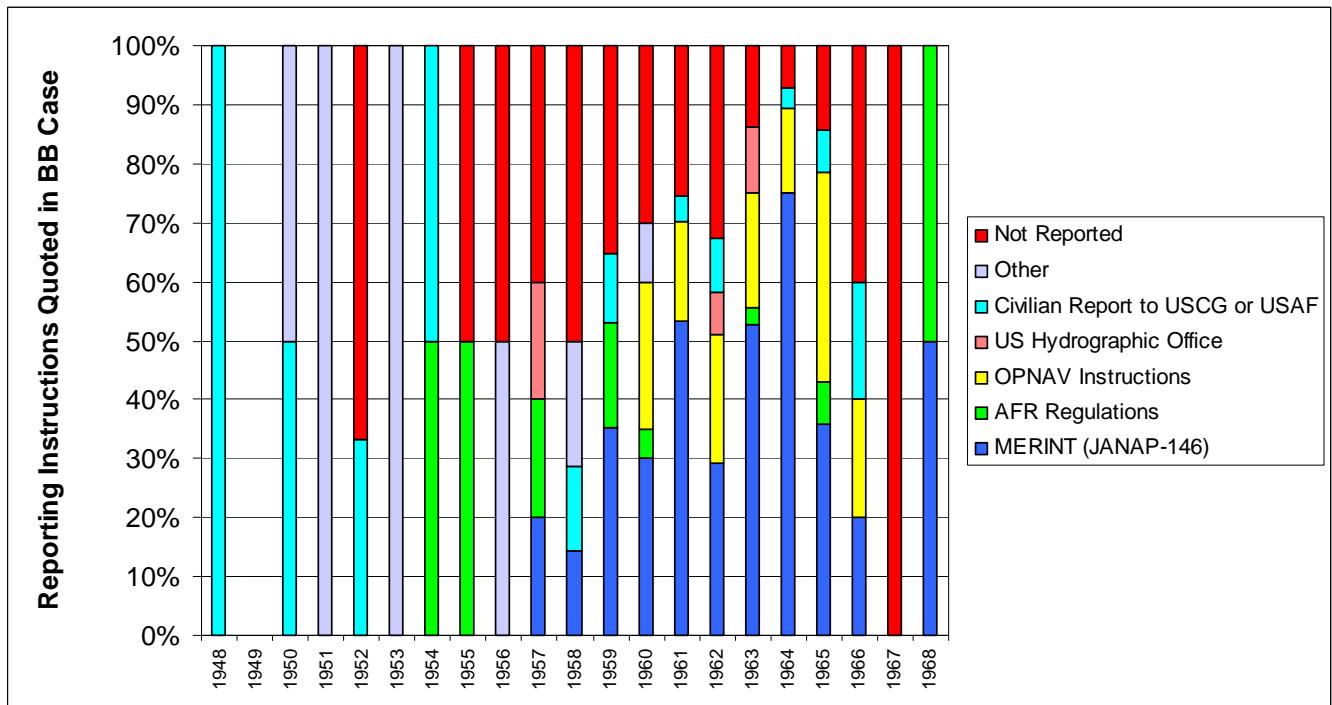


Figure 18: Distribution of Rules Invoked by US Navy in Reporting UFOs to Project Blue Book (1948-1968)

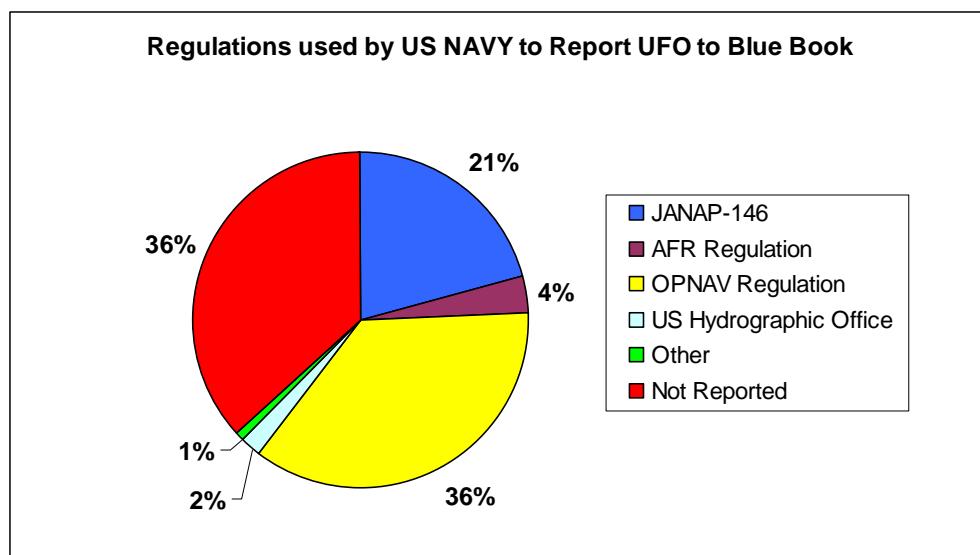


Figure 19: Distribution of Rules Invoked by US Coast Guard in Reporting UFOs to Project Blue Book (1948-1968)

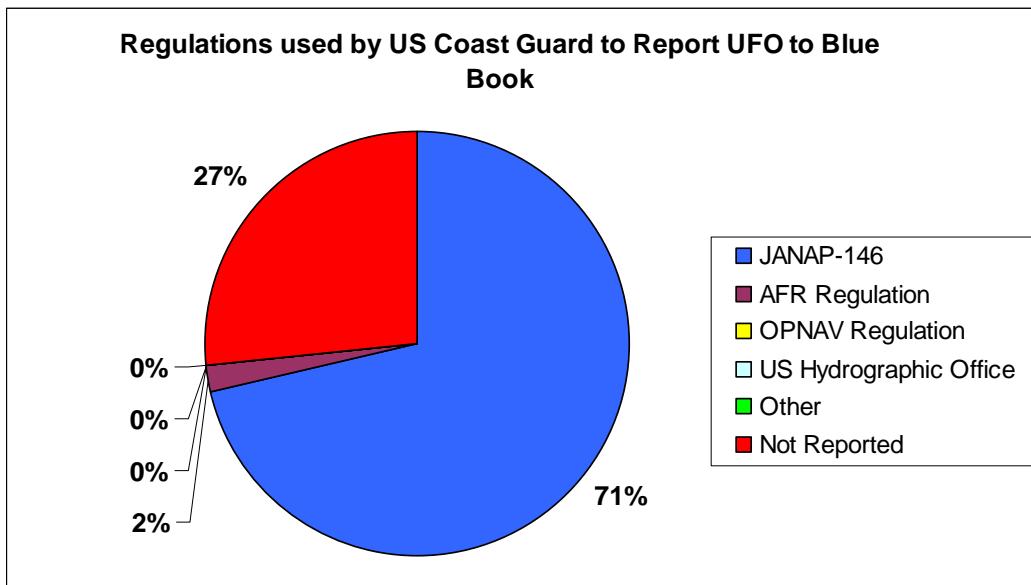
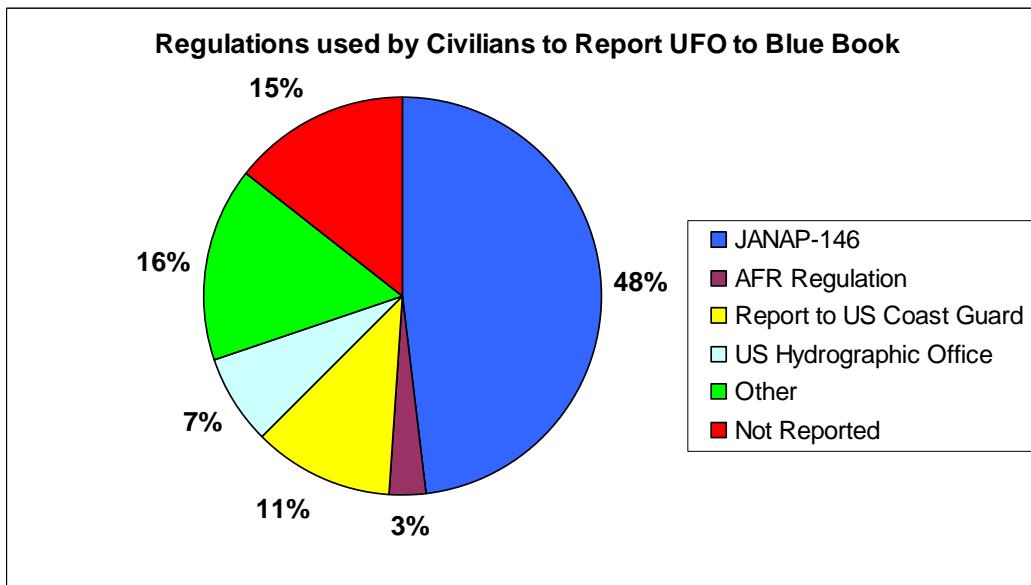


Figure 20: Distribution of Rules Invoked by Civilian Ships in Reporting UFOs to Project Blue Book (1948-1968)



5 Interesting Cases

Amongst the 258 ship cases reported to Blue Book in the Atlantic and Pacific, there were a few (13 cases) that were not easily explained and the author found interesting. These cases are described in more detail below. Not all unknown/unidentified cases made it to this short list. For example, the Trindade Island case of 1958, which was considered a Hoax by Blue Book, is still one of the best unexplained UFO cases involving ships. The case was not listed because there is plenty of documentation already published for this case²³. Other Blue Book unknowns were not deemed that interesting after reviewing the case files.

5.1 MV Marcala - August 4, 1950

At 10 AM EDT in the North Atlantic, 3 officers (Master, Chief Mate, and Third Mate) of the MV Marcala saw an unidentified elliptical object approach the ship from the SW and heading NE. The object's direction was opposite that of the ship. According to the Master, the closest the object passed the ship was 1,000 ft. The Chief mate and Third Mate, however, thought the object was over 10 miles away. All witnesses, however, agreed that the object was no more than 100 ft over the sea level. Speed estimates ranged from 25 mph to 500 mph depending on the witness testimony. The weather was clear and visibility was 14 miles. The object was described as ovular, cylindrically shaped, and elliptically shape like half an egg cut lengthwise. The object's color was described as shiny aluminum color that sparkled in the sunlight and also as metallic white. All 3 witnesses described the object having a rotary motion and wobbling motion. The duration of the sighting was between 15 seconds and 1.5 minutes. USAF Intelligence Officers interviewed all witnesses.

Blue Book conclusion: Unknown

5.2 SS Docteur Angier - August 12, 1954

At 20:55 local time near the Yoron-Jima Island in the Pacific Ocean, two civilian witnesses saw a 100-ft diameter disk approach their ship from the NE. The two witnesses (Mr. Percharde and his assistant Kosei Nakamoto) were on the deck of SS Docteur Angier when they were first attracted to a thin line of blue light in the sky about 300 ft over sea level. As the light approached the ship, it became an ellipse and as it came directly over the ship it became a circle. The center of the disk was jet black and was surrounded by an annular ring. The width of the annular ring was blue in color and its inner edge was pink. Its 100 feet diameter was estimated when the object flew over the ship. After the object reached the ship, it rose vertically and disappeared into clouds at 2,000-ft elevation. Both witnesses were interviewed by USAF Intelligence. The USAF intelligence officer who prepared the Air Intelligence Information Report drew a sketch of the sighting based on the interrogations of the two witnesses. Figure 21 shows the diagram made by the US Intelligence Officer to describe this UFO sighting.

Blue Book Conclusion: Unidentified

5.3 US CTG 45.2 – April 7, 1955

At 21:15 GMT between the Atlantic Ocean and the Caribbean Sea (east of Puerto Rico), a circular bluish-silver object was seen by the US Navy Command Task Group 45.2. About 40 men saw the object and it was in view for about 30 seconds. The object size was estimated to be larger than the moon. It hovered for about 10 seconds and then departed in a southwestern direction.

Blue Book Conclusion: Insufficient Data

Figure 21: Diagram of UFO Sighting from SS Docteur Angier on August 12, 1954²⁴

FORM 112 - PART II APPROVED JUNE 1945		UNCLASSIFIED CLASSIFICATION		
AIR INTELLIGENCE INFORMATION REPORT				
		REPORT NO.	PAGE	OF
				PAGES

DIAGRAM 1:

ACTUAL SIZE AT FIRST SIGHTING

SHAPE AS OBJECT APPROACHED

SHAPE OF OBJECT DIRECTLY OVERHEAD

ATIC

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE ACT 50 U.S.C. § 31 AND 31 AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. IT MAY NOT BE REPRODUCED IN WHOLE OR IN PART, BY OTHER THAN UNITED STATES AIR FORCE AGENCIES, EXCEPT BY PERMISSION OF THE DIRECTOR OF INTELLIGENCE USAF.

UNCLASSIFIED

5.4 SS Danfjord – January 21, 1956

This UFO report was obtained from the logbook of the civilian Danish ship SS Danfjord by ONI officers. It was sent to the Director of Naval Intelligence per ONI Instruction 3820.19B and 3820.17C. The report indicates that the Second Mate had a night sighting of a UFO when about 210 miles SE of Bermuda. The object baffled the Second Mate because at first it looked like a falling star but then stopped falling, changed direction, and changed appearance. He then thought the object was like a V2 rocket.

The details of the Second Mate's report better describes what he saw:

“When first sighted, the object was at a 260° azimuth at a position angle of 60° and falling and was thought to be a “falling star”. When it reached a position angle of 20°, still at an azimuth of 260°, the object hovered for one or two seconds and was seen to be not a star or meteor conforming to natural flight. The object then made an abrupt right angle change of direction to the north, paralleling the horizon at position angle 20°, and disappeared about 4 seconds later at azimuth 342°. While falling, the object appeared to be round and a light color like a star. No “tail” was seen. Its appearance did not change when the object hovered or stopped, or headed directly toward or away from the observer with no change in azimuth. When the object changed flight to a northerly direction, however, a long “tail” was clearly seen. This “tail” or trailing section, was red like a flame, and its length was about five times the diameter of the body of the object, which still appeared to be round and a light color like a star.”

Blue Book Conclusion: Meteor

5.5 SS Sebago – November 5, 1957

At 5:10 AM and about 200 miles south of New Orleans, the US Coast Guard Cutter SS Sebago began detecting unidentified targets on its radar. In an 11-minute period, 3 unidentified targets were detected at different locations and with different courses. The first target moved South and then back to the North and was located NW of the ship. The 2nd target moved SW and it was located SW of the ship. The third target was stationary and it was located North of the ship. None of these radar targets were corroborated with visual sightings. At 5:21 AM, a visual contact was made with an object directly West of the ship that was traveling north. The visual sighting lasted only 3 seconds and was not captured in radar. The bright object resembled a brilliant planet and was seen at an elevation of 31°. The press assumed that all 4 contacts were the same object, but there was no evidence in the record to conclude that. This case was reported in the press and received wide publicity because it occurred right after the Levelland Sightings and during the flap of November 1957. The case was also summarized in NICAP's 1964 report titled The UFO Evidence²⁵.

Blue Book Conclusions: Visual sighting was Meteor
 3 Radar Targets were Spurious Returns

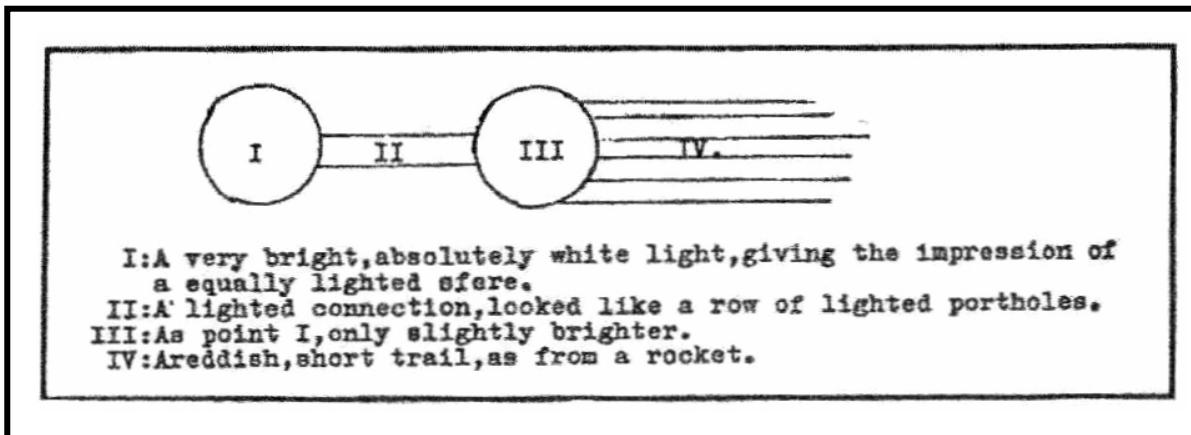
5.6 MV Coolsingel – October 19, 1958

The Dutch Merchant Vessel Coolsingel was on its way from Norfolk, VA, to Bremen, Germany when at 23:20 local time they had a UFO sighting. The two witnesses who were on the bridge and saw the object were Second Officer J. Van Tiel and the Lookout J. del Rio Fiera. The witnesses saw two bright white spheres connected by a rod of white light that looked like a row of lighted portholes. One sphere was in front and the other was in the rear of the object. Behind the second sphere, there was a reddish short trail. Figure 22 shows a drawing made by one of the witnesses. The object came out of a cloud, bearing about 40° true and after crossing nearly across the ship, disappeared in or above another cloud, bearing about 100° true. The apparent size of the object was between

a thumb and a forefinger. The witnesses thought the object was quite low; about 1,000 to 2,000 meters above the ship. The sighting lasted between 5 to 7 seconds.

Blue Book Conclusion: Meteor

Figure 22: Drawing of UFO by Eyewitness J. Van Tiel²⁶



5.7 SS City of Almaco – November 8, 1959

The civilian ship SS City of Almaco was heading from Yokohama to Los Angeles and was located North of the Hawaiian Islands when a bright object was seen making a low arc and striking the water. The object was visible for 20° to 30° of arc and emitted at least 3 flashes. The object struck the water about four miles North of the ship's position. There were 3 witnesses to the sighting. The ship reacted by changing its course to cover the area but nothing was found.

Blue Book Conclusion: Meteor

5.8 ORV Whiskey – June 25, 1960

At 23:34 local time in the vicinity of Ascension Island, an Operation Range Vessel (ORV) code named Whiskey was retrieving from the ocean the data cassette from a Missile Test #1802. The data cassette had a strobe light and was spotted by personnel on the ship and from aircraft above. A small boat was launched to recover the floating cassette. As the small boat got within 300 to 500 yards of the cassette, the crew of the small boat observed a steady bright glow appearing 100 yards from the direction of the cassette and about 25° from their boat. The light was white or yellowish and appeared to radiate in a 360° circle rather than a directional pattern. Its glow was of constant intensity. It lasted for about 10 seconds and was witnessed by the RCA photographer, the test observer and a diver member of the recovery crew. The Pilot and Copilot of one of two planes that were circling over the recovery operation also observed the glow. The copilot thought the light was either on the surface or very near the surface because no waves appeared to break over the light. It was established that none of the planes released a flare over the recovery site.

Blue Book Conclusion: Flare

5.9 SS Santa Ana & USS Geiger - September 16, 1960

These two MERINT reports were buried in the case file for September 16/00:30 GMT, but they represent a different case. The Santa Ana and the USS Geiger reported a UFO at 10:10 GMT, or almost ten hours after the original incident. The USS Geiger also reported something totally different than what was described for the 00:30 GMT incident.

The 00:30 GMT incident was reported by hundreds of witnesses. UFO reports were received from the following locations: Ramey AFB in Puerto Rico, air visual from McCoy AFB in Florida, ground visuals from Savannah, Georgia, air visual from Jacksonville- Florida, ship visual from the MS Mormacwren, the Airport Tower in Caracas Venezuela, Fort Brooke in Puerto Rico, the San Juan International Airport

Tower, and the merchant ships Mystic and Hamilton Trader. All these reports took place at around 00:30 GMT and lasted between 10 and 90 seconds depending on the witness. The object was heading to the North or NE. The sighting was described as a string of lights with a red tail or as trailing fireballs. The number of bright lights reported ranged from 4 to 20. Blue Book explained the 00:30 GMT sightings as the reentry of the 1960 Epsilon.

Nevertheless, the USNS Geiger had a different sighting 10 hours later. The USS Geiger reported a single large object, disk shaped, brightly illuminated, and traveling east at about 200 MPH. The object appeared to hover at times and change direction. This sighting lasted 30 minutes. The civilian ship SS Santa Ana also sent a MERINT telegram to report a UFO sighting at 10:10 GMT. The Santa Ana did not provide a description of the object or duration of the sighting. Their report simply stated that the object was traveling in a southeastern direction and an altitude of 3.19°.

Blue Book Conclusion: 1960 Epsilon reentry

5.10 SS President Van Buren – January 15, 1962

At 6:15 local time on the Atlantic, the SS President Van Buren saw nine blue green objects with a brightness equivalent to that of first and second magnitude stars. The objects had varying brilliance and had a light red halo. They were flying together in various random patterns at medium to high altitude. They were traveling on various courses: NNE then East, then SE, then South.

Blue Book Conclusion: Probably Aircraft

5.11 SS Norma C. Penn – June 6, 1964

600 miles NW of Asuncion Island the 3rd Officer of the ship had a UFO sighting. This was reported to the Consul General in Pretoria and was followed up with the USAF UFO questionnaire (FTD Form 164). The object appeared as a light with the same brightness as the brightest star. It moved from a bearing of 112.5° to 90° at constant elevation. The object appeared to flash. The flight path of the object contained three distinct maneuvers, which included the object crossing its own path. Its motion was also described as erratic. The object disappeared in the east at 60° elevation. The sighting lasted 8 minutes.

Blue Book Conclusion: Star Vega

5.12 USS Gyatt – November 20, 1964

The USS Gyatt was stationed in the Atlantic about 220 miles NW of Puerto Rico, when its radar detected a bogey approaching the island from the Northeast at speeds exceeding Mach 1. The USS Gyatt relayed a message to Roosevelt Roads Navy Base in Puerto Rico, which then contacted an F-8C aircraft of the Utility Squadron Eight. This aircraft was already flying at an altitude of 30,000 ft over Puerto Rico. The aircraft reported a stranger closing in very fast. The pilot of the F-8C described the object as delta shaped and about the size of a fighter. Its color was black or gray and had no lights. It had no contrail but had a light source emitting from the tail during periods of acceleration. The pilot pursued the bogey but could not intercept. The target accelerated out of sight in a wide starboard turn climbing through 50,000 feet at about 18°-20° angle of climb in excess of Mach 1.

The USS Gyatt took photographs of the radarscope during the 22 minutes that the target was detected. The scope photographs provided bearing and range for both the bogey and the F-8C aircraft. Foreign Technology Division (FTD) analyzed the photographs and concluded that the target was traveling at subsonic speeds during the first 10 minutes and that it then accelerated. They determined that the average speed during the period of acceleration was 1,200 knots.

The Executive Officer of the Utility Squadron did not have a reasonable explanation for this target because of its speed, acceleration, ceiling and ability to decelerate exceeded any aircraft that he ever seen or heard of. Nevertheless, he evaluated the target as a very high performance aircraft because it maneuvered as an aircraft and performed no unusual maneuvers except extreme acceleration and deceleration, plus a very steep climb angle in excess of 50,000 at high speed.

The author's own evaluation of the radarscope data does not support the conclusion arrived by FTD that the target was subsonic for the first ten minutes. The author's analysis supports the original statements from the USS Gyatt, that the bogey was approaching the island at over Mach 1 speeds. The actual scope data (bearing and range) and my estimates of distance traveled and speed are shown on Table 7. My estimates indicate that the bogey was flying most of the time at supersonic speeds²⁷, it then quickly accelerated to about 1,500 mph, and then after it lost its pursuer it decelerated to about 260 mph.

Blue Book Conclusion: Aircraft

Table 7: Radarscope Data from USS Gyatt on UFO Target and Evaluation of Distance Traveled and Speed

Photo ID	Time (min)	Bearing (Degrees)	Range (Nautical Miles)	Distance Traveled Between Photos (NM)	Speed (NM/Hour)	Speed (M/Hour)
739	0	75	85			
740	1.2	84	85	13.3	684	788
741	2.3	94	87	15.1	776	893
742	3.5	101	90	11.2	575	662
743	4.7	109	95	13.8	710	817
744	5.9	114	105	13.3	680	783
745	7.0	120	119	18.2	936	1,077
746	8.2	124	125	10.4	534	615
747	9.4	127	133	10.5	537	618
748	10.5	130	143	12.3	633	728
749	11.7	No Photo	No Photo			
750	12.9	No Photo	No Photo			
751	14.0	138	178	41.5	709	816
752	15.2	138	186	8.0	410	472
753	16.4	141	209	25.2	1,293	1,489
754	17.6	No Photo	No Photo		-	-
755	18.7	No Photo	No Photo		-	-
756	19.9	142	218	9.7	167	192
757	21.1	143	220	4.3	221	255
758	22.2	144	222	4.3	223	257

5.13 SS Morgantown Victory – January 11, 1966

At 22:00 local ship time and about 1,070 miles SE of Tokyo, 3 witnesses (the Third Mate, the Helmsman, and the Bow Lookout) saw a cigar shaped object approach their ship. The object approached the starboard beam of the ship from the horizon and then turned almost 180° to avoid going over the ship. It approached the ship within 1 mile at an elevation of 400 ft. It hovered for 30 seconds, then crossed in front of the ship and made another directional change. The object was described as being cigar shaped, glowing with an orange-yellow color, with a bright glow on its front, a body with a duller glow, and a long fiery tail. The body appeared to have two lights on top. The length of the object was estimated at 200-250 ft and its height at about 35-40ft. The object was visible for 3 minutes. The Master of the ship thought that a plane had crashed in the ocean and he ordered the ship to turn to conduct a search. Two turns were made and nothing was found in the searches.

Blue Book Conclusion: Satellite Decay (Cosmos 53)

6 Insights and Lessons Learned

6.1 Inconsistency in the Implementation of OPNAV and MERINT Instructions

Based on the review of the 111 UFO cases involving Navy ships, it is evident that there were inconsistencies on which regulation to use when reporting a UFO. There were also inconsistencies within the Navy commands on the rigor used in sending MERINT or OPNAV 3820.9 reports. Review of the Navy UFO reports show an inconsistency on which regulations were pertinent when reporting an unidentified object: OPNAV 3820.9 instructions or JANAP instructions. Some Navy reports quoted OPNAV instructions but sent the minimum information required by Merint reports. Other Navy UFO reports did not quote any instruction whatsoever and sent whatever information they thought relevant.

Moreover, the Pacific Command appears to have been more active and responsible in sending UFO reports through the chain of command. The Pacific Fleet sent a much larger percentage (74%) of the total US Navy UFO cases to Blue Book than the Atlantic Fleet. Given that the main cause of the Navy UFO reports were satellites and meteorites, both Fleets should have reported a similar number of UFO reports on a 20-year average. It appears that either the Atlantic Fleet was better informed of what consisted of a UFO report or it was not too keen on reporting UFOs to headquarters. This inconsistency in reporting between the Pacific Fleet and the Atlantic Fleet gives the impression that there was an arbitrary/subjective component to the UFO reporting process.

6.2 Majority of Navy Ships reporting UFOs were part of Pacific Barrier Fleet

All Navy ships that could be identified were categorized by type of ship. Table 8 lists all the Navy ships that reported UFOs and their ship types. The distribution of type of Navy ship is shown on Figure 23. This distribution shows that the biggest percentage (34%) of the US Navy ships that reported UFOs were Radar Picket Ships performing their duty either in the Pacific or Atlantic Barriers as part of the Continental Defense Command. Of the 32 Radar Picket Ship cases that reported UFOs back to their Command, only 3 cases

were in the Atlantic. It is not evident why the Pacific Barrier fleet would report a higher number of UFO cases than the Atlantic Barrier fleet. Nevertheless, it is not surprising that Radar Picket Ships were the Navy's highest source of UFO reports. These ships were stationed in static locations and their role was to observe and report to CONAD.

Figure 23: Distribution of Type of Navy Ships Reporting UFOs

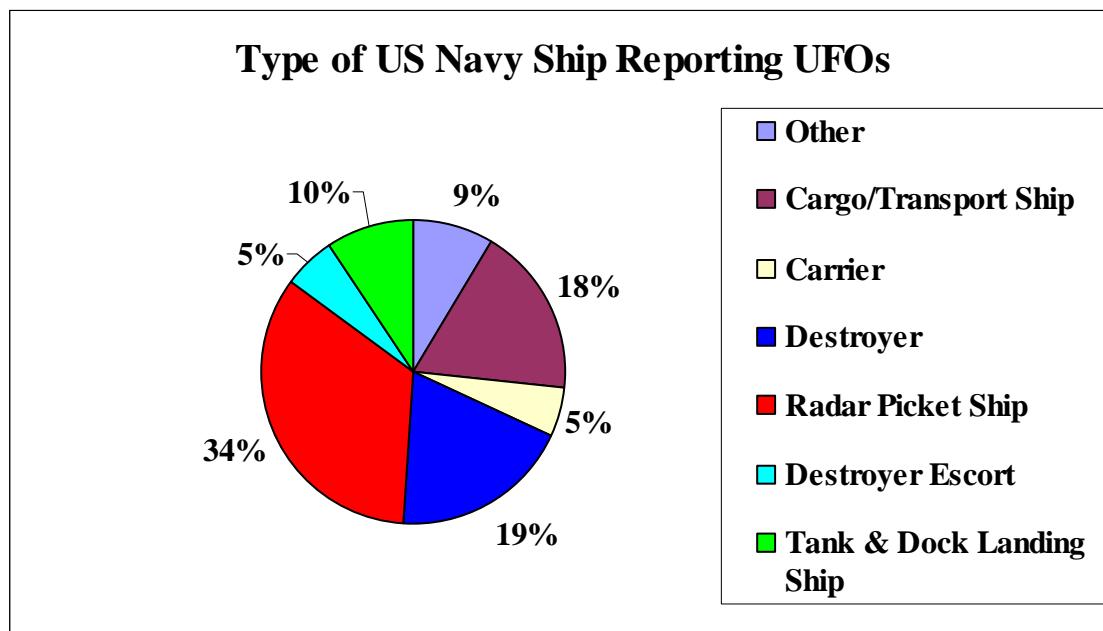


Table 8: NAVY Ships that Reported UFOs²⁸

Case #	Ocean	Witness / Ship	Type of Ship	Ship Code	# of Reports from Ship
	A & P	Unnamed Ships			17
126	P	USS Arneb	Amphibious Cargo Ship	LKA 56	1
62, 63	P	USS Boyd	Destroyer	DD 544	2
204	P	USS Calvert	Attack Transport	APA-32	1
82	A	USS Card	Escort Carrier	CVE-11	1
236	P	USS Charles Berry	Escort Ship	DE-1035	1
194	P	USS Cook	Amphibious Transport	LPR-130	1
84	P	USS Coral Sea	Multipurpose A/C Carrier	CV-42	1
180	P	USS Cossatot	Oiler	AO-77	1
248	P	USS Croatan	Escort Carrier	CVE-25	1
201	P	USS Deliver	Salvage Ship	ARS-23	1
38	P	USS Denald County	Tank Landing Ship	LST	1
109, 111, 113, 117, 154, 155, 156, 158, 176	P	USS Durant	Radar Picket Ship	DER 389	9
127	P	USS Estes	Amphibious Command Ship	LCC-12	1
85	A	USS Eversole	Destroyer	DD 789	1
145, 147, 220	P	USS Falgout	Radar Picket Ship	DER 324	3
207	P	USS Firedrake	Ammunition Ship	AE 14	1
101, 140, 144	P	USS Forster	Radar Picket Ship	DER 334	3
71	A	USS Franklin D. Roosevelt	Multipurpose A/C Carrier	CV-42	1
182	A	USS Gearing	Destroyer	DD 710	1
65	A	USS Geiger	Transport	AP 197	1
115	A	USS General W.O. Darby	Destroyer Escort	DE-218	1
244	P	USS George K. Mackenzie	Destroyer	DD 836	1
68, 69	P	USS Gunston Hall	Dock Landing Ship	LSD 44	2
227	A	USS Gyatt	Destroyer	DD 712	1
190	P	USS Halsey Powell	Destroyer	DD 686	1
107	P	USS Harris County	Tank Landing Ship	LSD 822	1
70	P	USS Haverfield	Destroyer Escort	DE 393	1
61, 255	P	USS Higbee	Destroyer	DD 806	2
243	P	USS Isle Royale	Desroyer Tender	AD 29	1
86	P	USS James E. Kyes	Destroyer	DD 787	1
76	P	USS John S. McCain	Guided Missile Destroyer	DDG 36	1
100, 116, 122, 164, 184, 188, 189	P	USS Lansing	Radar Picket Escort Ship	DER 388	7
203	P	USS Lowe	Destroyer Escort	DE 325	1
128	A	USS Lt. Geo W.G. Boyce	Cargo Ship	AK 251	1
130	A	USS Maloy	Destroyer Escort	DE 791	1
196	P	USS Marshall	Destroyer	DD 676	1
175	P	USS Marysville	Fleet Post Office	EPCER 857	1
143	P	USS Mathews	Attack Cargo Ship	AKA 96	1
67	A	USS Mullinnix	Destroyer	DD 944	1
54	P	USS Navasota	Oil Cargo Ship	AO-106	1
36, 64, 131, 218	P	USS Newell	Radar Picket Escort Ship	DER 322	4
57, 108, 124, 129	P	USS Noble	Amphibious Attack Transport	APA-218	4
74	A	USS Pecos	Oiler	TAO-197	1
37	P	USS Plumas County, USS Lincoln County, and USS St. Clair County	Tank Landing Ships	LST 1083/LST 898/ LST1096	1
105	A	USS Randolph	ASW Support A/C Carrier	CVS-15	1
250	A	USS Rich	Destroyer	DD 820	1
42	A	USS Robinson	Destroyer	DD 562	1
93	P	USS Rowan	Destroyer	DD 782	1
87	A	USS Saint Paul	Gun Cruiser	CA 73	1
105	A	USS Sarsfield	Destroyer	DD 837	1
181	P	USS Savage	Radar Picket Escort Ship	DER 386	1
208	A	USS Savage	Radar Picket Escort Ship	DER 386	1
178	P	USS Sculpin	Nuclear Sub	SSN 590	1
238	P	USS Serrano	High Speed Transport	APD-71	1
256	P	USS Shearwater	Service Ship	TAG 177	1
46, 49	A	USS Skywatcher	Radar Picket Ship	AGR-3	2
258	P	USS Steinaker	Destroyer	DD 863	1
142	P	USS Stone County	Tank Landing Ship	LST 1141	1
14	P	USS Takelma	Fleet Ocean Tug	ATF 113	1
132, 133, 134	P	USS Thomaston	Dock Landing Ship	LSD 28	3
169	P	USS Tulare	Amphibious Cargo Ship	LKA 112	1
123	P	USS Vernon County	Tank Landing Ship	LST 1161	1
114, 146	P	USS Wilhoite	Radar Picket Escort Ship	DER 397	2

6.3 Majority of USCG Ships reporting UFOs were part of the Ocean Station System

Since this database was limited to the Atlantic and Pacific Oceans, it is no surprise that the majority of the USCG ships that reported UFO sightings were ocean-going vessels. Table 9 lists the 49 USCG ships that reported UFOs to Blue Book and identifies whether the vessel had Ocean Station duty or not. Typical USCG ships that had ocean station duty were old Destroyer Escorts of 255-ft length. Table 9 shows that 84% of the USCG ships that reported UFOs performed Ocean Station duty. Of interest is that the USS Matagorda sent 16 UFO reports to Blue Book. This single ship submitted 32% of all USCG ship cases. This fact gives the impression that submission of UFO reports to higher commands and on to Blue Book was more dependent on the ship's Commander than on regulations issued by the Pentagon.

Table 9: USCG Ships that Reported UFOs²⁹

Case #	Ocean	Ship Name	Type of Duty	Size of Ship	Type of Ship	# of Reports from Ship
136	P	Ocean Station November	Ocean Sation	Ship Not Named		1
43	A	USS Androscoggin	Ocean Sation	255-foot class	WPG/WHEC-68	1
44	A	USS Nemesis	Patrol	165-foot	WPC-111	1
29, 186, 198	A	Ocean Station Echo	Ocean Sation	Ship Not Named		3
7	A	Ocean Station Uncle	Ocean Sation	Ship Not Named		1
91, 150, 160, 212, 213, 246	P	Ocean Station Victor	Ocean Sation	Ship Not Named		6
17	A	SS Sebago	Patrol	255-foot class	WPG/WHEC-42	1
110, 118, 141	P	USS Winnebago	Ocean Sation	255-foot class	WPG/WHEC-40	3
79	A	USS Barataria	Ocean Sation	310-foot	WHEC-381	1
51	A	USS Cahoonie	Patrol	Active Class Patrol Boat (125 ft)		1927
185, 245	P	USS Chautauqua	Ocean Sation	255-foot class	WPG/WHEC-41	2
26	A	USS Cutter Eagle	Training	295-ft- three-masted sailing barque	WIX-327	1
253	A	USCG Division 7	Unknown	Ship Not Named		1
23	A	USCG Ship	Unknown	Ship Not Named		1
59	A	USCG Ship Bethex	Unknown	Not Found		1
179	A	USS McCullough	Ocean Sation	Casco class ships (310-ft)	386	1
25	A	USS Santa Cecilia	Unknown	Not Found		1
152, 157, 163, 172, 193, 199, 209, 221, 225, 226, 228, 231, 232, 233, 234, 235	P	USS Matagorda	Ocean Sation	The Casco class ships (311 ft)	WHEC-373	16
217, 224, 229, 230, 241, 249	P	USS Pontchartrain	Ocean Sation	255-foot class	WPG/WHEC-70	6

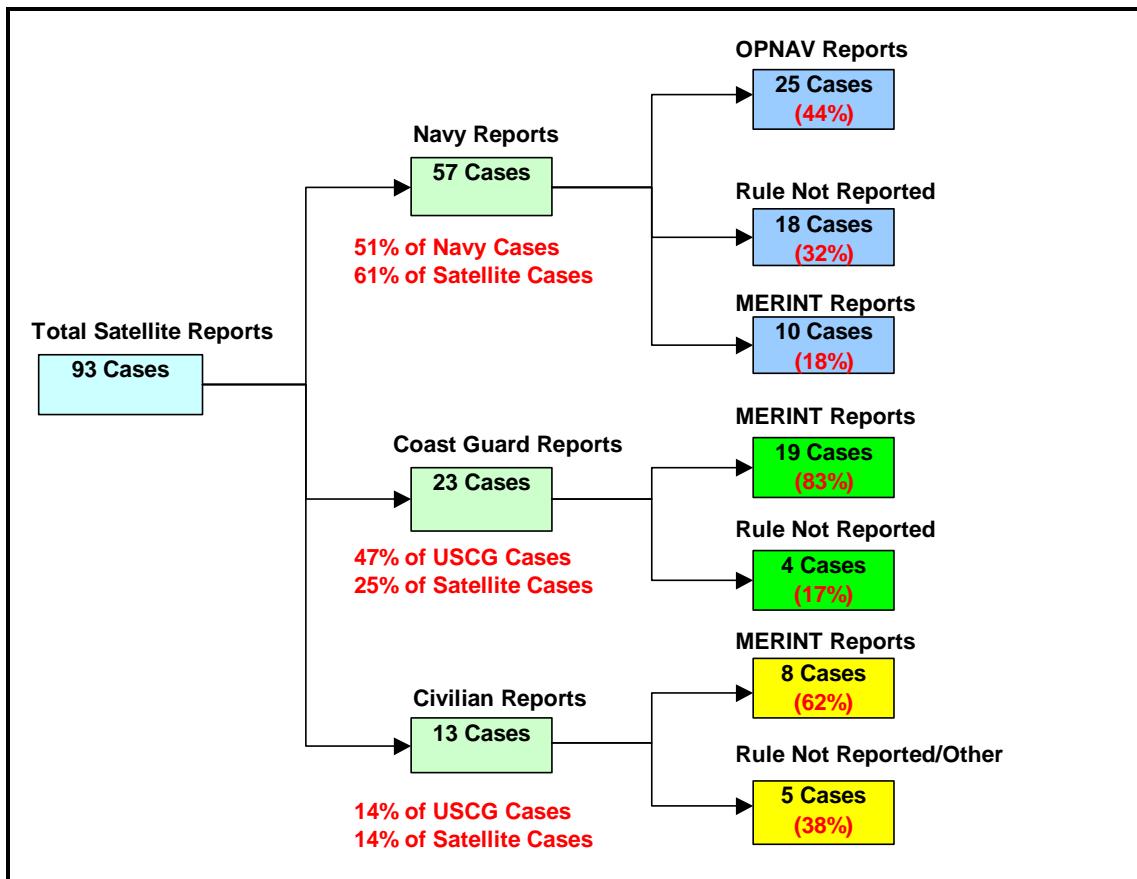
6.4 Many Ships reported Satellites as UFOs

Many of the UFO reports submitted by ships at sea were determined to be satellites by Project Blue Book. From 1960 until 1965, Blue Book was inundated with satellite reports. Why were there that many satellite reports submitted to Blue Book as UFOs? Was it due to ignorant witnesses or to poor interpretation of the OPNAV and JANAP definition of UFO?

Figure 24 shows the breakdown of all the cases that reported satellites. The US Navy submitted the majority (61%) of the Satellite IFO reports sent to Blue Book. Moreover, satellite reports were the largest (51%) type of explanation given by Blue Book to the Navy UFO reports. While the US Coast Guard submitted a lower percentage of the satellite reports (25%), these also represented a high percentage of the Coast Guard's UFO reports (47%). The data seems to indicate that civilians were more knowledgeable about satellites because they submitted the lowest number of satellites as UFO reports.

When we look at the type of regulation used by US Navy ships when they sent UFO reports that were satellites, we cannot draw any conclusions. The majority (44%) of the Navy UFO reports quoted OPNAV regulations instead of JANAP-146. This is baffling since OPNAV regulations were more stringent than JANAP on their definition of a UFO.

Figure 24: Breakdown of All Ship Cases that Reported Satellites to Blue Book



6.5 MERINT and OPNAV system did work when key signals were sent

JANAP-146 appeared to have worked well when the objective was to simply report the appearance of some odd observation in the sky. When missiles were launched from Cape Canaveral and created a visual sighting with odd looking colors and shapes, these sightings were promptly reported via MERINT reports. For example, in June 25, 1960, a Titan Missile was launched from Cape Canaveral. As a result of this launch; Blue Book received 4 MERINT reports from 4 merchant ships, 1 report from an Airliner, 1 report from Nassau Cay, and 1 report from the US Coast Guard in Puerto Rico. While all these reports were of poor quality and low information content, the time of the missile launch

coincided with all the reported UFOs. This case shows that a true signal can be properly communicated through the system. Nevertheless, had the case not been a Titan missile, it would have been very difficult for ATIC to figure out what it was by just reading the MERINT reports. Another example of this occurred in January 24, 1961, when Cape Canaveral launched an Atlas rocket and 3 merchant vessels sent in MERINT reports of very poor quality.

6.6 Majority of Data Received was Poor Quality

Overall, the poor quality of the data received via MERINT reports was such that many of the cases had insufficient information to make an assessment. It seems that MERINT reporting was more of an early warning mechanism rather than a quality instrument for investigating and identifying unknown targets. OPNAV instructions for UFO reporting were much better, but the reports sent by the US Navy using these instructions did not reflect a significant increase in the quality of the information. Rarely did the Navy perform follow-up interviews or send questionnaires to the key witnesses.

The poor quality of the majority of the data indicates that despite the US military having a very complex, expensive, and extensive information tracking system, it had limited capability for actually evaluating and studying true anomalous sightings. Moreover, the fact that the MERINT channels were flooded with what seemed to be IFO's (satellites, meteorites, etc.) indicates poor training amongst the people who were in charge of sending these reports.

7 Appendix

8 Sources and Notes

¹ The term Blue Book is used to represent the whole period of UFO investigation by the USAF. This includes project Sign (1947-1949), Project Grudge (1949-1953), and Project Blue Book (1953-1969).

² A brief history about the Naval Oceanographic Office is found in their website at:

<http://www.navo.navy.mil/PAO/history.html>

³ William R. Corliss, Lightning, Auroras, Nocturnal lights, and Related Luminous Phenomena, published by the Sourcebook Project, Maryland, 1982

⁴ Owens, A.L.; "Ball Lightning", Marine Observer, 1:117, 1924 and Cartmer, G.E.; "Phosphorescence", Marine Observer, 1:54, 1924

⁵ Gillmore, Daniel S., ed. The Scientific Study of Unidentified Flying Objects, New York: Bantam Books, 1969, pp. 630-635

⁶ "Guarding the Cold War Ramparts: The US Navy's Role in Continental Air Defense", by Captain Joseph F. Bouchard, US Navy, Naval War College Press, Summer 1999:111-35
(paper is located at <http://www.nwc.navy.mil/press/Review/1999/summer/art5-su9.htm>)

⁷ Captain Edward J. Ruppelt: Summer of the Saucers-1952, by Michael D. Hall and Wendy A. Connors, Rose Press International, Albuquerque, NM, 2000, p.25-26

⁸ Captain Edward J. Ruppelt: Summer of the Saucers-1952, by Michael D. Hall and Wendy A. Connors, Rose Press International, Albuquerque, NM, 2000, p.25-26

⁹ Ibid., p. 25

¹⁰ JANAP 146 (B): "Communications Instructions for Reporting Vital Intelligence Sightings from Aircraft (CIRVIS)", The Joint Chiefs of Staff, Joint Communications - Electronics Committee, Washington, D.C., September 2, 1951; The only copy of JANAP-146(B) available to the author is located in an Internet website (http://www.paranetinfo.com/UFO_Files/ufo/cirvis.txt)

¹¹ JANAP 146 (C): "Communications Instructions for Reporting Vital Intelligence Sightings from Airborne and Waterborne Sources", The Joint Chiefs of Staff, Joint Communications - Electronics Committee, Washington 25, D.C., March 1954; Personal hard-copy of JANAP-146(C) obtained from Jan Aldrich. It is also available at the CUFON website: <http://cufon.org/cufon/janp146c.htm>

¹² JANAP 146 (D): "Canadian – United States Communications Instructions for Reporting Vital Intelligence Sightings (CIRVIS/ MERINT)", The Joint Chiefs of Staff, Military Communications – Electronics Board, Washington 25, D.C., February 1959; JANAP146 (D) is published in Flying Saucers and the U.S. Air Force, Lt. Col. Lawrence J. Tacker USAF, D. Van Nostrand Co., Princeton, NJ, 1960, p. 112-135

¹³ JANAP 146 (E): "Canadian – United States Communications Instructions for Reporting Vital Intelligence Sightings (CIRVIS/ MERINT)", The Joint Chiefs of Staff, Washington, D.C., March 1966; Personal hard-copy of JANAP-146 (E) obtained from Jan Aldrich. It is also available at the CUFON website: <http://cufon.org/cufon/janp146e.htm>

¹⁴ JANAP 146 (C), Section 306, paragraph e.

¹⁵ JANAP 146 (D), Section 306, paragraph b.

¹⁶ Captain Edward J. Ruppelt: Summer of the Saucers-1952, by Michael D. Hall and Wendy A. Connors, Rose Press International, Albuquerque, NM, 2000, p. 89. Hall & Connors' source was the Project Grudge Status Report No. 7, 31 May 1952, project Blue Book Files, Roll No. 85, Administrative Files, p. 7

¹⁷ FOIA requests were made to the National Archives and Records Administration, Chief of Naval Operations, Commander in Chief U.S. Pacific Fleet, and the Commander in Chief U.S. Atlantic Fleet. NARA does not have custody of the comprehensive series of fleet or OPNAV instructions. The Naval Commands replied that the records no longer existed. I specifically requested copies of OPNAV INST 3820.9, CINCPACFLT INST 3820.3 and CINCLANTFLT INST 03360.2C.

¹⁸ A copy of this letter is found in: <http://www.ufo.net/ufodocs/text.documents/n/navy.txt>

¹⁹ "The Forgotten Service in the Forgotten War: The U.S. Coast Guard's Role in the Korean Conflict", by Scott T. Price, Historian, USGC, http://uscg.mil/hq/g-cp/history/korean_war_text.html

²⁰ USCG Home page – Historian's Office: http://www.uscg.mil/hq/g-cp/history/ocean_stations.html

²¹ The Hynek UFO Report, by Dr. J. Allen Hynek, Dell Publishing Co, NY, NY 1977, p. 254

²² *Air Force Letter No. 200-5*, “Intelligence: Unidentified Flying Objects Reporting”, Department of the Air Force, Washington, 29 April 1952, Section 7,c-2, states that the length of time observed should be reported. Also in *Air Force Regulation No. 200-2*, “Intelligence: Unidentified Flying Objects”, Department of the Air Force, Washington, 14 September 1959, Section 15, b-6, asks how long the object was visible.

²³ The Emergence of a Phenomenon: UFOs from the Beginning through 1959 (The UFO Encyclopedia Volume 2), by Jerome Clark, Omnigraphics, Inc., Detroit MI, 1992, p. 326-330. Also a large number of original case documents and analysis is posted on the Center for UFO Studies Website at http://www.cufos.org/trindade_fs1.html

²⁴ Air Intelligence Information Report prepared by Capt. R.H. Pestalozzi to summarize the UFO sighting from August 11, 1954. File is located in Blue Book Microfilm Roll #21, for case date of August 11, 1954.

²⁵ The UFO Evidence, Edited by Richard H. Hall, 1st Edition published by National Investigations Committee on Aerial Phenomena (NICAP), New Edition published by Barnes & Noble Book in 1997; page 86 of the new edition briefly describes the Sebago incident.

²⁶ Letter summarizing UFO sighting from Mr. J. Van Tiel (Jr. 2nd Officer of the Dutch ship M.V. Coolsingel) to ATIC. File is located in Blue Book Microfilm Roll #34, for case date of October 18, 1958.

²⁷ Velocity of sound (Mach 1) is 760 mph at sea level and 660 mph at 20,000-ft altitude. As the elevation increases, the speed of sound decreases.

²⁸ NavSource - Naval History: Photographic History Of The U.S. Navy located at the following website: <http://www.navsource.org/index.html>

²⁹ US Coast Guard: Cutters, Craft, & Coast Guard-Manned Vessels List, located at the following Website: <http://www.uscg.mil/hq/g-cp/history/cutterlist.html>