I. PRELIMINARY STATEMENT

1. (U) By order of General George B. Crist, USMC, Commander in Chief, U.S. Central Command, dated 3 July 1988, Rear Admiral William M. Fogarty, USN, Director, Policy and Plans (J-5), U.S. Central Command, was appointed to conduct a formal investigation into the circumstances surrounding the downing of a commercial airliner by the USS VINCENNES on 3 July 1988.

2. (U) The formal investigation was conducted at the Administrative Support Unit, Bahrain, with preliminary interviews and information gathering conducted by the investigating team on board USS VINCENNES (CG 49), USS ELMER MONTGOMERY (FF 1082), USS SIDES (FFG 14), and USS CORONADO (AGF 11), flagship for Commander, Joint Task Force Middle East (CJTFME).

3. (U) Rear Admiral Fogarty, and an investigating team composed of five officers, arrived in Bahrain on the evening of 5 July 1988. Brief summaries of the service assignments of the team members are provided at enclosure (19). Preliminary interviews began on board participating units on 6 July 1988. Two additional investigating team members arrived 9/10 July 1988, one by way of Commander, Seventh Fleet, where he gathered information on the USS VINCENNES pre-deployment training. CJTFME,  ; USS VINCENNES Commanding Officer, CAPT W. Rogers, USN; USS VINCENNES Force Anti-Air Warfare Coordinator (FAAWC),  ; and USS VINCENNES Tactical Action Officer (TAO),  , were designated as parties to the investigation. Formal hearings began on 13 July 1988 and closed on the afternoon of 19 July 1988.

4. (U) The investigation inquired into all the events which occurred prior to, during, and immediately following the engagement of Track Number (TN) 4131, later identified as Iran Air Flight 655. This designation of TN 4131 is used interchangeably with Iran Air Flight 655 throughout the investigation. There were specific, technically complex issues that required the Investigating Officer to call upon the professional expertise of the Commander, Naval Surface Weapons Center (NSWC), Dahlgren, and NAVSEA (PMS-400) personnel. The USS VINCENNES data recording tapes were hand delivered under chain-of-custody immediately following the incident to NSWC Dahlgren. After initial data reduction in the United States, technical representatives from NWSC Dahlgren, led by  , AEGIS Program Office, and NAVSEA (PMS-400) representatives came to Bahrain and provided further analysis on the following matters:

1. AEGIS Weapon System Mark 7 performance and operation;
2. Performance and operation of the AN/SPY-1A radar;
3. Operation and message content in Link 11;
4. UPX-29 IFF operations;
5. Reconstruction of Command and Decision (C&D) console operator actions;
6. Comparison of tape data analysis with statements by operators;
7. C&D doctrine enabled and entered;
8. Internal voice configuration and capability; and,
9. Environmental effects on system performance.

5. (U) As the investigation progressed, the statements and testimony of the witnesses were integrated into the timeline extracted from the data reduction, to form a chronology of the engagement. That chronology is attached as I.O. Exhibit (104) to the hearing. Timelines became essential elements of the investigation, particularly as regards the short time period (minutes and seconds) in which the Commanding Officer was required to make his decision to fire. This time period is referred to as the "critical time period" throughout the report.  
⁠**U**  
6. () Because of a divergence between the recorded data on the USS VINCENNES's tapes and the recollection of the witnesses concerning what they saw and when they reported what they saw, a USN Medical Corps Team consisting of a psychiatrist and a physiologist were requested by the Senior Investigating Officer to come to Bahrain. They arrived in Bahrain after the formal hearing closed. They were requested to determine whether the dynamics of the situation which confronted the crew of the USS VINCENNES impacted on their ability to perceive and relay the data which was available to them. Their analysis is provided at Enclosure (18).

7. (U) Certain items relevant to the investigation were not available to the Senior Investigating Officer. These items were primarily those which Iran could best provide (black box, recovery of wreckage, manifest, list of deceased, etc.). Requests for assistance through diplomatic channels were submitted via Commander in Chief, U.S. Central Command, to obtain this information for inclusion in the report of investigation as appropriate. (Encl 12).

8. (U) Enclosures (2) through (24) contain information relevant to the investigation, but were obtained or prepared after the adjournment of the investigation hearing.

9. (U) Certain intelligence statements were prepared utilizing documents or sources classified higher than SECRET/NOFORN Dissemination. References to those documents are contained in I.O. Exhibit (232) Copies of the actual documents in I.O. Exhibit (232) will be retained in the Special Security Office, U.S. Central Command.

10. (U) All times listed in the findings of fact and opinions are "Z" time.  
⁠**U**  
11. () During the investigation, the importance of the information being presented by way of the USS Vincennes Large Screen Displays (LSD) became apparent. Therefore, an explanation of that system’s capabilities and limitations is provided here for the benefit of the reviewer.

⁠ The AEGIS Large Screen Display (LSD) is a part of the AEGIS Display System (ADS) and is a primary visual information source for the CO, TAO and Force Warfare Commanders. It consists of four 42″ x 42″ flat, vertically mounted, 2-dimensional displays which display the tactical picture contained in the C&D computers. This information is displayed as Navy Tactical Display System (NTDS) symbology with appropriate velocity leaders. The range scales can be varied from 8 to 2048 nautical miles. Geographic outline maps as well as operator selectable line segments, points, circles and ellipses can also be displayed. These latter items can be used to construct operational areas, geographic features, range rings, air lanes, etc. The display operator can also attach a 24 character alpha-numeric label (or "tag") to any track or point. Therefore the track classification, ID, position relative to other tracks, range, bearing, course and speed as well as position relative to geographic features or airlanes, etc., can be displayed. However, it is important to note, that altitude cannot be displayed on the LSD in real-time.  
⁠**U**  
12. () TN 4133, which lifted off from Bandar Abbas shortly after TN 4131, is used as the identifier for an Iranian C-130.

13. (U) A glossary of abbreviations used throughout the report has been compiled and is attached at the end of the transcript of the proceedings.  
⁠**U**  
14. () The Report of Investigation is formatted to give the reviewer a general overview of the events surrounding the incident in the Executive Summary. The Findings of Fact are arranged with background on the intelligence and operational picture in the Persian Gulf to provide the reviewer with essentially the same data which was available to CJTFME and the USS VINCENNES on 3 July 1988. Environmental factors, commercial air information, data on Iran Air Flight 655, and relevant portions of the Peacetime Rules of Engagement (ROE) are then treated as discrete blocks of information before addressing the USS VINCENNES training and readiness, watch organization, overall combat system status, communications, and combat systems doctrine. With the foundation thus laid, the actual events of 3 July 1988 which led to the downing of TN 4131 are examined beginning with the surface engagement which formed an integral part of the decision process of the Commanding Officer, USS VINCENNES. The USS VINCENNES data recordings have enabled the investigation to break the critical time period, which comprised the air engagement, into a minutes and seconds sequence of specific actions as they occurred along a timeline. Finally, post-incident search and rescue efforts, and after action reports are addressed. Opinions and Recommendations conclude this report.

II. EXECUTIVE SUMMARY

A.⁠INTRODUCTION.

⁠1. (U) On 3 July 1988, the USS VINCENNES (CG 49), operating in the Southern Persian Gulf as a unit assigned to Commander, Joint Task Force Middle East, downed a civilian airliner, Iran Air Flight 655 on a routine scheduled flight from Bandar Abbas to Dubai, with two SM-2 missiles.  
⁠**U**  
⁠2. () The material condition, combat systems, training and personnel readiness of the ship were satisfactory.

⁠3. (U) The following narrative summarizes the events leading up to and including the downing of Iran Air Flight 655. It is in the form of a chronology because the situation leading up to, just prior to, and during the few critical minutes from Iran Air Flight 655 take-off to downing are considered important to a full understanding of the incident. All times in the report are "Z" time.

B.⁠PRE–3 JULY SCENARIO.  
⁠**U**  
⁠1. () In the three day period prior to the incident, there was heightened air and naval activity in the Persian Gulf. Iraq conducted air strikes against Iranian oil facilities and shipping 30 June through 2 July 1988. Iranian response was to step up ship attacks. Additionally, Iran deployed two, possibly three, F-14's from Bushehr to Bandar Abbas. U.S. Forces in the Persian Gulf were alerted to the probability of significant Iranian military activity resulting from Iranian retaliation for recent Iraqi military successes. That period covered the fourth of July holiday weekend.  
⁠**U**  
⁠2. () During the afternoon and evening hours of 2 July 1988 and continuing into the morning of 3 July 1988, Iranian Revolutionary Guard (IRGC) armed small boats (Boghammers, and Boston Whalers) positioned themselves at the western approach to the Strait of Hormuz (SOH). From this position, they were challenging merchant vessels, which has been a precursor to merchant ship attacks. On 2 July 1988, USS ELMER MONTGOMERY was located sufficiently close to a ship attack in progress as to respond to a request for distress assistance and to fire warning shots to ward off IRGC small boats attacking a merchant vessel.

C.⁠3 JULY SURFACE ENGAGMENT  
⁠**U**  
⁠1. () On the morning of 3 July 1988, USS ELMER MONTGOMERY was on patrol in the northern portion of Strait of Hormuz Western Patrol Area (SOHWPA). At approximately 0330Z, USS MONTGOMERY observed seven small Iranian gunboats approaching a Pakistani merchant vessel. The small boats were reported by USS MONTGOMERY to have manned machine gun mounts and rocket launchers. Shortly thereafter, USS MONTGOMERY observed a total of 13 Iranian gun boats breaking up into three groups. Each group contained 3 to 4 gun boats with one group of four gun boats taking position off USS MONTGOMERY's port quarter. At 0411Z, USS MONTGOMERY heard the gun boats over bridge to bridge challenging merchant ships in the area. USS MONTGOMERY then heard 5 to 7 explosions coming from the north. At 0412Z, "Golf Sierra" (COMDESRON 25) directed USS VINCENNES to proceed north to the vicinity of USS MONTGOMERY and investigate USS MONTGOMERY's report of small boats preparing to attack a merchant ship. USS VINCENNES's helo (Ocean Lord 25/LAMPS MK-III helo) on routine morning patrol, was vectored north to observe the Iranian small boat activity. USS VINCENNES was also monitoring a routine maritime patrol of an Iranian P-3 operating to the west. At approximately 0615Z, the USS VINCENNES's helicopter was fired upon by one of the small boats. USS VINCENNES then took tactical command of USS MONTGOMERY and both ships proceeded to close the position of the helicopter and the small boats at high speed. As USS VINCENNES and USS MONTGOMERY approached the position of the small boats, two of them were observed to turn towards USS VINCENNES and USS MONTGOMERY. The closing action was interpreted as a demonstration of hostile intent. USS VINCENNES then requested and was given permission by CJTFME to engage the small boats with gunfire. At approximately 0643Z, USS VINCENNES opened fire and was actively involved in the surface engagement from the time Iranian Air Flight 655 took off from Bandar Abbas through the downing of Iran Air Flight 655.  
⁠**U**  
⁠2. () During the course of the gun engagement of the Iranian small boats, the USS VINCENNES, at approximately 0654Z, had maneuvered into a position 1 mile west of the centerline of civilian airway Amber 59. The USS SIDES, transiting from east to west through the SOH, was approximately 18 miles to the east and became involved in the evolving tactical situation.

D.⁠Bandar Abbas/Iran Air Flight 655/Air Engagement  
⁠**U**  
⁠1. () On 3 July 1988, at approximately 0647Z, an Iran Air Airbus 300, Iran Air Flight 655, took off from the Bandar Abbas joint military/civilian airport destined for Dubai airport. The flight was a routine scheduled, international flight via commercial airway Amber 59.  
⁠**U**  
⁠2. () Iranian military authorities have in the past notified the commercial tower at Bandar Abbas when hostilities were in progress in a given area. No such notification was made to Iran Air Flight 655 prior to or during the course of the incident.  
⁠**U**  
⁠3. () An Iranian military C-130 took off approximately 7 minutes after Iran Air Flight 655, and a number of Iranian F-4’s were observed to be operating in the area of Bandar Abbas approximately 30 minutes after the incident.  
⁠**U**  
⁠4. () Iran Air Flight 655 took off on runway 21 (heading 210 degrees true), was directed by the Bandar Abbas Tower to squawk IFF mode III code 6760, and began a normal climb out to assigned altitude of 14,000 feet for the flight, which lasted a total of 7 minutes before the plane was hit by the missiles from USS VINCENNES. The pilot remained within the Amber 59 air corridor (20 miles wide, 10 miles each side of centerline), made a routine position report to Bandar Abbas departure control at approximately 0654Z, and was ascending through 12,000 feet at a speed of approximately 380 kts at the time of making his report.  
⁠**U**  
⁠5. () At approximately 0654Z, the missiles fired from USS VINCENNES impacted the aircraft at an altitude of 13,500 feet, approximately 8 miles from USS VINCENNES, with Iran Air Flight 655 still in its assigned air corridor. Debris from the aircraft and a significant number of bodies were found 6.5 miles east of Hengham Island at 26-37.75′N/56-01′E. While no passenger manifest nor list of deceased has been released by Iran, various sources have established that some 290 persons from six nations, were on board Iran Air Flight 655.

⁠6. VINCENNES - - CRITICAL DECISION WINDOW  
⁠**U**  
⁠(a) () At approximately 0647Z — Iran Air Flight 655 was detected by the USS VINCENNES's AN/SPY-1A radar bearing 025 degrees, 47NM, at 900 feet and seconds later was assigned TN 4131. At approximately 0648Z, USS SIDES detected Iran Air Flight 655, bearing approximately 355 degrees, range approximately 32 miles at 1500 feet altitude. The aircraft continued to close USS VINCENNES with a constant bearing, decreasing range. At approximately 0649Z, USS VINCENNES issued warnings on Military Air Distress (MAD) (243.0 mHz) and at 0650Z began warnings on International Air Distress (IAD) (121.5 mhz) to TN 4131 located 025 degrees, 40NM from USS VINCENNES.  
⁠**U**  
⁠(b) () At approximately 0650Z — Several USS VINCENNES CIC personnel heard, on internal Combat Information Center (CIC) voice circuits, a report of F-14 activity which they believed originated from Ship’s Signal Exploitation Space (SSES). A momentary mode II-1100 IFF indication was detected which was correlated with an Iranian F-14. This was reported throughout CIC over internal CIC voice circuits. Continuous MAD and IAD warnings were ordered at 30NM (5 total warnings on MAD and 4 total warnings on IAD). USS VINCENNES continued the surface engagement and experienced a foul bore in Mount 51. In order to unmask the after gun mount, full rudder (at 30 knots) was applied. This added to the increasing tension in CIC.

⁠**U**  
⁠(c) () At approximately 0651Z — As TN 4131 closed to 28NM, USS VINCENNES informed CJTFME via the Middle East Force execution net that she had a closing Iranian F-14 which she intended to engage at 20NM unless it turned away. USS VINCENNES requested concurrence. CJTFME concurred but told USS VINCENNES to warn the aircraft before firing. Warnings continued, but no response from TN 4131 was received, nor did it turn away.  
⁠**U**  
⁠(d) () At approximately 0652Z — Warnings continued over both IAD and MAD. Still no response. Although TN 4131 reached the 20NM point, the CO decided not to engage. The order was given to illuminate the contact with fire-control radar. There were no ESM indications. TN 4131 was ascending through 10,000 feet.  
⁠**U**  
⁠(e) () At approximately 0653Z — At 15-16NM, the last warning over IAD was given by USS SIDES to the aircraft bearing 204 degrees to USS VINCENNES, range 15.5 miles. During the last 30 seconds of this minute, the CO made his decision to engage TN 4131.  
⁠**U**  
⁠(f) () At approximately 06:54:05 — The CO turned the firing key. At approximately 06:54:22, two SM-2 Blk II missiles left the rails. Twenty one seconds later, they intercepted Iran Air Flight 655 at a range of 8NM from USS VINCENNES at an altitude of 13,500 feet.

E.⁠POST INCIDENT INVESTIGATION  
⁠**U**  
⁠1. () The focus of this investigation was on the key factors that figured in the determination of what information was available to the Commanding Officer upon which to base his decision to engage TN 4131, the validity of that data, and what other factors entered into his decision making process. Essential to this determination was a detailed examination of the USS VINCENNES's data reduction tapes, which portray second-by-second the position, kinematics, IFF information and Link eleven (11) message flow of all contacts held by the USS VINCENNES's AEGIS Weapon System. Immediately following the incident, USS VINCENNES's AEGIS data recording tapes were transported to the Naval Surface Warfare Center, Dahlgren, Virginia for data extraction and evaluation. The data extracted depicted the Iran Air Flight 655 flight profile from first detection to missile intercept. Further, the data allowed reconstruction of all "button actions" by Command and Decision (C&D) console operators in CIC and the information available to them on their console read-outs. Crucial to the investigation became close examination of the approximately 3 minute 45 second period just prior to the Commanding Officer’s final decision to fire. During this period, verbal reports were being made by one of the console operators over internal circuits of decreasing range and altitude. Additionally, the fact that the range of TN 4131 was rapidly approaching the final weapons release point for the incoming aircraft factors into the decision to fire. Also crucial to the investigation was the explanation (where possible) of the divergence between the data available in the AEGIS system derived from the data reduction tapes and the reports received by the CO and "GW" (the CO’s principal air war advisor), especially the reports of "F-14", "Mode II code 1100 IFF", and "decreasing altitude".  
⁠**U**  
⁠2. () The data from USS VINCENNES's tapes, information from USS SIDES and reliable intelligence information, corroborate the fact that TN 4131 was on a normal commercial air flight plan profile, in the assigned airway, squawking Mode III 6760, on a continuous ascent in altitude from take-off at Bandar Abbas to shoot down.

III. FINDINGS OF FACT

A.⁠SETTING THE STAGE

⁠1. Intelligence Background.

⁠a. The Gulf War

⁠(1) (U) The war between Iran and Iraq is the latest iteration of a conflict dating back a thousand years. (IO Exhibit 14, FICPAC GULF THREAT ORIENTATION).

⁠(2) (U) Although Iraq used its superior Air Force to target Iranian oil installations around the head of the Gulf and Kharg Island early in the war, the purchase of EXOCET missiles from France in 1983 provided Iraq with a credible ship attack capability. Anti-shipping strikes commenced in 1984. (IO Exhibit 14, FICPAC GULF THREAT ORIENTATION).

⁠(3) (U) Iraq’s intent on conducting anti-shipping attacks was to put economic pressure on Iran by seeking to limit Iran’s oil revenue and to bring an end to the larger ground war. Iran responded in kind by striking tankers in 1984 to prevent war supplies from reaching Iraq. (IO Exhibit 14, FICPAC GULF THREAT ORIENTATION).

⁠(4) (U) Since the start of the Gulf War, as a subset of the larger Iran/Iraq War, there has been a history of violence in the Persian Gulf. ( , p.6).

⁠ **U**  
⁠(5) () The Gulf War intensified in 1987 when Iraq used its Air Force to conduct an aggressive campaign against Iranian oil facilities and shipping. The campaign was centered in the Central Persian Gulf (CPG) and intensified in May 1987, apparently reflecting an Iraqi decision to take greater risks to successfully strike Iranian shuttle tankers. These expanded operations culminated in the 17 May 1987 erroneous attack on USS STARK. (IO Exhibit 14, FICPAC GULF THREAT ORIENTATION).

⁠(6) (U) The United States commenced escorting Kuwaiti reflagged tankers in 1987. ( , p. 6-7)

⁠ **U**  
⁠(7) () Iran viewed the escorting of merchant ships in the Gulf by the United States as provocative because it inhibited its ability to attack shipping in retaliation for Iraqi attacks on their facilities and shipping. (IO Exhibit 14, Intelligence Background Briefing).

⁠ **U**  
⁠(8) () In addition to its strikes against neutral shipping by aircraft, Iran conducted ship attacks with surface ships and small boats. Additionally, Iran also placed six moored mine fields across the Persian Gulf and in the Gulf of Oman in an effort to sink US warships and stop convoy operations. These mine fields resulted in severe damage to both BRIDGETON in July 1987 and USS SAMUEL B. ROBERTS in April 1988. (IO Exhibit 14, Intelligence Background Briefing).

⁠ **U**  
⁠(9) () Attacks against shipping in the latter part of 1987 and the first part of 1988 marked the most intensive anti-shipping operations by Iran during the war. The predominant Iranian attack platforms during this period were small boats employing 107mm rocket launchers, rocket propelled grenades, and small arms. Because of the use of various conventional and unconventional tactics, Iranian intentions in the Gulf were suspect at all times. (IO Exhibit 14, FOSIF WESTPAC 060847Z May 88).

⁠ **U**  
⁠(10) () Anti-shipping warfare profiles show that Iran conducted 88 ship attacks in 1987. 72% of these occurred in the shipping routes between Abu Musa Island and the UAE. From November 1987 to April 1988, all ship attacks were conducted in the southern Persian Gulf (SPG). During 1987, 50% of the attacks were conducted at night. (IO Exhibit 14, FOSIF WESTPAC 060847Z May 88)

⁠ **U**  
⁠(11) () Iran also fired 10 silkworm missiles at Kuwait, damaging 1 U.S. flag vessel (Sea Isle City) and another merchant tanker. In October 1987 the United States responded by an attack on the Iranian owned Rostam Oil platform. (IO Exhibit 14, Intelligence Background Brief)

⁠ **U**  
⁠(12) () Seven additional silkworm sites were constructed in the Strait of Hormuz area which threatened seaborne traffic through that choke point. (IO Exhibit 14, Intelligence Background Brief)

⁠ **U**  
⁠b. () Iranian Air Reaction to the U.S. retaliation April 1988 (Operation Praying Mantis)

⁠ **U**  
⁠(1) () In retaliation for the mining of USS SAMUEL B. ROBERTS, the United States attacked the Iranian Sirri and Sasson offshore oil production facilities in the SPG on 18 April 1988. In response to the U.S. operation, Iranian aircraft and warships deployed from Bandar Abbas to join Iranian Revolutionary Guard Corps (IRGC) small boats from Abu Musa Island and Qeshm Island in attacks on U.S. owned or associated oil rigs, platforms and jack-up rigs. During the engagement with U.S. forces, 2 Iranian frigates and 1 missile patrol boat were sunk or severely damaged. Eleven F-4s scrambled during the day from Bandar Abbas. USS WAINWRIGHT launched missiles at one of the aircraft, damaging it when the aircraft failed to respond to repeated warnings and continued to close the ship (IO Exhibit 14, Intelligence Background Briefing). ⁠ **U**  
⁠(2) ) The preponderance of the action between U.S. and Iranian forces on 18 April 1988 during Operation Praying Mantis occurred in the same area where the 3 July 1988 incident with USS Vincennes took place. (IO Exhibit 14, Intelligence Background Briefing).

⁠c. Iranian Aircraft Attacks on Shipping

⁠ **U**  
⁠(1) () The Iranian Air Force and Iranian warships have conducted a total of 187 attacks on shipping since the campaign began in March 1984, most of those attacks occurred prior to August 1986. Fighter aircraft conducted a majority of these attacks using iron bombs and Maverick missiles. In comparison to the attacks conducted by the IRGC small boats, the air attacks were among the most damaging. (IO Exhibit 14, Intelligence Background Briefing).

⁠ **U**  
⁠(2) () Following August 1986, Iranian fighter aircraft were rarely used in the ship attacks in an apparent attempt to conserve platforms. (IO Exhibit 14, FOSIF WESTPAC 060847Z May 88).

⁠(3) ( )   (IO Exhibit 14, Intelligence Background Briefing).

⁠ **U**  
⁠(4) () The Iranians have an inventory of over 1000 Maverick missiles. Each missile can be launched from ranges of .5 to 13 NM and television guided. The launching aircraft must be able to keep visual track of the target but does not have to illuminate the target with radar. (IO Exhibit 14, Possible Iranian F-14 Weapons).

⁠(5) ( ) Although there has been no record of F-14s being used for iron bomb attacks, the aircraft is capable of being modified to be used in that role. To use iron bombs, the F-14 would have to close to within   of the target. That information was included in the intelligence information provided to USS VINCENNES on inchop. (IO Exhibit 14, Intelligence Background Briefing).

⁠ **U**  
⁠(6) () The most recent, confirmed Iranian Air Force anti-shipping attack was on 2 February 1988 when 2 Iranian F-4s launched two Maverick Missiles at the Liberian Tanker, Petrobulk Pilot, at 30NM SSW of the point where USS VINCENNES launched its missiles on 3 July. (IO Exhibit 14, Intelligence Background Briefing).

⁠ **U**  
⁠(7) () The IRGC is reportedly training pilots to fly suicide missions. (IO Exhibit 14, FOSIF WESTPAC 061020Z APR 1988).

⁠d. Iranian Air Force Operations 3 June–3 July 1988  
⁠**U**  
⁠(1) () Iranian Air Force operating patterns changed significantly, particularly at Bandar Abbas, in the month prior to 3 July 1988. Where heretofore the Iranian Air Force had generally operated single fighter combat air patrols (CAPs), they changed to 2 aircraft sections. Twenty-five 2-plane CAPs were flown between 2-15 June 1988 alone, representing a significant increase in the airborne activity from Bandar Abbas. (IO Exhibit 14, Intelligence Background Briefing).  
⁠**U**  
⁠(2) () Iranian F-14’s have been observed to fly at airspeeds of between 250 KTS while climbing to patrol station and 350 – 400 KTS while on patrol. During air to air intercepts the F-14’s have achieved speeds of 500 – 550 KTS. (  p. 367).  
⁠**U**  
⁠(3) () At least one, possibly 2 or 3 Iranian F-14s were transferred to Bandar Abbas from their home field at Bushehr on 25 June 1988. (IO Exhibit 14, Intelligence Background Briefing).  
⁠**U**  
⁠(4) () The addition of the F-14s to the air order of battle at Bandar Abbas was perceived by CJTFME as a significant upgrade in Iranian air capability at Bandar Abbas. (IO Exhibit 14, Intelligence Background Briefing).  
⁠**U**  
⁠(5) () USS VINCENNES was advised by CJTFME on 18 June 1988 of the changing patterns of F-4s operating from Bandar Abbas: "All units are cautioned to be on the alert for more aggressive behavior. Reports of Iranian plans to reconvert some F-4s for air to ground roles using iron bombs, Mavericks, Iranian produced 440 lb bombs, or unguided 'Eagle' missiles would all point toward an offensive, vice defensive capability." (IO Exhibit 14, CJTFME 181225Z JUN 88).  
⁠**U**  
⁠(6) () USS VINCENNES was advised on 20 June 1988 of modifications to Iranian aircraft including F-4’s. "Iran is clearly working hard to develop an anti-shipping capability as well, and innovative techniques of adapting air defense weapons systems for ASM purposes are continuing." (IO Exhibit 14, CJTFME//J2//200510Z JUN 88).  
⁠**U**  
⁠(7) () USS VINCENNES was advised on 26 June 1988 of the unprecedented deployment of Iranian F-14’s to Bandar Abbas: "The F-14 deployment represents an increased threat to allied aircraft operating in SOH, SPG, and GOO." (IO Exhibit 14, CJTFME//J2//260900Z JUN 88).

⁠e. The Iranian Posture 25 June–2 July ⁠**U**  
⁠(1) () In the week preceding the USS VINCENNES incident the Iraqi Air Force stepped up its attacks on Iranian oil facilities and shuttle convoys in the Northern Persian Gulf (NPG). Iranian reaction to these successful Iraqi attacks was anticipated by CJTFME and they warned the Middle East Force, including USS VINCENNES, on 2 July 1988. (IO Exhibit 14, Intelligence Background Briefing).  
⁠**U**  
⁠(2) () USS VINCENNES was apprised of the general Iranian situation on 30 June and 1 July, specifically that because Iraq had extended its successes in the ground war to the NPG with a renewed air campaign against Iranian shipping and oil facilities, Iranian reaction should be expected. "...in the meantime, anticipate IRGC ship attacks in retaliation for Iraqi Air Force attacks on Iranian shuttle tankers." (IO Exhibit 14, CJTFME//J2//0212900Z July 1988).  
⁠**U**  
⁠(3) () The significant Air Order of Battle at Bandar Abbas as of 3 July 1988 was: at least 1 F-14, approximately 6 operational F-4’s, and 1 C-130. (IO Exhibit 14, Intelligence background Brief).  
⁠**U**  
⁠(4) () The F-14 flights from Bandar Abbas during this period were:

⁠25 June — patrol (0500-0600Z)  
⁠26 June — patrol (1300-1400Z)  
⁠27 June — patrol (0500-0700Z)  
⁠28 June — patrol (1300-1400Z)  
⁠29 June — patrol (0700-0900Z)  
⁠30 June — patrol (0500-0600Z)  
⁠1 July — patrol (0700-0900Z)  
⁠2 July — patrol (0700-0900Z)

(IO Exhibit 14, Iranian Air Force Activity from Bandar Abbas).

⁠f. Activity on 2 July, 1988 — The Maersk Attack  
⁠**U**  
⁠(1) () At 021600Z the Danish ship, KARMA MAERSK, outbound from Saudi Arabia, was repeatedly, though unsuccessfully, attacked by IRGC small boats staging out of Abu Musa Island at a point 20NM SW of that island. (IO Exhibit 14, Intelligence Background Brief). ⁠**U**  
⁠(2) () The KARAMA MAERSK issued a "MAYDAY" requesting assistance and USS ELMER MONTGOMERY responded and observed several IRGC small boats fire 3 rockets at the Danish merchant at 1630Z. The IRGC boats included at least 1 Boghammer and 2 machine gun equipped Boston whalers. (IO Exhibit 14, USS MONTGOMERY 022230Z JUL 88, Intelligence Background Brief).  
⁠**U**  
⁠(3) () The USS MONTGOMERY fired a warning shot at the small boats at about 1730Z and the boats retired to the NW. (IO Exhibit 14, CJTFME//J2//040030Z JUL 88).

⁠2. Operational Background.

⁠a. (U) The Administrative and Operational Organization Charts for the JTFME are contained in this report as IO Exhibit 141.

⁠b. (U)  , USN, was CJTFME and designated “GB” (the radio call sign for the Officer in Tactical Command) on 3 July 1988. He and his staff were embarked in USS CORONADO (AFG 11). (IO Exhibits 61, 134, 141).

⁠c. (U) Commander Destroyer Squadron 25, was embarked in the USS JOHN HANCOCK (DD 981) and was designated “GS” (the radio call sign for the Surface Warfare Commander) by CJTFME. (IO Exhibits 61, 141).

⁠d. (U) The Commanding Officer USS VINCENNES (CG 49) was designated “GW” (the radio call sign for the Anti-Air Warfare Commander) by CJTFME. (IO Exhibits 61, 141).  
⁠**U**  
⁠e. () The CJTFME command ship, USS CORONADO (AGF 11), had the following principal communication/information equipment available: (1) SAG-A (UHF-Secure Voice); (2) CMEF execution net (UHF SATCOM Secure); (3) JOTS terminal; and (4) Link 11, receive only information which was displayed on the JOTS terminal. All equipment, with the exception of Link 11, was up and working. (IO Exhibit 140, , p. 124, pp. 444-446).  
⁠**U**  
⁠f. () CJTFME uses the JOTS system and voice communication as its primary means of keeping abreast of the tactical situation. ( , p. 445).  
⁠**U**  
⁠g. () Communications between CJTFME and USS VINCENNES were conducted on the CMEF execution net (MEFEX). (IO Exhibit 128, 140,  , p. 443).  
⁠**U**  
⁠h. () Key CJTFME personnel in flag plot during the engagement of the small boats and track 4131 were:

⁠(1)   — CJTFME

⁠(2)   — Deputy CJTFME

⁠(3)   — Chief of Staff, CJTFME

⁠(4)   — Assistant Operations Officer, CJTFME

⁠(5)   — Intelligence Officer, CJTFME

(IO Exhibits 128, 140,   p. 443).

⁠i. (U) COMAIR Schedules and routes were not plotted in Flag Plot but were available in the Operations Office. (IO Exhibit 116).

⁠3. Rules of Engagement.

⁠a. General

⁠(1) (U) The USS Vincennes had on board a current copy of the effective ROE for the Persian Gulf. (  p. 422).

⁠**U**  
⁠(2) () The primary responsibility of the Commanding Officer under the ROE is the defense of his ship from attack or the threat of imminent attack. (Exhibit 131, USCINCCENT 232220Z MAY 88.)

⁠**U**  
⁠(3) () USCINCCENT, CJTFME and the on-scene commanders are all authorized to declare a foreign force hostile under circumstances which require immediate defensive action and do not allow time for communications with superiors. (IO Exhibit 131, USCINCCENT 232220Z MAY 88.)

⁠b. Surface

⁠**U**  
⁠(1) () Overflight of nonparticipating littoral states or intrusion into their territorial waters or airspace is authorized in self-defense, or with prior permission from the state, or under emergency conditions. (IO Exhibit 131, USCINCCENT 232220Z MAY 88 para 5B).

⁠(2) ( ) US units are generally required to maintain a distance of   from belligerent craft in order to prevent the appearance of provocative action. Helicopters are permitted to approach closer for the purpose of visual identification. (  p.478, 480).

⁠**U**  
⁠(3) () Iran has declared its coastal waters to be a exclusion/war zone. (IO Exhibit 133).

⁠**U**  
⁠(4) () Iran claims a 12NM territorial sea. (  p. 515).

⁠**U**  
⁠(5) () The ROE prohibits intrusion into Iranian territorial waters or airspace except in the following circumstances: If a unit has been attacked by a hostile vessel or aircraft, pursuit may be conducted into the offending belligerent’s territorial waters or airspace if the hostile force continues to pose an imminent threat after entry into such waters or airspace. (IO Exhibit 131 CJTFME 232220Z May 88 para 6A).

⁠**U**  
⁠(6) () Pursuit of hostile forces is permitted if it is initiated in response to, and in defense against the hostile acts or hostile intent of such forces. Pursuit will be terminated when the hostile force no longer poses an immediate threat. (IO Exhibit 131, USCINCCENT 232220Z May 88 para 3.L.)

⁠c. Air

⁠**U**  
⁠(1) () All tracks originating in Iran will be identified as "unknown assumed enemy." (IO Exhibit 132).

⁠(2) ( )

⁠(a) ( )

⁠(b) ( )

⁠(c) ( )

⁠(d) ( )

⁠(e) ( )

(IO Exhibit 132).

⁠**U**  
⁠(3) () The ROE states that:

Positive identification of an aircraft is mandatory before declaring the aircraft hostile and engaging it. The sole exception to this principle is an aircraft either demonstrating hostile intent or committing a hostile act.(IO Exhibit 131, USCINCCENT 232220Z May 88 para 5A)

⁠(4) ( )

⁠(a) ( )

⁠(b) ( )

⁠1. ( )

⁠2. ( )

⁠3. ( )

⁠4. ( )

(IO Exhibit 131 CJTFME 232220Z MAY 88).

⁠(5) ( )

⁠(a) ( )

⁠(b) ( )

⁠(c) ( )

⁠(d) ( )

⁠(e) ( )

⁠(f) ( )

⁠(g) ( )

  (IO Exhibit 131 CJTFME 232220Z MAY 88 para 8).

⁠**U**  
⁠(6) () COMIDEASTFOR OPORD 4000-85 amplifies the ROE with regards to required warnings by stating: "Do not stop after just one step: If there is no response to radio requests/warnings, do something to attract attention. Subsequent warning actions to take include:

⁠**U**  
⁠(a) () Locking on with fire-control (radar)

⁠**U**  
⁠(b) () Maneuvering to unmask weapons

⁠**U**  
⁠(c) () Shooting flares

⁠**U**  
⁠(d) () Flashing signal/search lights

⁠**U**  
⁠(e) () Training guns

⁠**U**  
⁠(f) () Fire warning shots (star shell, AAC timed to offset)

⁠**U**  
⁠(g) () If you are confident that the warning has been received, and the contact continues to close, para 9 of reference (a) (Tab A to Appendix 8 to Annex C to COMIDEASTFOR OPORD 4000-85) applies."

(IO Exhibit 137).

⁠**U**  
⁠(7) () Tab A to Appendix B to Annex C to COMIDEASTFOR OPORD 4000-85 amplifying the ROE provides in paragraph 9: "If a potentially hostile contact persists in closing after you warn him away and if, in your judgement, the threat of attack is imminent, it is an inherent right and responsibility to act in self-defense. We do not want, nor intend, to absorb a first attack." (IO Exhibit 136).

⁠(8) (U) The following is quoted verbatim from paragraph 3, page c-8-A-l of Ch 2 dated Sept 1986 Tab A to Appendix 8 to Annex C to COMIDEASTFOR OPORD 4000-85 (U): Rules of Engagement, Supplemental Measures – "The most serious threat is that of terrorist/suicide attack. If such an attack occurs, it is most likely to happen from a craft (e.g. military cargo or surveillance aircraft, non-military boats or aircraft) which appears to be operating in a "normal" manner up to the point of attack. There is less danger of overt attack by Iranian or Iraqi Naval ships and combatant military aircraft but that threat, too, is serious." (IO Exhibit 136).

⁠4. Environmental Data.

⁠a. (U) At 030400Z Jul 88, the following environmental data existed:

⁠(1) Wind Speed/Direction: 10Kts/340 degrees T

⁠(2) Sea Temp: 30 degrees C

⁠(3) Air temp: 28.3 degrees C

⁠(4) Relative Humidity: 62%

⁠(5) Evaporation Duct Height: 78.5 ft

⁠(6) Surface Pressure: 998.0 MB

⁠(7) Visibility estimate was 8-10 miles

⁠(8) Ceiling: approximately 200 ft/scattered

(I.O. Exhibit 177).

⁠b. (U) Predicated on the environmental data provided from USS VINCENNES on 3 July 1988, which is summarized in I.O. Exhibit 177, Joint Electronic Warfare Center (JEWC) San Antonio, Texas, concluded the following as regards ducting:

⁠**U**  
⁠(1) () Atmospheric conditions suggest USS VINCENNES was operating with a strong surface based duct (extending up to approximately 485 ft) and also within an evaporation duct extending up to approximately 78 ft. (IO Exhibit 179).

⁠**U**  
⁠(2) () AN/SPY-1 (AEGIS radar), AN/AWG-9 (F-14 radar) and AN/UPX-29 (IFF) emitters show strong coupling with these ducts greatly enhancing detection ranges. (IO Exhibits 179).

⁠**U**  
⁠(3) () The data provided by NSWC Dahlgren also validates that, in fact, SPY radar was ducting, resulting in greatly enhanced detection ranges. (IO Exhibits 86, 87, 88, and 184)

⁠5. Commercial Air

⁠a. General

⁠(1) (U) Bandar Abbas International is a joint military/commercial airfield. (IO Exhibit 90,   p.418).

⁠(2) (U) A total of 18 commercial air routes cross the Persian Gulf area covering at least 50% of the navigable waters. (IO Exhibit 90,   p.407).

⁠(3) (U) A total of 12 commercial air routes cross the southern Persian Gulf/Strait of Hormuz area alone. Specifically, 7 into or out of Dubai/Sharjah Terminal Control Area and 5 into or out of Abu Dhabi Terminal Control Area. (IO Exhibit 90).

⁠**U**  
⁠(4) () Commerical air flights that do not approach Iran during any part of the flight or come from non-belligerent air space and are at the high altitudes normally flown by air carriers are relatively easy to identify. (Enclosure (21)).

⁠(5) (U) The width of the airway assigned to Iranian Air Flt 655 (A-59) was: 20NM (10NM either side of centerline) from Bandar Abbas to reporting position DARAX and 10NM (5NM either side of center line to Sharjah. Airway A-59 runs from an altitude of 4500 feet to infinity. The total length of the air route is 123NM. (IO Exhibit 249).

⁠(6) (U) At least one thousand seven hundred and seventy-five commercial air flights passed through Oman Center for the week ending 13 July 1988. (  p. 410).

⁠**U**  
⁠(7) () The only message traffic available to CJTFME on civilian airline schedules was the "FICPAC" message of 25 June 1988. That message was readdressed to all CJTFME units on 28 June 1988. (IO Exhibit 124,   pgs. 394, 408).

⁠(8) (U) The CJTFME’s inchop brief discusses commercial air traffic in general but does not focus on any specific air routes or COMAIR schedules. (IO Exhibit 8 and   p. 392).

⁠**U**  
⁠(9) () CJTFME’s inchop brief discusses the use of MAD (Military Air Distress) and comments that, "Iranians won’t answer nor will commercial aircraft". Moreover ships are told to use IAD (International Air Distress) to contact commercial aircraft and "unless you are up a regional ATC frequency, use IAD to try to contact ATC". (IO Exhibit 8, MEF Brief p. 4).

⁠(10) (U) The inchop brief alludes to the "very complex but ordered" commercial air picture. It cautions all units to be concerned with those air contacts which deviate from the normal pattern. (IO Exhibit 9, MEF Brief p.3).

⁠(11) (U) The first time that CJTFME promulgated commercial airline flight information to the ships in the Persian Gulf area was on 28 June 1988. This message showed IR 655 scheduled to depart Bandar Abbas at 0950L (0620Z) on Tuesday and Sunday of each week. (IO Exhibit 124,   p. 409).

⁠**U**  
⁠(12) () The first documentation of conflict between civilian COMAIR and a CJTFME unit was on 8 June 1988 when the USS HALYBURTON issued nearly continuous challenges to an aircraft landing at Dubai International. British Airway FLT 147 acknowledged the challenge, made the turn as directed by the USS HALYBURTON and immediately came into a "near miss" situation with another civilian aircraft. A formal protest was filed by ATC Dubai and an American Embassy letter of apology resulted. (IO Exhibit 119, p. 274).

⁠**U**  
⁠(13) () The only commercial/military IFF information available to any JTFME unit were pass-down items from other Middle East Force ships. (IO Exhibits 120, 121, 122,   p. 182,   p. 197).

⁠**U**  
⁠(14) () U.S. ships deployed to Persian Gulf area are limited to a single VHF radio which is tuned to International Air Distress (IAD) frequency 121.5 mhz. It can take upwards of 1 hour to change pre-set radio VHF frequencies. (  p. 399).

⁠(15) (U) During USS VINCENNES inchop brief, conducted on 22 May,   (CJTFME/Air Ops) and   (CJTFME/Asst Air Ops) briefed the Helo Det on helo ops but did not specifically discuss commercial air routes or schedules. (IO Exhibit 8 p. 176,   p. 392).

⁠(16) (U) On Sunday, 3 July 1988, there were 10 civilian flights scheduled from Bandar Abbas. They were:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| FLT # | ⁠ | TO | ⁠ | DEPT TIME | ⁠ | ACFT TYPE |
| IR 655 | ⁠ | DUBAI | ⁠ | 0959L | ⁠ | AIRBUS 300 |
| IR 236 | ⁠ | BANDARLENGEH | ⁠ | 1240L | ⁠ | 737 |
| IR 236 | ⁠ | SHIRAZ | ⁠ | 1240L | ⁠ | 737 |
| IR 236 | ⁠ | TEHRAN | ⁠ | 1240L | ⁠ | 737 |
| IR 452 | ⁠ | TEHRAN | ⁠ | 1340L | ⁠ | AIRBUS 300 |
| IR 394 | ⁠ | ISFAHAN | ⁠ | 1400L | ⁠ | 737 |
| IR 394 | ⁠ | TEHRAN | ⁠ | 1400L | ⁠ | 737 |
| IR 134 | ⁠ | SHIRAZ | ⁠ | 2050L | ⁠ | 737 |
| IR 134 | ⁠ | TEHRAN | ⁠ | 2050L | ⁠ | 737 |
| IR 458 | ⁠ | TEHRAN | ⁠ | 2245L | ⁠ | AIRBUS 300 |

There is no information to the contrary that the remaining flights did not launch. (IO Exhibit 162, 232).

⁠(17) (U) As a result of the attack of the USS STARK, the JCS issued an up-dated Notice to Airman (NOTAM) for the Persian Gulf, Strait of Hormuz, Gulf of Oman and North Arabian Sea dated 8 September 1987, which notified all Persian Gulf countries of additional defense precautions which U.S. warships would be exercising. It highlighted the requirement for aircraft operating in the area to maintain a listening watch on 121.5 mhz VHF or 234.0 mhz UHF. Both Department of State and ICAO report that this NOTAM was transmitted through channels to the Government of Iran. (IO Exhibit 52).

⁠**U**  
⁠(18) () The current verbal warnings issued by CJTFME units do not clearly identify exactly which aircraft the ship is attempting to contact. (IO Exhibits 275, 306).

⁠**U**  
⁠(19) () Commercial aircraft normally do not have radar homing and warning (RHAW) equipment. U.S. Navy ships either "locking up" with pulsed fire-control or continuous wave radars expect no reaction from a commerical air flight. (Enclosure (21)).

⁠(20) (U) For the period of 2 June 1988 to 2 July 1988, analysis of challenges and warnings conducted by CJTFME resulted in the following statistics:

⁠(a) 150 challenges were issued  
⁠(b) only 2 were to COMAIR (1.3%)  
⁠(c) 125 were to Iranian military aircraft (83%)  
⁠(d) Largest number of challenges issued were by the USS SPRUANCE patrolling the eastern entrance of the SOH. (IO Exhibit 118).

⁠**U**  
⁠(21) () No Iranian F-14's were challenged during the 2-17 June 1988 timeframe but seven were challenged in the 13 June – 2 July 1988 time period. (IO Enclosure (21)).

⁠(22) (U) Commercial air carriers have been observed changing IFF codes when crossing the Persian Gulf area. (IO Exhibits 54, 55,   p. 174,   p. 194).

⁠(23) (U) Iranian military aircraft have been observed squawking all IFF modes (I, II, and III) and codes and at times follow commercial air routes within the Persian Gulf. (IO Exhibits 15, 37,   p. 195,   p. 7).

⁠(24) (U) Iraqi military aircraft have followed the air routes from Iraq during Persian Gulf ship attack profile (SAP) missions and return using the same air routes. (IO Exhibit 15,   p. 7).

⁠(25) (U) Iran Air Flight 655 a was regularly scheduled biweekly flight from Bandar Abbas to Sharjah, often referred to as a "HAJ" flight by ships’ crews. (IO Exhibit 162, 54, 55, 73,   p. 175,   197).

⁠(26) (**U**) CJTFME and CO USS Vincennes discussed the complexity of the commercial air picture on several occasions prior to 3 July 1988. (  p. 856, 861).

⁠**U**  
⁠(27) () Airbus' normally climb at 350–370 KTS and cruise at 450 – 460 KTS. (IO Exhibit 238).

⁠b. Iran Air Flight 655.

⁠(1) (U) Iran Air Flight 655 Airbus, A-300B2-202, was delivered by the French Airbus Industrie on 30 April 1982 configured with a standard civilian type Dual Collins 621-A6 IFF. The General Electric engines are identified as GE CF6-50C2. Airbus Industrie has never delivered an Airbus equipped with an IFF radar Mode II. (IO Exhibit 247).

⁠(2) (U) Bandar Abbas International is the only active, joint use (military/civilian) Iranian airport in the southern Persian Gulf area. (IO Exhibit 90,   p. 418).

⁠**U**  
⁠(3) () Iran Air Flight 655 was scheduled to depart Bandar Abbas at 0950(L) or 0620Z but actually took off at 1017(L) or 0647Z. (IO Exhibit 232 & 280).

⁠**U**  
⁠(4) () Bandar Abbas control tower has in the past informed civilian airlines of ongoing hostilities in the SOH. (IO Exhibit 232).

⁠(5) (U) The control tower at Bandar Abbas failed to warn Iran Air Flight 655 that there was an ongoing naval engagement between U.S. Naval Forces and Iranian Revolutionary Guard naval forces (IRGN). (IO Exhibits 280, 232).

⁠**U**  
⁠(6) () Iran Air Flight 655, on direction of the control tower at Bandar Abbas International, turned on its IFF Mode III to 6760 on deck prior to launch and the mode was read correctly by the tower as 6760. (IO Exhibit 280).

⁠**U**  
⁠(7) () Iran Air Flight 655 took off from Bandar Abbas International Airfield on runway 21 at 0647Z. It was cleared to Dubai via A-59 at FL 140 (14,000 FT) with an assigned IFF Mode III squawk of 6760. The pilot reported passing MOBET (position report) at 0654Z and vacating FL 120 (12,000 feet). (IO Exhibits 232, 235, 236, 280).

⁠**U**  
⁠(8) () Iran Air Flight 655 squawked Mode III 6760 from take off to missile intercept. (IO Exhibits 91, 280).

⁠**U**  
⁠(9) () IR 655 was 3.35NM west of the centerline of air route A-59 at missile intercept, time 06:54:43, passing 13,500 climbing to an assigned altitude of FL 140 (14,000 FT), on course of 209.5T, at 383 KTS. (IO Exhibits 91 and 102).

⁠(10) (U) Air Traffic Control Center at Abu Dhabi neither gained radar video nor established communications with Iran Air Flight 655. (IO Exhibits 306, 275).

⁠6. USS VINCENNES

⁠a. Training and Readiness.

⁠(1) (U) USS VINCENNES deployed 25 April 1988, on short notice, to the Persian Gulf/Middle East Force. (IO Exhibit 166: Encl 1 and 4).

⁠(2) (U) USS VINCENNES was directed on 20 April 1988 to detach from FLEETEX 88-2 for immediate return to homeport and a 21 April 1988 deployment to the Persian Gulf/Middle East Force. USS VINCENNES transit was to be directly from San Diego to Subic Bay and onward to Middle East Force with an arrival in the Persian Gulf of 16 May 1988. (IO Exhibit 166: Encl 2).

⁠**U**  
⁠(3) () Upon notice of deployment on 20 April 1988, USS Vincennes was in the highest state of training and readiness: C1 in Personnel, Supply, Equipment and Training; M1 in AAW, AMW, ASW, ASUW, C3, EW, and training areas. (IO Exhibit 166: Encl 2A; Definitions of readiness and training ratings included in IO Exhibit 166: Encl 2B).

⁠**U**  
⁠(4) () Prior to deployment on 25 April 1988, USS VINCENNES participated in interim refresher training (26 Oct – 6 Nov 1987), FLEETEX 88-1/COMPUTEX 88-3 (1-12 FEB 88) and a portion of FLEETEX 88-2 (8-19 APR 88). On completion of interim refresher training, USS VINCENNES was found to be fully capable of performing duties as AAWC or LAAWC in Battle Group operations. (IO Exhibit 166: Encl 2b, 3a, 4, 2c).

⁠**U**  
⁠(5) () During FLEETEX 88-1, USS VINCENNES participated in a Middle East Force Exercise (MEFEX) 5-8 FEB 88. This exercise simulated an "Earnest Will" escort mission, and provided: anti-silkworm training, terrorist aircraft training, terrorist small boat defense, and anti-swimmer defense. (IO Exhibit 166: Encl 2a, 3, 4, 2c).

⁠**U**  
⁠(6) () USS VINCENNES did not complete FLEETEX 88-2 due to her early deployment; however, USS VINCENNES participated in the following training evolutions during FLEETEX 88-2: extensive war-at-sea strike exercises (WASEX); Silkworm missile attacks; training in ROE; and fast patrol boat attack simulations. (IO Exhibit 166: Encl 2a, 3, 4, 2c).

⁠**U**  
⁠(7) () A normal MEF augmenter pre-deployment schedule would have included in addition to the exercises listed in Finding of Facts A.6.a. (4) and (5), two Middle East Force Exercises (MEFEXs) at PMTC, PT Mugu, California, and PMRF Barking Sands, Hawaii. USS VINCENNES did not conduct these exercises because of her early deployment and accelerated transit to Subic Bay, RP. (IO Exhibit 166, Encl 4).

⁠**U**  
⁠(8) () USS VINCENNES was provided AEGIS Training Center Briefs on lessons learned on the operation of SPY-1A radar in the Strait of Hormuz/Persian Gulf by AEGIS Training Center, Dahlgren, VA, while inport Subic Bay, RP, on 11 May 1988. (IO Exhibit 166: Encl 8, 9, and 9a).

⁠**U**  
⁠(9) () During a four day period (9-12 May), USS VINCENNES conducted the following Middle East Force training in the Subic Bay operating areas: two missile firings (both successful), one war-at-sea strike exercise (against 17 aircraft), CIWS tracking/firing, Silkworm profiles, air intercept controlling, anti-fast patrol boat exercises (night and day), surface gunnery, and surface to air gunnery. (IO Exhibit 166: Encl 17, 18, 19, 20, and 20a).

⁠**U**  
⁠(10) () The WASEX conducted on 9 May 1988 included 17 attacking aircraft: 10 USAF (4 Wild Weasel and 6 Pave Tack) and 7 USMC (4 A-6 and 3 F/A-18). A post exercise critique was conducted on 10 May with USAF, USMC, and USS VINCENNES personnel present. USS VINCENNES Large Screen Display (LSD) information was used to reconstruct the events of the exercise. This reconstruction revealed USS VINCENNES had to discriminate threat aircraft from numerous other air contacts in the area including USAF AIR-AIR missile participants and normal air traffic in the vicinity of Clark AFB and Crow Valley, RP. However, Mode IV IFF information was the primary source for identification and discrimination between friendly and belligerent aircraft. (IO Exhibit 166: Encl 17 and 20a).

⁠**U**  
⁠(11) () Prior to arrival Subic Bay, RP, USS VINCENNES modified her Battle Organization to conform to the expected “GW” assignment in the Middle East Force. In a meeting with the CO, XO, CSO and OPSO in attendance, the CO decided that CSO and OPS officer would stand watch as "GW", operating from the embarked commander’s console (LSD #2). "GW" (CSO or OPSO) would then monitor the MEFEX communication net and provide the continuous connectivity both for air and surface SITREPS, in the traditional AAWC sense, as well as act as the primary point of contact for the ship over MEFEX net. (Rogers p. 834,   p. 809, 818,   p. 788).

⁠**U**  
⁠(12) () By modifying the Battle Organization, the Commanding Officer did not intend that the "GW" position would usurp the authority of the TAO, but act in support of the TAO.

At General Quarters, it was intended that the TAO would direct the surface tactical picture, electronic information flow, employment of surface weapon systems, and ship’s course and speed while monitoring the internal communication nets, and overall watchstanding performance. It was further intended that the "GW" position would monitor and direct the air picture, generate air and surface SITREPS to Gulf Bravo, provide ship’s course and speed recommendations, and air threat warning information to the CO and TAO. (Rogers p. 834,   p. 818).

⁠**U**  
⁠(13) () USS VINCENNES reported this Battle Organization modification was implemented during the transit from San Diego to Subic Bay, RP, and exercised during MEF training periods in Subic Bay, RP operating areas (9-12 May 1988) and during the JTFME CVBG familiarization training (21-24 May 88). (Rogers p. 834,   p. 809,   p.788).

⁠**U**  
⁠(14) () Three Rules of Engagement Exercises (ROEX) were conducted by USS VINCENNES during the period 6-20 May 88. These exercises tested USS VINCENNES's interpretation and correct response to current ROE for the Persian Gulf/Middle East Force. (IO Exhibit 166: Encls 21, 22, 23, 24, 25, and 26).

⁠**U**  
⁠(15) () USS VINCENNES chopped to CJTFME on 20 May 1988 and was C1 in areas of Personnel, Supply, Equipment and Training as well as being M1 in AAW, AMW, ASUW, ASW, CCC, ELW and MOB. (IO Exhibit 166: Encl 27).

⁠**U**  
⁠(16) () USS VINCENNES CO, TAO and GW stated in their testimony that USS VINCENNES was well prepared for their assignment to the Middle East Force by virtue of their AW (in workup exercises), “GW” experience, and in depth MEF augmenter training. (Rogers p. 835,   p. 824,   p. 804).

⁠**U**  
⁠(17) () USS VINCENNES conducted Battle Group familiarization training with the CVBG assigned to JTFME in the Gulf of Oman (21-24 May 88) prior to entering the Persian Gulf. Exercises conducted provided training in: WASEX, Silkworm profiles, SUCAP coordination and A/C training. (IO Exhibit 166: Encl 28).

⁠**U**  
⁠(18) () Summary of USS VINCENNES operations since arriving in the Middle East Force:

⁠25 - 27 May 88⁠Task Group Exercise

⁠29 May 88⁠Sitrah anchorage inchop briefings

⁠30 May 88⁠Sitrah anchorage AWACS/LINK interoperability

⁠01 - 08 Jun 88⁠SOHWPA patrol  
⁠10 - 11 Jun 88⁠Sitrah anchorage for upkeep

⁠12 - 16 Jun 88⁠SOHWPA patrol, conducting AAW and ASUW surveillance

⁠17 Jun 88⁠RPS patrol, conducting AAW surveillance

⁠18 Jun 88⁠Sitrah anchorage for upkeep

⁠19 - 20 Jun 88⁠RPS patrol, conducting AAW surveillance

⁠21 - 29 Jun 88⁠CPG/Escort, AAW surveillance and escort operations

⁠30 Jun 88⁠OPS outside Straits

⁠01 Jul 88⁠CPG (E)/SOHWPA/SOH/FUJAIRAH

⁠02 Jul 88⁠FUJAIRAH/SOH/SOHWPA, AAW and ASUW surveillance

⁠03 Jul 88⁠CPG (E)/SOHWPA, AAW and ASUW surveillance

(IO Exhibit 159).

⁠(19) (U) USS VINCENNES had not experienced combat prior to 3 July 1988. (IO Exhibit 159,   p. 816).

⁠b. Watch Organization

⁠(1) (U) USS VINCENNES' Battle Doctrine (VINCENNESINST C3510.1) was signed by Capt G.N. Gee, USN, the Commanding Officer USS VINCENNES just prior to CAPT Rogers, on 1 May 85. This document has subsequently been used as a baseline for Pacific Fleet AEGIS cruisers. (IO Exhibit 160, and   p. 809).

⁠**U**  
⁠(2) () CO USS VINCENNES Standing, Steaming and Battle Orders were signed on 9 Jan 1988 by Capt Rogers as a modification and sub-doctrine to USS VINCENNES Battle Doctrine. These Standing Orders state that only the CO/TAO have weapons release authority on USS VINCENNES. Specifically, weapons release authority is not delegated to those watchstanders standing force CWC duties, i.e. FAAWC/GW. (IO Exhibit 163,   818).

⁠(3) (U) USS VINCENNES' watch organization during pre-deployment training was in accordance with CO’s Battle Doctrine and Standing Orders. (IO Exhibit 160, 809). ⁠(4) (U) The CO modified basic Battle Doctrine for PG Ops by placing the SITREP officer at OSDA #1 and International Air Distress (IAD) operator at LSD #1. He also placed the data recorder (CICO) directly behind LSD #2 and #3 to maintain a timeline of events. The CICO was in view of all large screens and could see "GW’s" CRO. (  p. 570).

⁠(5) (U) On 3 Jul 88, USS VINCENNES’ primary AAW watch organization was as follows:

|  |  |
| --- | --- |
| CO | Capt Rogers |
| XO | (on the bridge) |
| TAO |  |
| OSDA |  |
| GW/FAAWC | (AT EC CONSOLE AT ADS) |
| CIC Officer | (NO CONSOLE) (WORKTABLE BEHIND "GW") |
| IAD Talker | (STAO CONSOLE AT ADS) |
| CSC |  |
| TIC | (DSA/AAW C&R NET) |
| IDS |  |
| SLQ-32 |  |
| EWS |  |
| MSS |  |
| ARC | (MAD TALKER) |
| AAWC |  |
| ACS |  |

(IO Exhibit 174).

⁠(6) (U) USS VINCENNES' enlisted general quarters CIC watchstanders for 3 JUL 1988 were PQS qualified for watches held that day (IO Exhibit 167, 170).

⁠(7) (U) The Commanding Officer USS VINCENNES certified all officer watchstanders as qualified; however   had not completed PQS for AAWC (his 3 July 1988 GQ station). (IO Exhibits 151, 152,   p. 722).

⁠**U**  
⁠(8) () The Commanding Officer USS VINCENNES stated his confidence level before and subsequent to the incident in   and   was the highest it could be. He also stated he had great faith in his "GW" organization and his CIC team’s experience. (Rogers p. 834 - 840).

⁠c. Overall Combat System Status

⁠(1) (U) USS VINCENNES' Preventive Maintenance System (PMS), which covers the AEGIS combat system, was recorded properly and showed no significant discrepancies. (IO Exhibit 147).

⁠(2) (U) The AEGIS combat system was working exceptionally well on 3 July. No anomalies were noted in data analysis or from operator statements. (Enclosure 15).

⁠(3) (U) Semi-annual check for the OE120 IFF Phased Array Antenna was last completed in February 1988 with its next scheduled check to be completed on 12 July 1988. (IO Exhibit 145,   p.350).

⁠(4) (U) Upon the completion of the OE120 July Semi-Annual PMS check of the OE120 IFF antenna, the following discrepancies were noted: Phase Shifter #13 had no power out; #12 was 1.0 db below PMS Spec; one Phase Shifter was within spec. The OE 120 has a total of 16 phase shifters (  p. 350).

⁠(5) (U) The C&D IFF data indicates Phase Shifter degradation was not significant but could open the possibly of sporadic detections in side lobe beams. (  p. 359).

⁠(6) (U) The CASREP summary for USS VINCENNES shows no significant degradations of AEGIS Combat System as of the 8 o’clock reports for 2 July 1988, with the exception of CIWS (close in weapons system) Mount 22. (IO Exhibit 139). The data from NWSC Dahlgren substantiates the excellent performance of the system. (IO Exhibit 91; enclosure 15).

⁠(7) (U) The SPY-1A signal processor alignment was completed during the last week of April 1988 and the first week of May 1988. Operational Performance Tests (OPTS) were run weekly with no significant degradation. The system had been operational almost non-stop since arrival in Gulf. Its performance was exceptional. (IO Exhibit 147, 148, 142, 153).

⁠(8) (U) One of the consoles in CIC (AIC) was down. (  p. 707).

⁠(9) (U) At the time of the incident, Mount 22 (CIWS) was down and Mount 21 was in "AAW AUTO" mode with "hold fire" on. (IO Exhibit 91).

⁠d. Communications

⁠(1) (U) On 3 July 1988, the following nets were being recorded on the ship’s 19 channel tape recorder — RD 390: Fleet Tactical Net; Deconfliction Net; ASUW C and R; SAG Common; MEF Execution; International Air Distress (IAD); AAW C and R (DSA); IO Fleet SEVOCOM; ASUW C and R (HF); AIC #1 and 2; EW C and R; ASW 1 and 2; SAG "A"; LAMPS Secure. Military Air Distress (MAD) was also recorded on a portable tape recorder. (IO Exhibit 203).

⁠(2) (U) USS VINCENNES's primary radio telephone talker for MEF Execution was the FAAWC "GW". He was directly responsible for relaying both the surface and air tactical picture, as seen on USS VINCENNES, along with the force air picture, as seen on USS SIDES and USS ELMER MONTGOMERY, to "GB". ( , p. 809,  , p. 788).

⁠(3) (U) USS VINCENNES internal net 15 is designated for warfare coordinators, only, i.e. CO, TAO, OOD, SSWC, CSC, TIC, SSES. (IO Exhibit 160).

⁠(4) (U) On 3 July 1988, the following CIC operators were using net 15 or 16 in addition to warfare coordinators: FWC, IDS, EWS, RSC, SITREP Officer at ECDA, EWS, EWCO and various other stations that had "punched" into the net. (IO Exhibit 160, pp. 1-5;   , p. 528).

⁠(5) (U) Internal communications had to be shifted between net 15 and 16 due to degradation of the CKT during the 3 July 1988 events. (  p. 528).

⁠(6) (U) Internal net 15/16 was heavily used and difficult to get information across. ( , p. 684).

⁠(7) (U) Internal communications procedures, i.e. specific call ups in accordance with standard procedures, were known by operators but not always used. ( , p. 567).

⁠e. Combat Systems Doctrine

⁠(1) ( )  
  (IO Exhibit 160, 176;  , p.528).

⁠(2) ( ) IFF Interrogate Doctrine – IFF Doctrine activated on 3 July 1988 showed that all SPY-1 surface and air tracks from 5NM to   were being interrogated on IFF modes I, II, III/A and C at one minute intervals. (IO Exhibits 91, 176).

⁠(3) ( ) ID Doctrine – 23 HIFASTTHR will ID air tracks currently ID "unknown pending" or "unknown evaluated", at ranges of 30 to   miles, altitudes 55,000 to   feet and speeds of 1150 to 2200 knots, as assumed enemy. The data   (IO Exhibits 91, 176).

⁠(4) Alert Doctrine

⁠**U**  
⁠(a) () ARC Air Warning 1 — will give an alert for inbound air tracks at ranges from 45 to 55 miles and altitudes 0 to 90,000 feet. (IO Exhibit 176).

⁠**U**  
⁠(b) () ARC Air Warning 2 — will give an alert for inbound air tracks at ranges from 15 to 30 miles. (IO Exhibit 176).

⁠**U**  
⁠(c) () SSWC Surface Warning 1 — will give an alert for an inbound surface track at a range of 15 to 25 miles with a predicted closest point of approach of 0 to 4 miles. (IO Exhibit 176).

⁠**U**  
⁠(d) () SSWC Surface Warning 2 — will give an alert for an inbound surface track at a range of 5 to 15 miles with a predicted closest point of approach of 0 to 2 miles. (IO Exhibit 176).

⁠**U**  
⁠(e) () No target tripped the Alert Doctrine during the engagement period. (IO Exhibit 91).

⁠(5) Drop Track Doctrine Activated

⁠(a) ( )  
  (IO Exhibit 176).  
⁠(b) ( )  
  (IO Exhibit 176).

⁠**U**  
⁠(6) () SPY-1 Doctrine

⁠ Search Elevation = 0-16 deg  
⁠ Power = high 261-097 deg  
⁠= low 097-261 deg  
⁠Sensitivity = auto  
⁠Manual MTI = 0-64 NM  
⁠Freq Mode = fixed  
⁠Low Elevation MTI TRK (Ducting) = off  
⁠Auto Roll In = off  
⁠Cover Pulse Detection Blanking = on

(IO Exhibit 91, 176).

B.⁠Events Leading up to the Air Engagement

⁠1. Ancillary Air Data

⁠a. (U) At 0330Z 3 July 1988 the disposition of the non-participant ships, both U.S. and Allied, was as follows:

⁠(1) (U) USS JOHN HANCOCK was at SITRAH anchorage in Manama, Bahrain.

⁠(2) (U) USS HALSEY was in the Northern Persian Gulf, RPS.

⁠(3) (U) USS O'BRIEN was off Kuwait waiting to begin the outbound transit of Sea Isle City and M/V Patriot.

⁠(4) (U) USS FAHRION was inport Ras al Khaimah for a routine port visit.

⁠(5) (U) USS CORONADO was pier side, Mina Sulman at Manama, Bahrain with CJTFME embarked.

⁠(6) (U) HMS MANCHESTER was 150 NM from the incident, outside the SOH. HMS BEAVER and the Italian warship ESPERO were in the Southern SOH, approximately 75 NM from the incident.  
⁠**U**  
⁠(7) () CJTFME requested all three Allied ships to provide any information relative to TN 4131 and whether they had heard the warnings on IAD. HMS BEAVER responded by delivering its recordings and transcripts of the USS VINCENNES IAD warnings to the Senior Investigating Officer. HMS MANCHESTER indicated that it did not hear the warnings over IAD. Information received from the Italian Naval Headquarters indicated that the ESPERO did not hear the IAD warnings.

(IO Exhibits 102, 244, 291).

⁠b. (U) At 0610Z the three principal U.S. Navy warships involved in Iran Air Flight 655 incident were:

⁠(1) (U) USS VINCENNES (CG 49), located at 26-26 N 056-02E.

⁠(2) (U) USS ELMER MONTGOMERY (FF 1082), located approximately 5 NM from USS VINCENNES.

⁠(3) (U) USS SIDES (FFG 14), located approximately 18 NM NE of USS VINCENNES.

(IO Exhibits 17, 102).

⁠c. (U) The USS FORRESTAL was on routine patrol in the Northern GOO area. (IO Exhibit 250).  
⁠**U**  
⁠d. () The USS FORRESTAL called away and launched the ALERT-7 F-14 and E-2C at 0647Z. (IO Exhibit 250).  
⁠**U**  
⁠e. () At approximately 0649Z the E-2C checked in with the USS VINCENNES and entered the LINK-11 Net which showed the tracks of the hostile surface units and air track 4131. (IO Exhibit 250).  
⁠**U**  
⁠f. () During the track life of TN 4131, the E-2C did not receive any radar, IFF, or ESM data on TN 4131. (IO Exhibit 250).

⁠g. ( )  
  (IO Exhibit 234).

⁠h. ( ) Southern AWACS   was not airborne on 3 July 1988. (  p. 424).

⁠i. ( )  
  (IO Exhibit 234).

⁠2. Surface Engagement  
⁠**U**  
⁠a. () At approximately 0330Z, 3 July, USS MONTGOMERY observed seven small Iranian gunboats approaching a Pakistani merchant vessel. USS MONTGOMERY reported over MEFEX net at 0333Z that the small boats had manned machine gun mounts and rocket launchers. (IO Exhibit 130,   p. 44).  
⁠**U**  
⁠b. () Shortly thereafter USS MONTGOMERY observed a total of 13 Iranian gunboats breaking into three groups. Each group contained 3 to 4 gunboats with one group of four gunboats taking position off USS MONTGOMERY port quarter. (IO Exhibit 130 and   p. 44).  
⁠**U**  
⁠c. () FURY FEZ (code name for missiles tight zone during SUCAP OPS) was activated by "GS" at 0334Z, 3 July 1988. After some discussion between "GW", "GS", and "CB", FURY FEZ was deactivated by "GS" at 0342Z. (IO Exhibit 130, 203, 172).  
⁠d. (U) At 0411Z USS MONTGOMERY heard, over bridge to bridge, the gunboats questioning merchants in the area, and at approximately the same time heard 5 to 7 explosions coming from the north. (IO Exhibit 172,   p. 44).

⁠**U**  
⁠e. () No merchant vessels requested assistance and by direction of "GS", at approximately 0411Z, USS MONTGOMERY proceeded to the southern section of SOHWPA. ( , p. 44).

⁠**U**  
⁠f. () At 0412Z, "GS" directed USS VINCENNES to proceed north to the vicinity of USS MONTGOMERY and to investigate USS MONTGOMERY's report of small boats preparing to attack a merchant. USS VINCENNES's helo OCEAN LORD 25 (LAMPS MK-III) on routine morning patrol was vectored to the north to monitor the Iranian small boat activity in preparation for USS SIDES transit. (IO Exhibits 130, 172).

⁠**U**  
⁠g. () OCEAN LORD 25 closed to within 3NM of Oman while conducting surveillance operations. (  p. 471).

⁠**U**  
⁠h. () At 0615Z OCEAN LORD 25 reported being fired on by one group of small boats (TN 4667). (IO Exhibits 149, 172, 212).

⁠i. (U)   and  , OCEAN LORD 25 crew, observed several small flashes and puffs of smoke approximately 100 yards from the helo. (IO Exhibits 149, 212).

⁠j. (U) At the time of firing, OCEAN LORD 25 was 8-10 miles to the north of USS MONTGOMERY. (  p. 45).

⁠k. (U) Bridge personnel on USS MONTGOMERY reported hearing five detonations to the north just prior to USS VINCENNES's report of the firing on OCEAN LORD 25 over MEFEX net. (  p. 45).

⁠l. (U) At 0613Z USS VINCENNES sounded General Quarters and proceeded north at high speed in the general direction of where OCEAN LORD 25 had been fired upon by the small boats. (IO Exhibits 157, 172).

⁠**U**  
⁠m. () Before returning to USS VINCENNES at high speed, OCEAN LORD 25 was able to identify the group of small boats that fired at it and, via the LAMPS MK-III data link, identify the group to USS VINCENNES. (  p. 798,   p. 476).

⁠n. (U) At approximately 0618Z, USS VINCENNES observed two groups of small boats 7 to 8 miles away. (IO Exhibit 172,   p. 792).

⁠o. (U) The two groups of small boats then closed to approximately 4 miles off USS VINCENNES's starboard bow. (  p. 792).

⁠**U**  
⁠p. () At 0620Z USS VINCENNES was directed by “GS” to take tactical control of USS MONTGOMERY. USS VINCENNES assumed tactical control and positioned MONTGOMERY 8,000 yards off her port quarter. (IO Exhibits 130, 172).

⁠**U**  
⁠q. () At 0639Z USS VINCENNES requested permission by “GS” and “GB” to engage the small boats (TN 4667) with 5″/54 guns. (IO Exhibits 130, 172).

⁠**U**  
⁠r. () At 0639Z "GB" requested USS VINCENNES to verify the small boats were not departing. USS VINCENNES reported the boats were closing the USS VINCENNES and the USS MONTGOMERY. (IO Exhibits 130,   p. 794,   p. 47).

⁠**U**  
⁠s. () At 0641Z “GS” gave permission to engage the small boats with gunfire. (IO Exhibit 130).

⁠t. (U) At 0643Z USS VINCENNES and USS MONTGOMERY opened fire on two closing groups of Iranian small boats, including the group of small boats which had fired on OCEAN LORD 25. (IO Exhibits 172,   p. 48).

⁠u. (U) CO MONTGOMERY reported that two small boats maneuvered erratically and appeared to close USS MONTGOMERY and USS VINCENNES. CO USS MONTGOMERY also stated his lookouts reported small arms fire coming from the small boats. (  p. 47 and p. 50).

⁠v. (U) Crew members topside on USS VINCENNES reported small arms fire from the boats, and Repair Locker 2 personnel in USS VINCENNES reported hearing what might have been small arms rounds impacting the starboard bow area. (IO Exhibits 224, 225, Rogers p. 837).

⁠w. (U) CO USS VINCENNES stated that the post-action analysis indicated that shrapnel, and/or spent bullets, impacted the starboard bow of the ship and the ablative coating behind the forward missile launcher. (Rogers p.838).

⁠x. (U) At approximately 0646Z, USS MONTGOMERY opened fire with her 5″/54 at the two westernmost contacts of the group of four. This is the group USS VINCENNES initially engaged. (IO Exhibit 172,   p. 48).

⁠**U**  
⁠y. () At 0649Z one group of small boats (TN 4456), 027 degrees true from USS VINCENNES, was reported inbound and was taken under fire by USS VINCENNES MT52. (IO Exhibit 172).

⁠**U**  
⁠z. () At 0650Z USS VINCENNES suffered a gun casualty to MT51 resulting in a foul bore (chambered round in the gun that could not be fired). (IO Exhibit 172,   p.796). ⁠**U**  
⁠aa () At 0651Z, "GS" in a transmission to both USS VINCENNES and USS SIDES, ordered USS VINCENNES to take tactical control of USS SIDES. (IO Exhibit 130).

⁠bb. (U) The foul bore in MT51 caused the TAO to maneuver the ship radically, using 30 degrees rudder at 30 KTS ship's speed, in order to keep MT52 pointed at the most threatening of the surface contacts. (IO Exhibit 157,   p.796).

⁠**U**  
⁠cc. (), The high speed, large rudder angle turn caused books, publications, and loose equipment to fall from desks and consoles in CIC. (IO Exhibit 157,   p.796).

⁠**U**  
⁠dd. () At 0703Z USS VINCENNES ceased firing on the small boats. A total of 72 rounds of 5"/54 ammunition was expended (HE CVT-51 RDS, VT-FRAG-16 RDS, WHITE PHOS-3 RDS, VT-NONFRAG-2 RDS). (IO Exhibit 172).

⁠**U**  
⁠ee. () At 0706Z USS MONTGOMERY reported confirmed kill on TN 4456. USS MONTGOMERY expended a total of 47 RDS of 5'/54 ammunition. (IO Exhibits 172).

⁠**U**  
⁠ff. () USS VINCENNES entered the territorial waters of Iran during the engagement. (IO Exhibit 157)

⁠gg. (U) Captain Rogers Considered applicable ROE before requesting permission to engage the small boats. Those criteria included:

⁠**U**  
⁠(1) () The small boats had already committed a hostile act against his unit by firing on OCEAN LORD 25. (Rogers p. 837)

⁠**U**  
⁠(2) () He had positive identification of the small boats as those that had committed the hostile act against OCEAN LORD 25 (Rogers p. 837)

⁠**U**  
⁠(3) () He was initially prepared to disengage from the small boats when they appeared to present no further threat to his units. (Rogers pp. 836-837)

⁠**U**  
⁠(4) () His decision to disengage was changed only when the small boats began to close his units. (Rogers p. 837)

⁠**U**  
⁠(5) () The small boats have greater speed and maneuverability than the USS VINCENNES. (Rogers p. 842)

⁠**U**  
⁠(6) () The small boats carry weapons capable of inflicting significant personnel and equipment casualties. (Rogers p. 838)

⁠**U**  
⁠(7) () Experience with small boat tactics shows that the greatest threat they present is personnel and equipment casualties when they make high speed massed attacks on their targets, raking the superstructures of ships with gunfire and rockets. (Rogers p. 841)

⁠**U**  
⁠(8) () The small boats did not turn away after the USS VINCENNES fired its first round, but continued to close. (Rogers p. 837).

⁠**U**  
⁠hh. () CJTFME considered the following ROE cumulative indicators in, granting permission to engage the small boats:

⁠**U**  
⁠(1) () Positive identification of the boats as those having committed a hostile act against a U.S. ship.

⁠**U**  
⁠(2) () The small boats were not leaving the area.

⁠**U**  
⁠(3) () The small boats were closing the USS VINCENNES and USS MONTGOMERY.{(redact|4|foia-exceptions=(b)(6), (b)(7)(c)}} p. 856.,   p. 425)

⁠**U**  
⁠ii. () USS MONTGOMERY and USS VINCENNES disengaged from the small boats when they ceased presenting a threat to U.S. ships. (  p.51,   p. 518, Rogers p. 839)

C.⁠AIR ENGAGEMENT

⁠1. Data Extraction Background

⁠a. (U) USS VINCENNES's magnetic tapes containing data extracted from her SPY-1A, Command and Decision, and Weapons Control System computers, were transferred by courier from USS VINCENNES to Naval Surface Warfare Center, Dahlgren (NSWC) on 5 July 1988.  p. 280)

⁠b. (U) NSWC Dahlgren signed a receipt for the tapes on 6 July 1988 (  p. 281)

⁠c. (U) NSWC Dahlgren copied the tapes and performed data reduction on the USS VINCENNES's tapes IAW standard procedures.

⁠d. (U) The results of that data reduction are included as IO Exhibits 81-105. ( , pp. 279-371)

⁠e. (U) Preliminary data extraction results were provided by CO NAVSWC DAHLGREN messages 080516Z JUL 88 and 090708Z JUL 88. The former message stated: "Data received and successfully duplicated with the exception of less than 1% of one non-critical WCS tape. Initial basic analysis runs complete and checked. This report based on excellent SPY-1A data and correlations between SPY-1A, C&D, and WCS." (IO Exhibit 91).

⁠f. (U)   AEGIS Program Office, NSWC) stated that the quality of data received was "as good as any data they (his analysts) have ever worked with." (  p. 284).

⁠g. (U) The data examined by NSWC Dahlgren indicated the following regarding the track of interest (TN 4131):

⁠**U**  
⁠(1) () Altitude as seen by SPY-1 increased steadily, after leaving low elevation, to a maximum of 13,500 feet at intercept. (IO Exhibit 91).

⁠**U**  
⁠(2) () Altitude readings received from TN 4131's Mode III-C IFF transmission increased steadily from take-off at Bandar Abbas to a maximum of 12,900 feet 3 seconds before intercept. (IO Exhibit 91).

⁠**U**  
⁠(3) () The only IFF Modes received from TN 4131 as a result of interrogations by the system was Mode III-6760. (IO Exhibit 91)

⁠h. (U) AEGIS Display System (ADS) data cannot be extracted. Therefore, console actions at the CO, "GW", and TAO positions cannot be determined. (IO Exhibit 91).

⁠**U**  
⁠i. () No data tapes were available from other units, but the Mode III IFF of 6760 and increasing altitude seen in the data tapes from USS VINCENNES were corroborated by testimony and statements from USS SIDES. (IO Exhibits 65-73).

⁠**U**  
⁠j. () Information obtained from intelligence sources further corroborated that TN 4131 was squawking Mode III-6760. (IO Exhibit 6).

⁠2. Time Line

⁠a. (U) The time line below is a summary of all the events dealing with the air engagement which occurred between 0647Z and 0654Z on 3 July 1988. From detection to intercept this was a time window of 7 minutes and 8 seconds. The time line is a reconstruction based on data extraction from USS VINCENNES's tapes, as well as statements, testimony, and log entries from USS VINCENNES, USS SIDES, and USS ELMER MONTGOMERY. The events derived from data tape extraction are underlined. The events are in chronological order, but some event times had to be estimated and may not be in precise time sequence.

⁠**U**  
⁠b. () During this engagement, there were no pre-launch indications and Warnings (I&W) indicators of impending Iranian air activity available to USS VINCENNES from either internal ship's sensors or from external sources. 232). (IO Exhibit 232)

⁠c. (U) Unless otherwise noted, names and associated console positions refer to USS VINCENNES's CIC operator positions. (See Figure 1. Figure 1 is duplication of IO Exhibit 174 and is inserted here for ease of review.)

[Diagram, schematic

Description automatically generated](https://en.wikisource.org/wiki/File:CG_47_CIC_Plan_View.jpg)

Figure 3-2. CG 47 CIC Plan View

⁠d. (U) When the term "in close control" or "hooked" is used with a TN it means that the operator referred to has the following displayed on the Character Read Out (CRO) display located on his console: TN, ID, grid coordinates, course, speed, altitude, ID amplifying information, Mode I/II/III IFF received, tracking quality, bearing and range.

⁠**U**  
⁠e. () Throughout this engagement, the large screen displays were on the following range scales: LSD1 - 8NM; LSD2 - 64NM; LSD3 - 16NM; LSD4 - 8NM. LSD3 (the CO's display) was expanded to 64NM some time before the air engagement. (IO Exhibit 209).

⁠(1). 0647Z

⁠**U**  
⁠(a) ()   (EWS),   (IDS) and   (AIC-3) had an Iranian P-3 in close control. The P-3 was 62 miles west of VINCENNES, heading 085. This was the only air "assumed enemy" in the system. (IO Exhibit 91).

⁠**U**  
⁠(b) () The E-2C (AE-602) launched in an alert status from USS FORRESTAL (CV 59), and proceeded to its assigned "EARNEST WILL" station. (IO Exhibit 250).

⁠**U**  
⁠(c) () The SPY-1 radar initially reported the track of interest at a range of 47NM, bearing 025, and altitude of 900 feet (low elevation mode). This corresponded to a lat/long over the runway at Bandar Abbas. Initial course was 210. Mode III was 6760. (IO Exhibits 91 & 232.

⁠**U**  
⁠(d) () The radar operators in USS VINCENNES cannot discriminate size of a contact regardless of aspect angle. (IO Exhibit 183)(  p. 544).

⁠**U**  
⁠(e) ()   (RSC) determined from the A-scope that TN 4131 was a single track. ( , p. 544).

⁠**U**  
⁠(f) ()   (49 ADT) first took close control of the southbound track out Bandar Abbas and made an identification as "UNKNOWN-ASSUMED ENEMY" as it went "feet wet" in accordance with CTG 801.7/OPTASK AAW/002/MAY. Altitude reports to CIC consoles were derived from IFF Mode C since SPY was in low elevation mode. (IO. Exhibits 91 & 132).

⁠**U**  
⁠(g) ()   (Air Detector Tracker and Track Supervisor-SIDES) recalled picking up the track on a course of 200, speed 300kts, with a Mode III - 6700 block (IO Exhibit 71).

⁠**U**  
⁠(h) ()   (IDS) picked up Mode III-6675 as the aircraft departed Bandar Abbas. System data continued to show a Mode III of 6760. (IO Exhibits 91 & 190).

⁠**U**  
⁠(i) ()   (AIC-3) also recalled seeing Mode III-6675 on his CRO. (IO Exhibit 196).

⁠**U**  
⁠(j) ()   (UBS) saw Mode III-6677 and later saw an unspecified Mode II. ( , p. 755).

⁠**U**  
⁠(k) ()   (RSC) believed SSES said that planes had scrambled from Bandar Abbas.   didn't recall SSES indication. ( , p. 542) ( , p. 561   (SSES) stated that he did not report an F-14. ( , p. 664).

⁠**U**  
⁠(l) ()   (TIC) recalled hearing "possible F-4" launch from Bandar Abbas ( , p. 675) and reported "PADRE" over AAW C&R/DSA net. (IO Exhibit 203).

⁠**U**  
⁠(m) ()   (IAD) believed he heard a report of F-14's from SSES. (IO Exhibit 189).

⁠(n) **(U)**   ("GW") believed he heard "F-14" reported from SSES. ( , p. 812).

⁠**U**  
⁠(o) () Track of interest is reported by USS VINCENNES over Link 11 as TN 4474. (IO Exhibit 91).

⁠**U**  
⁠(p) ()   (CSC),   (UBS),   (IDS),   (TIC),   (FC-1),   (AAWC), and   (EWS) all have track of interest (TN 4474) in close control. (IO exhibit 91).

⁠**U**  
⁠(q) ()   (49 ADT) stated TN 4474 was squawking Modes II and III. ( , p. 588).

⁠(2) 0648Z

⁠**U**  
⁠(a) ()   (TIC) recalled noting Mode in his CRO for TN 4131. ( , p. 676).

⁠(b) **(U)** Commercial air schedules were available in CIC and reviewed by decision-making personnel (CO, TAO, "GW", TIC, IDS) on a regular basis prior to the engagement. The IDS specifically looked at the schedule at his console when TN 4131 first appeared. (IO Exhibits 190 & 195, Rogers, p.839,  , p. 621).

⁠**U**  
⁠(c) ()   (FC-1),  (49 ADT), and   (AAWC) took a non-squawking P-3 (track 4472) to the west (RNG 64, BRG 266, CSE 085) in close control or several seconds and returned to the track of interest (TN 4474). (IO Exhibit 91).

⁠**U**  
⁠(d) ()   (TIC) recalled seeing Mode I and Mode III on the P-3 (TN 4472). ( , p. 646).

⁠**U**  
⁠(e) () The P-3 (TN 4472) was challenged over both MAD and IAD. The P-3 responded that he was on a search mission and that he would stay away from USS VINCENNES. The form of the challenge was "Iranian P-3 on course 085 speed 270 this is USN warship BRG 085 64 miles, request you state your intentions." (IO Exhibit 203).

⁠**U**  
⁠(f) () The track of interest (TN 4474)) was at a range of 44 NM, BRG 025, CSE 202, SPD 232, and at an altitude of 2500 ft. The altidude source to consoles continued to be Mode C IFF from the aircraft which was still ascending. (IO Exhibit 91).

⁠(g) **(U)**   (SSES) took TN 4131 in close control. (IO Exhibit 91).

⁠**U**  
⁠(h) () USS SIDES reported the track of interest (TN 4474) over Link 11 as TN 4131. USS VINCENNES's system correlated this with her TN 4474 and correctly maintained reporting responsibility of the track using USS SIDES TN 4131. USS VINCENNES then transmitted "drop track 4474" on Link-11. (IO Exhibit 91).

⁠**U**  
⁠(i) () USS ELMER MONTGOMERY never gained radar contact on TN 4131. (  p. 88), (IO Exhibit 33).

⁠**U**  
⁠(j) ()   (TIC) recalled that the track number changed to TN 4131 occurred somewhere beyond 30 NM. (  p. 675).

⁠**U**  
⁠(k) ()   (TAO-SIDES) observed TN 4131 leaving Bandar Abbas and although it was crossing with respect to USS SIDES, he directed his Weapons Control Officer to lock-on with FC 2. The aircraft was heading southwesterly at approximately 400kts at an altitude of about 10,000 ft. (IO Exhibit 59,  , pp. 247, 248).

⁠**U**  
⁠(l) ()   (WCO-SIDES) confirmed receiving the order and recalled that FC-2 acquired the target 50-60 kyds from USS SIDES. He thought he noticed an IFF of 6710 but didn't see an altitude. (IO Exhibit 69,  , p. 269).

⁠**U**  
⁠(m) ()   (WCC2-SIDES) generally confirmed the range report and recalled an altitude of 3500 ft with speed 480 kts. (IO Exhibit 57).

⁠(n) (S) USS SIDES sent a "WEAPONS ON TARGET" message for TN 4131 over Link-11. (IO exhibit 91).

⁠**U**  
⁠(o) () TN 4131 was designated, tactically significant by VINCENNES system. (IO Exhibit 91).

⁠(3) 0649Z

⁠**U**  
⁠(a) () USS VINCENNES's Link 11 was off for 28 seconds. (IO Exhibit 91).

⁠**U**  
⁠(b) ()   (AAWC) ordered TN 4131 to be challenged over the MAD and IAD nets. (IO Exhibit 204).

⁠**U**  
⁠(c) () A MAD warning was issued by USS VINCENNES to TN 4131 "Unidentified Iranian aircraft on course 203, speed 303, altitude 4000, this is U.S. Naval warship, bearing 205, 40 miles from you. You are approaching U.S. Naval warship operating in international waters. Request you state your intentions." (IO Exhibit 203).

⁠**U**  
⁠(d) ()   (49 ADT) later recalled that his speed challenges on the MAD net were much slower (about 100kts) than those given on the IAD net. ( , p. 602).

⁠**U**  
⁠(e) ()   of the USS SIDES recalled the TAO reporting birds affirm on MEF Execution net. (IO Exhibit 73).

⁠**U**  
⁠(f) () HMS BEAVER joined Link 11. HMS BEAVER copied IAD. (IO Exhibits 91 & 291).

⁠ (4) 0650Z

⁠**U**  
⁠(a) () The following warning was issued to TN 4131 over IAD by USS VINCENNES: "Unknown aircraft on course 206, speed 316 position 2702N/05616E you are approaching US Naval warship request you remain clear." USS VINCENNES's system data indicated the same parameters. (IO Exhibits 91 & 203).

⁠**U**  
⁠(b) ()   (IDS) reported seeing a Mode II-1100 and Mode III-6675 on his RCI about 3-4 minutes before engagement when TN 4131 was at 9000 ft and near the SE corner of Qeshm Island. He reported possible F-14 and Mode II-1100 over net 15/16 to "all stations." USS VINCENNES's system data showed only Mode III-6760 at this time. (IO Exhibit 91,  , p.626)

⁠**U**  
⁠(c) () Not all RCI indications are displayed in an operator's CRO because RCI data is not always correlated with a track in the system. IFF data in C&D is always correlated with a track number. (AF Exhibit Enclosure 17).

⁠**U**  
⁠(d) () Multiple CIC personnel recalled hearing F-14 report on internal net 15 or 16, or recall it being said aloud. ( , p. 812;  , p. 677;  , p. 537;  , p. 637;  , p. 560;  , p. 543;  , p. 570;  , p. 593;  , p. 650).

⁠**U**  
⁠(e) ()   (CSC) never saw Mode II, but   (AIC) saw Mode II-1100 and Mode III-6675 on his CRO.   (AAWC) also saw Mode II-1100. USS VINCENNES's system still held no IFF Mode II and held Mode III-6760 for TN 4131. ( , p.537;  , p. 706;  , p. 727) (IO Exhibit 91).

⁠**U**  
⁠(f) ()   (TIC) reported rechallenging TN 4131 after Mode II report but only got a Mode III ( , p. 678).

⁠**U**  
⁠(g) ()  (WCC2-SIDES) noted TN 4131 climb to 5000 ft. (IO Exhibit 57,  , p. 236}.

⁠**U**  
⁠(h) () TN 4131. went out of SPY-1A low elevation. SPY-1 data then became altitude source at operator consoles and on Link 11. (IO Exhibit 91).

⁠**U**  
⁠(i) () TN 4131 was at range of 34 NM, BRG 025, ALT 6160, and a SPD 334. (IO Exhibit 91).

⁠**U**  
⁠(j) ()   ("GW") reported an inbound Iranian F-14 to "GB on MEF Execution net (BRG 025/RNG 32NM). He also reported on the net that he had warned TN 4131 and that the challenge was ignored. (IO Exhibit 203).

⁠**U**  
⁠(k) ()   ("GW") recalled making a MEF Execution net report when TN 4131 was at 32 NM and recalled an earlier altitude of 9800 ft when TN 4131 was between 38-40 NM. (  pp. 813, 814).

⁠**U**  
⁠(l) () USS VINCENNES ordered to take tactical control of USS SIDES by "GS". (IO Exhibit 203).

⁠**U**  
⁠(m) () TN 4131 reported as "Astro" (F-14) over AAW C&R/DSA net by TIC. (IO Exhibit 203).

⁠**U**  
⁠(n) ()  (OSDA) tagged TN 4131 as F-14 on the LSD. ( , p. 781).

⁠(5) 0651Z

⁠**U**  
⁠(a) () "GW" identified TN 4131 as Iranian F-14 (BRG 024/RNG 28) over CMEF Execution net. Indicated intention to engage at 20 NM unless he turned away. Asked "GB" if he concurred. "GB' told USS VINCENNES to warn aircraft first before firing. (IO Exhibit 203).

⁠(b) **(U)** In the limited time available, CJTFME could not verify the information passed by USS VINCENNES on TN 4131. (  p. 859;   p. 446).

⁠**U**  
⁠(c) ()   (TAO-SIDES) recalled first being alerted to TN 4131 when USS VINCENNES reported an F-14 over CMEF Execution Net p. 247).

⁠**U**  
⁠(d) ()   (SIDES) recalled hearing USS VINCENNES report "birds affirm" on TN 4131 when it was at 30 NM. (IO Exhibit 54).

⁠**U**  
⁠(e) ()   (AAWC) recalled altitude a 8–9 kft at 30 NM and ordered continuous challenge until engagement. (IO Exhibit 204   p. 730).

⁠**U**  
⁠(f) () The following MAD challenge was issued by USS VINCENNES: "Iranian' fighter on course 210, speed 353, altitude 7000 ft. you are approaching US Naval warship, operating in international waters. If you maintain current course you are standing into danger and are subject to USN defense measures. Request you change-course 270 repeat 270."   (SIDES) recalled hearing this report. USS VINCENNES's system data indicated the same course, speed, and altitude. (IO Exhibit 203,  , p. 171).

⁠**U**  
⁠(g) () An IAD challenge was issued by USS VINCENNES to TN 4131: "Unidentified aircraft on course 207, speed 350, altitude 7000. You are approaching US Naval warship bearing 205, 30 miles from you. Your identity is not known, your intentions are not clear. You are standing into danger and may be subject to USN defensive measures. Request you alter course immediately to 270." USS VINCENNES's system data indicated the same. (IO Exhibits 91 & 2O3).

⁠**U**  
⁠(h) () USS VINCENNES's systems held TN 4131 at an altitude of 7000 ft at 29 NM. (IO Exhibit 91).

⁠**U**  
⁠(i) ()   (SIDES) recalled challenging TN 4131 after "GS's" report and reading an IFF altitude of 7,000 ft with a Mode III of 6707. He evaluated it as an Iranian HAJ flight. (IO Exhibit 55,   p. 196).

⁠**U**  
⁠ (j) ()   (SIDES) recalled the evaluation as a HAJ flight and that he and had reported it to the TAO. (TAO - SIDES) does not recall hearing the report of HAJ flight. (IO Exhibits 54 & 59,   p. 251;   p. 177).

⁠**U**  
⁠(k) ()   (Standby-Air Detector Tracker-SIDES) recalled watching TN 4131 climb to 9 or 10 kft when "GW" said "BIRDS AFFIRM" track unknown TN 4131. (IO Exhibit 67).

⁠**U**  
⁠(l) ()   (OSDA) recalled TN 4131 being at an altitude of 8000 ft at SE corner of Qeshm Island and descending. ( , p. 210).

⁠**U**  
⁠(m) ()   (AIC-3) recalled that on his 3rd look TN 4131 was just east of Qeshm Island at 9000 ft and 30 NM. ( pp. 706 & 712).

⁠**U**  
⁠(n) () HMS MANCHESTER joined Link 11. (IO Exhibit 91).

⁠**U**  
⁠(o) () HMS MANCHESTER transmitted TN 4474 (previously associated with TN 4131) as friendly strike aircraft located in the Gulf of Oman about 100-120 mi SE. (IO Exhibit 91).

⁠**U**  
⁠(p) () In a USS VINCENNES Link 11 message, TN 4131 was reported at an altitude of 8500. (IO Exhibit 91).

⁠**U**  
⁠(q) ()   observed TN 4131 slowly rising at around 8-9 kft. He jumped up and said "possible COMAIR" to the CO and   ("GW"). The CO acknowledged the report by raising his hand. ( , p. 571, Rogers p.849).

⁠**U**  
⁠(r) () Airway (A-59) was depicted on LSD #2 in front of "GW" as single line and was slightly west of the actual centerline of the 20 mi wide airway. (IO Exhibit 187).

⁠**U**  
⁠(s) ()   (TIC) issued a report to "Bravo" (USS FORRESTAL) on the AAW C&R/DSA net that TN 4131 was an "Astro" (F-14) and TN 4472 was "Bluejay" (P-3). "Bravo" reported holding both tracks. (IO Exhibit 203).

⁠(6). 0652Z

⁠**U**  
⁠(a) () A MAD warning was issued to TN 4131: "Iran aircraft fighter on CSE 211, SPD 360, ALT 9000. This is USN warship BRG 202 from you. Request you change course immediately to 270. If you maintain current course you are steering into danger and are subject to USN defensive measures." USS VINCENNES's system data indicated the same. (IO Exhibits 91 & 203).

⁠**U**  
⁠(b) ()   (AAWC) recalled seeing TN 4131 with an altitude of approximately 9000 ft and a speed of 360-380 kts. So did the USS VINCENNES's system. (IO Exhibit 91,   , p.728).

⁠**U**  
⁠(c) ()   (49 ADT) recalled that the highest altitude for TN 4131 was 12,000 ft at 25 NM. The system held TN 4131 at 8,400 ft when it was at 25 NM. (IO Exhibit 91,   p. 59 ).

⁠**U**  
⁠(d) () HMS MANCHESTER went off Link 11.   (FC-1) hooked TN 4474 for 5 secs (RNG 110 NM, BRG 139, ALT 11,900, SPD 448). Forty seconds later TN 4474 was dropped from system. (IO Exhibit 91).

⁠**U**  
⁠(e) ()   (CSC) recalled that the last time he looked at altitude, TN 4131 was at 22 NM at 10,300 ft. At 22 NM, USS VINCENNES's system held TN 4131 at 9200 ft. (IO Exhibit 91,  , p 531).

⁠**U**  
⁠(f) ()   (MSS) pushed "REQUEST RADIATION ASSIGN" button for TN 4131. System would not allow since AAWC or IDS had not authorized. (IO Exhibit '91).

⁠**U**  
⁠(g) ()   (AAWC) recalled requesting and receiving permission to illuminate at 20 NM.( , p.730).

⁠**U**  
⁠(h) () USS VINCENNES issued a challenge over IAD to TN 4131: "Unknown aircraft on CSE-210, SPD-360, ALT 10,000. You are approaching USN warship BRG 201, 20 miles from you. You are standing into danger and may be subject to USN defensive measures." The TN 4131 range and kinematics agreed with the USS VINCENNES's system values. (IO Exhibits 91 & 203).

⁠**U**  
⁠(i) () USS VINCENNES issued a challenge over MAD to TN 4131: "Iranian F-14 this is USN warship bearing 199, 20 miles. Request you change course 270 immediately. If maintain current course you are subject to USN defensive measures." USS VINCENNES's system data indicated the same. (IO Exhibits 203, 91).

⁠**U**  
⁠(j) ()   (TAO observer-USS SIDES) recalled TN 4131 rising in altitude and as it reached CPA and continuing to rise to 10 or 11 kft. (IO Exhibit 56,  , p. 222).

⁠**U**  
⁠(k) ()   (49 ADT) stated that TN 4131 IFF broke Mode II on his RCI (not on CRO) only one time. That occurred when it was at 20 miles. It then started to decrease in altitude between 25 and 20 miles. He said on net 12 that the contact was decreasing but did not refer to it by TN. IDS and TIC also noticed a decrease according to   and they said it aloud on net. USS VINCENNES's system data indicated TN 4131 was still ascending. (IO Exhibit 91,  , pp. 588, 595).

⁠**U**  
⁠(l) ()   (MSS) recalled altitude decreasing at 20 NM. ( , p. 749).

⁠**U**  
⁠(m) ()   (IAD) did not recall hearing declining altitude reports on net 12. ( , p. 614).

⁠**U**  
⁠(n) ()   (OPREP/SITREP writer) recalled hearing descending altitude ( , p. 763).

⁠**U**  
⁠(o) ()   (AIC-3) recalled an altitude of 9000 ft. at 20 NM. USS VINCENNES's system data indicated the same. (IO Exhibit 91,  , pp. 706, 712).

⁠**U**  
⁠(p) ()   (MSS) continued to push "REQUEST RADIATION ASSIGN" button (8 times). No authorization had been given by AAWC or IDS yet. (IO Exhibit 91).

⁠**U**  
⁠(q) ()   (AAWC) pushed "ASSIGN" button (which is the start of authorization process). (IO Exhibit 91).

⁠**U**  
⁠(r) ()   (MSS) continued to push "REQUEST RADIATION ASSIGN" button 4 more times. AAWC had not completed authorization sequence. (IO Exhibit 91).

⁠**U**  
⁠(s) ()   (IAD) recalled seeing altitude 10,500 on TN 4131 ( p. 609).

⁠(7) 0653Z

⁠**U**  
⁠(a) () USS VINCENNES reported altitude of TN 4131 at 10,500 ft over Link 11. (IO Exhibit 91)

⁠**U**  
⁠(b) ()   (MSS) pushed "REQUEST RADIATION ASSIGN" two more times. Authorization sequence not complete yet. {IO Exhibit 91.).

⁠**U**  
⁠(c) ()   (WCC-SIDES) Recalled that at the time of engagement, TN 4131 altitude was at 11,000 feet about 15 NM on a course paralleling SIDES. (IO Exhibit 70).

⁠**U**  
⁠(d) ()   (observer-SIDES) confirmed growing excitement and yelling in CIC about COMAIR. He looked at WCO's IFF box and "read 6700 block", altitude about 11,000 ft. (IO Exhibit 73).

⁠**U**  
⁠(e) ()   (CO-SIDES) recalled evaluating TN 4131 as a non-threat based on CPA to USS SIDES, F-14 ASUW capability, lack of ESM and precedent. He noted an altitude of 11,000 ft and shifted his attention to the P-3 to the west. (IO Exhibit 48) ( , pp. 151, 153).

⁠(f) ( )

⁠(1) (U) Airbus A300 carries WXR-700C-X NAV/Weather Avoidance Radar

⁠(2)

⁠(3) (U) Narrow beam of radar plus ascending angle will make the probability of detection of the Airbus radar by SLQ-32 marginal.

⁠(4) (U) Neither USS VINCENNES, USS ELMER MONTGOMERY, nor USS SIDES had a AN/SLQ-32 intercept of the Airbus radar (Enclosure 16).

⁠**U**  
⁠(g) () USS ELMER MONTGOMERY had no ESM contacts that would have correlated TN 4131 to an F-14. (IO Exhibits 27 & 33,   p. 89).

⁠**U**  
⁠(h) ()   never recalled seeing an altitude above 11,000 ft. ( , p. 814).

⁠**U**  
⁠(i) () TN 4131 was at 16 NM, BRG 018, SPD 371 and ALT 11,230. (IO Exhibit 91).

⁠**U**  
⁠(j) () (TIC) recalled target altitude of 11,000 ft at 15 NM. He began to update the range every open spot on net 15/16. USS VINCENNES's system data indicated 11,400 feet at 06:53:31. (IO Exhibit 91,   p. 682}}

⁠**U**  
⁠(k) ()   (GW) heard continuous reports of declining altitude. ( , p. 815).

⁠**U**  
⁠(l) ()   (IAD) recalled being prepared to give the final warning when another ship came up and gave a challenge.   also recalled that the aircraft was at 7800 ft at that time and at 450 kts. The USS VINCENNES's system data did not hold this altitude until after missile intercept. (IO Exhibit 91,  , p. 610).

⁠**U**  
⁠(m) () IAD challenge issued by   (USS SIDES) to aircraft BRG 204 to VINCENNES, RNG 31kyds, squawking Mode III-67. USS VINCENNES's system data indicated the same. (IO Exhibits 71 & 91,  , p. 172).

⁠**U**  
⁠(n) ()   (AIC-3) recalled an altitude of. 7700 feeton his fourth look at TN 4131 when it was at 15 NM. USS VINCENNES's system data at 15 NM showed an altitude of 11,000 ft. (IO Exhibit 91,  , pp. 706, 712.}}

⁠**U**  
⁠(o) ()   (AAWC) pushed "ENGAGE" button in response to system tutorial message to "SELECT WEAPON" and received another "SELECT WEAPON" message. (IO Exhibit 91).

⁠**U**  
⁠(p) ()   (MSS) again pushed "REQUEST RADIATION ASSIGN" button. Authorization sequence was still not completed by AAWC. {IO Exhibit 91).

⁠**U**  
⁠(q) ()   (AAWC) pushed "ASSIGN" button in response to "SELECT WEAPON" message. Again he received a "SELECT WEAPON" message. He then pushed "ENGAGE" and got a "SELECT WEAPON" message. (IO Exhibit 91).

⁠**U**  
⁠(r) () TN 4131 was at 14 NM, ALT 12,000, and still at SPD 382. (IO Exhibit 91).

⁠**U**  
⁠(s) () USS FORRESTAL"s E-2C'started transmitting on Link 11. It never locally held radar, IFF or ESM information on TN 4131. (IO Exhibits 91 & 250).

⁠**U**  
⁠(t) ()   (MSS) pushed "REQUEST RADIATION ASSIGN" button 7 more times. Authorization sequence was still not completed by AAWC. (IO Exhibit 91).

⁠(8) 0654Z

⁠**U**  
⁠(a) () USS VINCENNES's system held TN 4131 at RNG 12 NM, SPD 380, ALT 12,370, CSE 211 at the beginning of this minute. (IO-Exhibit 91).

⁠**U**  
⁠(b) ()   (RSC) reported hearing that the target had dropped in altitude 5-6000 ft at 12 NM. He also stated that the RSC console has no altitude read-out. ( , p. 543).

⁠**U**  
⁠(c) ()   (AAWC) hit the "ENGAGE" button twice in response to "SELECT WEAPON" message and continued to receive "SELECT WEAPON" in response. (IO Exhibit 91).

⁠**U**  
⁠(d) () USS VINCENNES issued a MAD challenge to TN 4131 CSE 211, SPD 385. In background noise "Standard missile, hit Standard missile" is heard. USS VINCENNES's system data indicated the same. (IO Exhibits 91 203).

⁠**U**  
⁠(e) ()   (IDS) observed TN 4131 at 445 kts at an altitude of 7800 ft and descending during engagement. He recalled it being a minute from launch. USS VINCENNES's system information showed TN 4131 at an altitude of 12,000 ft., ascending, and at 380kts. (IO Exhibit 91,  , p. 620).

⁠**U**  
⁠(f) () At 0654:05 the firing key was turned and "FORWARD/AFTER LAUNCHER UPGRADE" alerts were sent. (IO Exhibit 91).

⁠**U**  
⁠(g) () Three seconds later (AAWC) (after receipt of a "SELECT WEAPON" message) correctly hit the "STANDARD MISSILE" button. An "ORDER SENT" message was received in response. (IO Exhibit 91).

⁠**U**  
⁠(h) ()   (AAWC) recalled an altitude of 6000-7000 ft at engagement. ( , p. 730).

⁠**U**  
⁠(i) ()   (AIC-3) recalled TN 4131 at an altitude of 7-8000 feet at missile launch. ( p. 706).

⁠**U**  
⁠(j) ()   (MSS) hit "REQUEST RADIATION ASSIGN" button causing illuminator #3 to be assigned to TN 4131. He then received a "LAUNCHER ASSIGN" alert. (IO Exhibit 91).

⁠**U**  
⁠(k) ()   (MSS) requested and received verbal confirmation of the "TAKE" order from the AAWC. (IO Exhibit 204).

⁠**U**  
⁠(l) () USS VINCENNES reported TN 4131 at altitude of 12,500 ft over Link 11. (IO Exhibit 91).

⁠**U**  
⁠(m) ()   (TIC) recalled giving range and altitude reports once a mile after 11NM. Between 15 NM and 11NM he recalled no change in altitude. (redact|6}}, pp. 676, 683).

⁠**U**  
⁠(n) () At time 0654:19,   (MSS) hit the "FIRING AUTHORIZE" button. TN 4131 was at 10 NM. (IO Exhibit 91.}}

⁠**U**  
⁠(o) () At 0654:22, a missile left the forward launcher, rail A. TN 4131 was at 10 NM, BRG 010, SPD 385 and ALT 12,950. One second later the second missile left the forward B rail. (IO Exhibit 91).

⁠**U**  
⁠(p) ()   (49 ADT) recalled that at 10 NM TN 4131 was 7800 feet. He stated "That, I haven't been able to get out of my mind" (  p. 596).

⁠**U**  
⁠(q) ()   recalled hearing after the shot that the altitude was 7800 ft. (  p. 640).

⁠**U**  
⁠(r) ()   (TIC) recalled the missiles leaving the rail when TN 4131 was 10,000 feet at 10 NM, altitude declining. He also recalled it at 9 NM at missile launch. (  pp. 683, 686).

⁠**U**  
⁠(s) ()   (IAD) was in process of initiating the last IAD warning when missiles went off. The message was not sent. (  p. 610).

⁠**U**  
⁠(t) () The sound of missiles going off was recorded on IAD net. (IO Exhibit 203).

⁠**U**  
⁠(u) () TN 4133, an Iranian C-130, was reported by SPY-1 as taking off from Bandar Abbas. RNG was 42 NM. (IO Exhibit 91) (IO Exhibit 232).

⁠**U**  
⁠(v) () USS VINCENNES sent an altitude report of 13,000 feet for TN 4131 in a Link 11 message. This was followed by a "FIRING" and two "BIRDS AWAY" messages. Net cycle time was 4 seconds. (IO Exhibit 91).

⁠**U**  
⁠(w) () SPY-1 reported detection of both standard missiles outbound to TN 4131. (IO Exhibit 91).

⁠**U**  
⁠(x) () Four seconds later, terminal homing began. Illuminator #2 was used and illuminator #3 was turned off. (IO Exhibit 91).

⁠**U**  
⁠(y) ()   (AIC-3) said he wrote IFF Mode II-1100 and Mode II-6675 on his console shortly before intercept ( , p.715).

⁠**U**  
⁠(z) ()   (49 ADT) took TN 4133 in close control and identified it as "UNKNOWN ASSUMED ENEMY". TN 4133 was squawking Mode I-11. Two seconds later AAWC and IDS also took TN 4133 in close control. (IO Exhibits 91 & 132).

⁠**U**  
⁠(aa) () At 0654:41, USS VINCENNES received last Mode C altitude from TN 4131 was 12,900 feet.   {49 ADT) returned to TN 4131 (IO Exhibit 91).

⁠**U**  
⁠(bb) () At 0654:43 missile #1 intercepted TN 4131 at RNG of 8 NM, BRG 001, ALT 13,500, SPD 383. Altitude reported in Link 11 message from USS VINCENNES was 13,500. One second later missile #2 intercepted TN 4131 and illuminator #2 turned off. (IO Exhibit 91).

⁠**U**  
⁠(cc) () CO, USS MONTGOMERY, located on the ship's port bridge wing, observed the missiles impact TN 4131 and the descent of the aircraft. (  p. 52).

⁠**U**  
⁠(dd) ()   (MSS) recalled an altitude of 7000 feet and range of 6 NM at intercept. System data indicated a range of 7 NM after intercept. (IO Exhibit 91,   p. 749).

⁠**U**  
⁠(ee) ()   (UBS) recalled target at 7000 feet and 6 miles when it was shot. ( , p. 757).

⁠**U**  
⁠(ff) () At 0654:51, the system assessed "KILL" and sent "PROBABLE KILL WITH TRACK" message to AAWC. (IO Exhibit 91).

⁠**U**  
⁠(gg) ()   recalled recording altitude of 7800 and range 6 NM on his console at intercept. ( , p. 712).

⁠**U**  
⁠(hh) () TN 4131, at 17 sec after intercept, was at altitude 12,000 per USS VINCENNES Link 11 message. (IO Exhibit 91).

⁠(9) 0655Z

⁠(a) (U) TN 4131 descended rapidly following missile intercept. Altitudes recorded by the system were as follows (IO Exhibit 91):

|  |  |  |  |
| --- | --- | --- | --- |
| 0655: | 04 - | 10,500 | ft. |
|  | 14 - | 8,300 |  |
|  | 24 - | 6,500 |  |
|  | 34 - | 4,700 |  |
|  | 44 - | 3,000 |  |
| 0655: | 54 - | 1,900 |  |

⁠**U**  
⁠(b) () The aircraft went down approximately 6.5 miles east of Hengham Island at 26-37.75'N/56-01'E. This was 3.37 miles west of the centerline of Air Route A-59. (IO Exhibit 102).

⁠3. Facts Bearing on the Commanding Officer's Decision

⁠a. Table 1 summarizes the information detailed in the prior section that was available to CO USS VINCENNES with respect to TN 4131. (See Table 1).

TABLE 1 INFORMATION AND OBSERVATIONS

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | MODE 3 |  |  | MODE 2 |  |  | ALT COMMENT | HIGHEST ALT | ID AS F-14 |
| SOURCE | RCI | CRO | UNK | RCI | CRO | UNK |  |  |  |
| VINCENNESS SYSTEM | 6760 |  |  |  |  |  | ALWAYS ASCENDING | 13.5 SK |  |
| IAD/MAD TAPES |  | 6760(SIDES) |  |  |  |  | ALWAYS ASCENDING | 10K @ 20 NM | TRANSMITTED |
| ARC/MAD TALKER |  |  |  | 1100 |  |  | DESCENDS AT 20 NM | 12K @25 MI | HEARD |
| IAD TALKER |  | 1100 |  |  | 67XX |  | DESCENDS AT 20 NM | 10.5K @ 20 NM | HEARD |
| IDS | 6675 | 6675 |  | 1100 | 1100 |  | DESCENDS 1 MIN PRE LAUNCH TO 7.8K | 9K @ 30 MI | CALLED "F-14" |
| ACS |  | 6675 |  |  | 1100 |  | DESCENDS TO 7-7.8K | 9K @ 30 MI | HEARD |
| AAWC |  |  | 6XXX | 1100 |  |  | DESCENDS TO 6-7K AT INTERCEPT | 9K @ 30 MI | HEARD |
| MEFEX/TIC MONITOR |  |  | YES | 1100 |  |  | <6K AT INTERCEPT |  |  |
| TIC | YES | YES |  | NO | NO |  | DESCENDS FROM 11 MI TO 8.8K | 11K @ 15 MI | HEARD |
| MSS |  |  | YES |  |  |  | DESCENDS FROM 20 MI TO 6-7K |  | HEARD |
| SRC |  |  |  |  |  |  | DESCENDS TO 8K | 10K @ 300KTS |  |
| SSWS |  | 66XX |  |  |  |  | DESCENDS AFTER 30 MI |  |  |
| CSC |  |  |  |  |  |  | NEVER SAW DESCEND | 10.3K @ 22 MI |  |
| MEFEX RECORDER |  |  |  |  | NO |  |  | 8-9K | HEARD |
| OSC (SW) STALVEY |  |  | 6675 |  |  |  | SAW DESCENDING |  | HEARD |
| SITREP WRITER |  |  |  |  |  |  |  | 10K | HEARD |

NOTE: A "YES" ENTRY INDICATES AN UNSPECIFIED CODE.  
⁠A "NO" ENTRY INDICATES LOCKED, BUT NO CODE OBSERVED.

⁠**U**  
⁠b. () CAPT Rogers recalled having the following indicators in declaring track 4131 hostile and deciding to engage:

⁠**U**  
⁠(1) () F-14s had been recently moved to Bandar (Rogers, p. 835).

⁠**U**  
⁠(2) () Iranian fighters had flown coincident with surface engagement on 18 April 1988. (Rogers, p. 839).

⁠**U**  
⁠(3) () The aircraft was not responding to verbal warnings over IAD or MAD. (Rogers, pp. 838, 846).

⁠**U**  
⁠(4) () There had been warnings of an increased threat over the July 4th weekend. (Rogers, p. 835).

⁠**U**  
⁠(5) () Increased hostile activity had been predicted for the 48 hours following recent Iraqi military victory. (Rogers, p. 835).

⁠**U**  
⁠(6) () The aircraft was not following the air corridor in the same manner as other commercial aircraft had been seen consistently to behave (i.e. flying exactly on the centerline). (Rogers, p. 850).

⁠**U**  
⁠(7) () It was flying at a reported altitude which was lower than COMAIR were observed to fly in the past. (Rogers, pp. 847, 850).

⁠**U**  
⁠(8) () Track 4131 was reported to be increasing in speed. (Rogers, p. 838).

⁠**U**  
⁠(9) () Track 4131 was reported to be decreasing in altitude. (Rogers, p. 838).

⁠**U**  
⁠(10) () Track 4131 was CBDR to USS VINCENNES and USS MONTGOMERY. (Rogers, p. 837).

⁠**U**  
⁠(11) () Track 4131 was reported by USS VINCENNES's personnel squawking Mode II-1100 which correlates with an F-14. (Rogers, p. 837).

⁠**U**  
⁠(12) () No ESM was reflected from track 4131, however, F-14s can fly "cold-nose" (no emitters). (Rogers, p. 838).

⁠**U**  
⁠(13) () F-14s have an air-to-surface capability with Maverick and modified Eagle missiles. (IO Exhibits 9 & 10).

⁠**U**  
⁠(14) () The aircraft appeared to be maneuvering into an attack position. (Rogers, p. 838).

⁠**U**  
⁠(15) () Pk of on board defensive missile systems diminishes inside 10 NM. (Rogers, pp. 838-839).

⁠**U**  
⁠(16) () Visual identification of the aircraft was not feasible. (Rogers, p. 839).

⁠**U**  
⁠c. ()   recalled the following additional indicators which he use in assessing the threat posed by TN 4131.

⁠**U**  
⁠(1) () The aircraft had lifted off from a military airfield in Iran heading south. ( , p. 812).

⁠**U**  
⁠(2) () The aircraft appeared to veer toward USS MONTGOMERY after CAPT Rogers ordered that the target be illuminated. ( , p. 814).

⁠**U**  
⁠(3) () The aircraft's lift off from Bandar Abbas was observed to be in a pattern that did not match previous COMAIR flights. ( , p. 812).

⁠**U**  
⁠(4) () Track 4131 was reported as an F-14. ( , p. 812).

⁠**U**  
⁠(5) () SSES provides no information to negate the reported assertion that track 4131 was an F-14. ( , p. 813).

⁠**U**  
⁠(6) () P-3 turned inbound and was tracking in the classic targeting profile. (  p. 814).

⁠**U**  
⁠d. () CJTFME considered the following indicators under the ROE when concurring in USS VINCENNES decision to engage track 4131:

⁠**U**  
⁠(1) () The aircraft had been identified by USS VINCENNES as an F-14.

⁠**U**  
⁠(2) () USS VINCENNES indicated that the aircraft was inbound on USS VINCENNES.

⁠**U**  
⁠(3) () USS VINCENNES was told to warn the aircraft. (  p. 426;   p.886).

D.⁠POST ENGAGEMENT ACTIVITY

⁠1.⁠Search and Rescue

⁠**U**  
⁠a. () The IRGC boats which were involved in the gun fight with VINCENNES/MONTGOMERY departed the area toward the wreckage in the very early 0700Z hour. (IO 232, recap of events)

⁠**U**  
⁠b. () Several Iranian helicopters were in the area of the wreckage by 0750Z and Iranian F-4's, which had departed Bandar Abbas at 0717Z, circled the wreckage site at approx 0840Z (IO 232, 129, recap of events)

⁠**U**  
⁠c. () At least 1 hovercraft and up to 20 small boats including tugs were probably involved in a SkR effort from 0800Z thru 1200Z. (IO 232, 129 recap of events)

⁠d. (U) An unofficial list of Iranian Air FLT 655 passengers and crew is included as IO Exhibit 237.

⁠**U**  
⁠e. () USS MONTGOMERY and USS VINCENIES were ordered by "GW" to provide assistance to the crash site. (  p.55)

⁠**U**  
⁠f. () USS VINCENNES offered assistance but got no response. (  p.55)

⁠2.⁠Operational Reporting

⁠a. (U) 0719Z - VINCENNES reported F-14 splashed over CMEF Execution Net.

⁠**U**  
⁠b. () CJTFME initially'reported the boat engagement by CJTFME 030710Z JUL 88, OPREP-3P/004. Included was the first indication to an "unknown assumed hostile closing from north." (IO Exhibit 267).

⁠**U**  
⁠c. () CJTFME updated their OPREP-3/004 with CJTFME 030727Z JUL 88, OPREP-3/004A, confirming kill of an Iranian F-14. Details of altitude, speed, and IFF were provided. (IO Exhibit 266)

⁠**U**  
⁠d. () CJTFME OPREP-3P/004B 031445Z JUL 88 reported the downing of the probable F-14 and noted that CJTFME had been informed of the fact that IR 655 was overdue at Dubai. (IO Exhibit 265)

⁠**U**  
⁠e. () VINCENNES OPREP-3 031630Z JUL 88 was readdressed by CJTFME under the same DTG providing a timeline for both surface and air engagement and reconfirming altitude as 7800 feet and descending, speed 445kts, mode II, 1100, ID as F-14, and that the aircraft had ignored MAD and IAD warnings. Additionally, TN 4131, Bearing/Range 005T/9NM; mode III, 6675, course 185T, and CBDR amplifying data was supplied (IO Exhibit 233). (IO Exhibit 171 further amplifies.)

IV. OPINIONS

A.⁠GENERAL

⁠1.⁠(U) The USS VINCENNES did not purposely shoot down an Iranian commercial airliner. Rather, it engaged an aircraft the Commanding Officer, USS VINCENNES reasonably believed to be hostile and a threat to his ship and to the USS MONTGOMERY (FF 1082).

⁠2.⁠(U) Based on the information available to and used by the CO in making his decision, the short time frame available to him in which to make his decision, and his personal belief that his ship and the USS MONTGOMERY were being threatened, he acted in a prudent manner.

⁠3.⁠(U) Iran must share the responsibility for the tragedy by hazarding one of their civilian airliners by allowing it to fly a relatively low altitude air route in Close proximity to hostilities that had been ongoing, and where IRGC boats were actively engaged in armed conflict with U.S. Naval vessels.

⁠4.⁠(U) The downing of Iran Air 655 was not the result of any negligent or culpable conduct by any U.S. Naval personnel associated with the incident.

⁠5.⁠(U) Based on the information available to CJTFME, his confidence in CAPT Rogers and the' capabilities of USS VINCENNES, his concurrence to engage TN 4131 was correct.

⁠6.⁠(U) The AEGIS Combat System's performance was excellent -- it functioned as designed. Had the CO USS VINCENNES used the information generated by his C&D system as the sole source of his tactical information, the CO might not have engaged TN 4131.

⁠7.⁠(U) Time compression played a significant role in the incident. From the time the CO first became aware of TN 4131 as a possible threat, until he made his decision to engage, the elapsed time was approximately three minutes, 40 seconds. Additionally, the Commanding Officer's attention which Was devoted to the ongoing surface engagement against IRGC forces (the "wolf closest to the sled"), left very little time for him to personally verify information provided to him by his CIC team--a team in which he had great confidence. The fog of war and those human elements which affect each individual differently--not the least of which was the thought of the Stark incident--are factors that must be considered.

⁠8.⁠(U) The digital data extracted from USS VINCENNES data recording tapes is valid and provided invaluable insights and information for the reconstruction of the events of 3 July 1988 including the evaluation of individual CIC console operator actions.

⁠**U**  
⁠9.⁠() The Commanding Officer VINCENNES decision to engage TN 4131 was based primarily on the following:

⁠(a) (U) The aircraft had lifted off from an airfield used jointly by military and civilian aircraft in Iran heading directly toward his ship at a relatively low altitude.

⁠(b) (U) Track 4131 was CBDR to USS VINCENNES and USS MONTGOMERY.

⁠(c) (U) TN 4131 was flying at a reported altitude which was lower than USS VINCENNES observed COMAIR to fly previously. Additionally, it was not flying exactly on the airway centerline as USS VINCENNES had seen previous COMAIR consistently do.

⁠(d) (U) It appeared to veer toward the USS MONTGOMERY.

⁠(e) (U) Track 4131 was reported to be increasing in speed, decreasing in altitude, and closing range.

⁠**U**  
⁠(f) () No ESM was reflected from track 4131, however, F-14s can fly "cold-nose" for delivery of weapons (no emitters).

⁠(g) (U) The aircraft was not responding to verbal warnings over IAD or MAD.

⁠**U**  
⁠(h) () Track 4131 was reported by USS VINCENNES personnel to be squawking Mode II-1100 which historically correlated to Iranian F-14's.

⁠(i) (U) The aircraft appeared to be maneuvering into an attack position.

⁠(j) (U) Visual identification of the aircraft was not feasible due to the lack of combat air patrol.

⁠**U**  
⁠(k) () Iranian fighter aircraft had flown coincident with the surface hostilities involving U.S. and Iranian Forces on 18 April 1988.

⁠**U**  
⁠(l) () Warnings had been issued for increased hostile activity for the 48 hour period which included the July 4th weekend.

⁠**U**  
⁠(m) () An Iranian P-3 airborne to the west of USS VINCENNES, turned inbound and was tracking in a classic targeting mode.

⁠(n) (U) The Stark incident.

⁠**U**  
⁠(o) () Iranian F-14's have an air-to-surface capability with Maverick missiles, iron bombs, and modified Eagle unguided rockets.

⁠(p) (U) TN 4131 could have been a suicide attack.

⁠10.⁠**(U)** Having other forces under his tactical control (SIDES, MONTGOMERY) intensified the CO USS VINCENNES's feeling of responsibility to defend his task group from hostile action.

⁠11.⁠**(U)** The information available to CO, USS VINCENNES, upon which he based his decisions, conflicted in some cases with the data available in USS VINCENNES' command and decision (C&D) system. Specifically:

⁠(a) (U) The C&D system contained no Mode II IFF information on TN 4131 yet operators in CIC had used Mode II as a means of declaring TN 4131 an Iranian F-14.

⁠(b) (U) The C&D system showed TN 4131 continuously ascending, while the CO received reports of "descending altitude" immediately prior to enabling the firing key.

⁠12.⁠(U) Psychological factors: As the investigation developed, and it was discovered that there were disparities between the C&D tape data and what various members of CIC believed they saw, the senior investigating officer requested the professional advice of USN Medical Corps personnel who have studied combat stress. The following opinions draw heavily on their conclusions. (See Encl. 18)

⁠— Stress, task fixation, and unconscious distortion of data may have played a major role in this incident.

⁠— TIC and IDS became convinced track 4131 was an Iranian F-14 after receiving the IDS report of a momentary Mode II.

⁠— After this report of the Mode II, TIC appears. to have distorted data flow in an unconscious attempt to make available evidence fit a preconceived scenario. ("Scenario fulfillment")

⁠— TIC's perception that there was an inexperienced, weak leader in the AAWC position led to the emergence of TIC in a leadership role. TIC's reports were accepted by all and could have influenced the final decision to launch missiles.

⁠13.⁠(U) Captain Rogers' action in delayisg engagement of TN 4131 with missiles until it was well within 15 NM demonstrated an appreciation for the seriousness of the consequences of his actions and was balanced with his responsibility to defend his ship.

B.⁠RULES OF ENGAGEMENT

⁠1.⁠(U) CJTFME and CO, USS VINCENNES, properly selected and applied the correct Rules of Engagement to both the surface and air engagements.

⁠2.⁠(U) Based upon the information presented to Captain Rogers, engagement of TN 4131 was within the parameters of the Rules of Engagement.

C.⁠THIS SECTION INCORPORATES VARIOUS OPINIONS RELATED TO THE USS VINCENNES's TRAINING, READINESS, AND BATTLE ORGANIZATION.

⁠1.⁠Training and Readiness/Battle Doctrine.

⁠a. (U) The USS VINCENNES was adequately trained to perform her missions as a unit of JTFME.

⁠b. (U) With the exception of the AAWC position, USS VINCENNES' General Quarters AAW watch organization was experienced and qualified.

⁠c. (U) Ship's Battle Doctrine was sound.

⁠2.⁠CIC Watch Organization.

⁠a. (U) "GW" was considered by CO USS VINCENNES as his primary force and ship air warfare advisor.

⁠b. (U) The Persian Gulf modifications to the USS VINCENNES's CIC organization moved the ship's AAW coordination function away from AAWC and left him acting largely as a console operator. Assignment of "GW" to Force AAW, Ship AAW, and MEF execution net talker for surface and air SITREPS degraded his ability to independently assess the actual profile and ID of TN 4131.

⁠3.⁠Material/Combat Systems Readiness.

⁠(U) There were no AEGIS combat systems maintenance or materiel problems which contributed to the incident.

D.⁠SURFACE ENGAGEMENT

⁠1.⁠(U) OCEAN LORD 25 took hostile fire from one of the groups of IRGC small boats it had been monitoring.

⁠2.⁠(U) The group of boats which USS VINCENNES took under fire included the group which had fired at OCEAN LORD 25.

⁠3.⁠(U) USS MONTGOMERY and USS VINCENNES were fired upon by IRGC gun boats during the course of the surface engagement.

⁠4.⁠(U) The ongoing surface engagement was a significant factor in increasing tension within USS VINCENNES's CIC.

⁠5.⁠(U) The foul bore and resulting high speed maneuvering of the ship to keep MT 52 in position to engage IRGC craft were complicating factors which prevented the CO from devoting his full attention to TN 4131, and it contributed to the tension in the CIC of USS VINCENNES.

⁠6.⁠(U) The surface engagements conducted by USS VINCENNES and USS MONTGOMERY was effective.

E.⁠AIR ENGAGEMENT

⁠1.⁠( ) SSES probably made the initial alert of an F-14 coincident with the recognition of TN 4131 by CIC. However, even if SSES did not make this identification, CIC personnel believed SSES did, providing TN 4131 with positive (though inaccurate) identification

⁠2.⁠(U) At no time did IR 655 actually descend in altitude prior to engagement.

⁠3.⁠(U) Iran Air Flight 655, an Airbus 300, was on a normal climb out from Bandar Abbas and was flying within the established air route, A-59, from Bandar Abbas to Dubai.

⁠4.⁠(U) IR 655 was not on the exact center of airway A-59, but was 3.37 NM west of the centerline. However, it was in the assigned airway.

⁠5.⁠(U) Iran Air Flight 655 was not squawking Mode II-1100, but squawked Mode III-6760 during the entire flight.

⁠**U**  
⁠6.⁠() The IDS mis-correlated an RCI readout of Mode II-1100 with TN 4131. This occurred, according to analysis of the data, when the IDS hooked TN 4131 as it departed Bandar Abbas and left it hooked for almost 90 seconds. This meant that as the hooked symbol moved toward USS VINCENNES the read-gate for the RCI remained near Bandar Abbas. A Mode II transmission from an aircraft on the ground in Bandar Abbas would then be displayed in his RCI if the signal could get to the ship.

⁠**U**  
⁠7.⁠() The un-correlated IFF Mode II-1100 obtained by IDS could have been generated by a military aircraft (C-130, F-4, F-14) located on the ground at Bandar Abbas. This was supported by his IDS' RCI set-up and the RF ducting condition in effect on 3 July. Therefore, any number of military aircraft, present at the airfield, could have responded to a Mode II IFF interrogation by USS VINCENNES due to the ducting conditions prevalent that day.

⁠8.⁠(U) The CO, "GW" and key CIC AAW operators sincerely believed that they were engaging a hostile aircraft.

⁠9.⁠(U) The range and altitude information passed to the CO on Net 15 was correct until TN 4131 reached approximately 15 NM. Approximate time 06:53:45.

⁠**U**  
⁠10.⁠() TN 4133 (Iranian C-130) which departed Bandar Abbas almost simultaneously with missile launch was squawking Mode I-11 and could have been a potential source of confusion between Mode I-11 and Mode II-1100 on IDS and AAWC's RCI.

⁠11.⁠(U) In the excitement of the impending engagement, it is entirely possible that reports of decreasing altitude passed over the net by TIC after the 15 NM point could have occurred if TIC passed only range values, which were interpreted as altitude, or he simply mis-read his CRO and interchanged altitude and range.

⁠12.⁠(U) The ship's air controller supervisor's recollection of 7800 ft altitude at 6 NM was actually the altitude of TN 4131 33 seconds after missile intercept. In other words, the plane's altitude as it was plummeting to the water.

⁠13.⁠(U) Recollection of Mode III IFF responses other than 6760 for TN 4131 were caused by imperfect recall by the IDS, ACS, AAWC, SSES, console operators in CIC, as well as the post incident SITREP writer.

⁠14.⁠(U) The violent maneuvers of the ship, the noise of the guns firing, gear falling in CIC and the lights in the LSD's flickering, heightened the tension in CIC during the critical time TN 4131 was being evaluated.

⁠**U**  
⁠15.⁠() Except for Mode IV, IFF codes are not absolute determinators for engagement. Mode III is the least reliable because all aircraft are capable of squawking Mode III.

⁠**U**  
⁠16.⁠() AN/SLQ-32 Set-up in USS VINCENNES/SIDES/MONTGOMERY were adequate to intercept a COMMAIR radar. The position and nose attitude of Flight 655 precluded AN/SLQ-32 from intercepting/displaying IR 655's radar--if it was in fact transmitting.

⁠17.⁠(U) There were no Link-11 dual designations (two separate vehicular tracks with the same LINK-11 STN) of TN 4131 during the period of interest. Therefore, a LINK-11 track crossover problem did not occur.

⁠18.⁠(U) The warnings issued by USS VINCENNES over IAD and MAD nets were transmitted and were heard by other units. However, it is impossible to know whether a particular aircraft has heard a challenge unless it replies or turns away.

F.⁠COMMERCIAL AIR

⁠1.⁠(U) Commercial air, particularly commercial air from Iran, is at risk in the Persian Gulf as long as hostilities continue in the area. Unless an aircraft can be visually identified as a non-threat, any aircraft approaching a U.S. Navy ship could be considered a threat. However, an aircraft at high altitude (above 25,000 ft) will likely not be evaluated as a threat.

⁠**U**  
⁠2.⁠() U.S. Navy units operating in the Persian Gulf have insufficient current information on commercial traffic schedules, on commercial air routes, and on the type and ranges of IFF codes used by commercial traffic. With over 1,000 commercial flights per week within the Persian Gulf area, it would be difficult for individual ships to maintain current, accurate airline information.

⁠3.⁠(U) Due to heavy pilot workload during take-off and climb-out, and the requirement to communicate with both Approach Control and Tehran Center, the pilot of Iran Air Flight 655 probably was not monitoring IAD.

⁠4.⁠(U) Any aircraft, including commercial aircraft, could be used in a suicide mission role, therefore, Commanders cannot disregard an aircraft squawking Mode III, IFF, flying on a commercial air corridor, and on a CBDR to his ship.

⁠5.⁠(U) Current verbal warnings and challenges used by JTFME units are ambiguous because they do not clearly identify to pilots exactly which aircraft the ship is attempting to contact.

⁠6.⁠(U) The limited number of VHF radios on U.S. surface units degrades their ability to simultaneously monitor the IAD frequency and communicate with civilian air traffic control agencies.

⁠7.⁠(U) Bandar Abbas Tower, Approach Control and Tehran Center did not hear, or failed to relay, the IAD warnings issued by USS VINCENNES to IR 655.

⁠**U**  
⁠8.⁠() The current tools used by the U.S. Navy for differentiating between friendly and hostile unknown aircraft were designed primarily for the open ocean environment. U.S. Naval weapon systems can reach further and often react more quickly than sensors can evaluate. This is especially true in the Persian gulf areas where reaction time is constrained by geography. Therefore altitude is one of the most useful indicators for establishing "no hostile intent."

G.⁠CJTFME

⁠1.⁠(U) CJTFME's confidence in CO USS VINCENNES, and in the capability of the AEGIS system, coupled with information available to him in his Flag Plot, were the factors involved in his concurrence with CO, USS VINCENNES decision to engage TN 4131. He exhibited prudence and good judgment in telling USS VINCENNES to warn the aircraft before engaging it.

⁠2.⁠(U) Because CJTFME did not have a usable real time data Link, he could not have independently verified the data provided by USS VINCENNES regarding TN 4131.

⁠3.⁠(U) The CJTFME watch organization was sound, personnel were qualified and they performed satisfactorily.

V.⁠RECOMMENDATIONS

A.⁠General

⁠1.⁠(U)

⁠**U**  
⁠2.⁠() Since it appears that combat induced stress on personnel may have played a significant role in this incident, it is recommended the CNO direct further study be undertaken into the stress factors impacting on personnel in modern warships with highly sophisticated command, control, communications and intelligence systems, such as AEGIS. This study should also address the possibility of establishing a psychological profile for personnel who must function in this environment. Additionally, it is recommended CNO task the Surgeon General of the Navy with the responsibility of providing any necessary psychological/psychiatric assistance to crewmembers of the USS VINCENNES in anticipation of possible post-traumatic stress syndrome. This should be done at the earliest possible time to ensure best results. (Enclosure 23 pertains).

⁠**U**  
⁠3.⁠()

⁠4.⁠(U) That no changes be made to the existing ROE.

⁠5.⁠(U) To prevent the possibility that commercial aircraft could become innocent victims in this area of armed conflict, the USG should seek ICAO's immediate attention to revise the existing commercial air route structure over the waters of the Persian Gulf. The State Department should direct our embassies to urge affected countries to cooperate in this endeavor. Pending the results of this request, the USG should also urge ICAO to promulgate an immediate NOTAM that all flights climb to at least 25,000 feet over land prior to crossing the Gulf and begin their descent over land.

⁠6.⁠(U)

⁠7.⁠(U) That CJTFME strengthen the MEF "inchop brief" to include an in depth review of the unique problems associated with COMAIR within the Persian Gulf Area.

⁠8.⁠(U) That CJTFME continue to liaise with Air Traffic Control agencies and American embassies to resolve the COMAIR problems unique to the Persian Gulf Area (e.g., identification, communications, ICAO procedures, etc.).

B.⁠USS VINCENNES BATTLE ORGANIZATION

⁠1.⁠(U) That the Commanding Officer, USS VINCENNES, take action as required to strengthen the AAWC position in the USS VINCENNES' CIC organization. ⁠2.⁠(U) That the Commanding Officer, USS VINCENNES, document any CIC organization modifications required by Persian Gulf operations in the existing Battle Doctrine. If the USS VINCENNES uses a split warfare TAO CIC organization e.g., surface and air, "GW" should not be given MEF execution net responsibility as a radio telephone talker.

C.⁠AEGIS SYSTEM RECOMMENDATIONS:

⁠1.⁠(U) It is recommended the CNO:

⁠a. (U) Determine the cause of reported STC-2/IVCS net 15/16 degradation (due to loading), and issue a class advisory if required.

⁠b. (U) Reassess the design of the AEGIS large screen display (LSD) to allow the option of displaying altitude information directly on the LSD.

⁠c. (U) Investigate the best means of providing a mode in the UPX-29 which will slave the RCI challenge gate to a hooked track.

D.⁠TRAINING ENHANCEMENTS.

⁠1.⁠(U) If we must operate in a low intensity conflict and in the presence of COMAIR, we must train to that environment, real or simulated. Request the CNO develop a fleet wide identification matrix for dense air traffic environments in third world/low intensity conflicts. Battle Group training doctrines, AAW procedures, numbered Fleet Commander Fighting Instructions, and workups should reflect consensus on ID matrices to deconflict COMAIR within war zones, when being used as "cover" for military aircraft, or when being used as suicide attackers. For example, live missile exercises could include a percentage of the inbound drones be flown on COMAIR profiles, with proper modes and codes, in close proximity of simulated hostile targets. Another method would be to have aggressor aircraft act as COMAIR to challenge the deconfliction capabilities of surface ships with/without VID capability.

⁠2.⁠(U) Request CNO review AEGIS IFF operator training procedures and provide a class advisory to ensure operator familiarity of pros and cons of various RCI selectable modes.

[Text, letter

Description automatically generated](https://en.wikisource.org/wiki/File:Signature_-_William_M_Fogarty.jpg)

WILLIAM M. FOGARTY

EXHIBITS

1. APPOINTING ORDER WITH AMENDMENTS
2. (DESIGNATION LETTER DTD 10 JUL 88)
3. CAPT ROGERS (DESIGNATION LETTER DTD 10 JUL 88)
4. (DESIGNATION LETTER DTD 10 JUL 88)
5. (DESIGNATION LETTER DTD 10 JUL 88)
6. INTELLIGENCE BRIEF AND OPERATIONS SUMMARY RELATIVE TO THE EVENTS OF 3 JUL 88
7. USS HALSEY 020500Z JUL 88; SUBJ: MARREP
8. CJTFME INCHOP BRIEF TO ALL UNITS
9. CJTFME 011610Z JUN 88; SUBJ: FORCE INTEL ADVISORY — 085/71/88 — IRANIAN WEAPONS DEVELOPMENT (U)
10. CJTFME 200510Z JUN 88; SUBJ: FORCE INTEL ADVISORY — 096/88 — IRAF AIRCRAFT MODIFICATION PROJECTS (U)
11. FOSIF WESTPAC 061021Z MAY 88; SUBJ: INCHOPPER SUPPORT MESSAGE (IO/PG-08) — IRANIAN AIR OPERATIONS (); AND CTG 801.7 AAW OPTASK
12. DOD FLIGHT INFORMATION PUB: AIRPORT FACILITY DIRECTORY
13. STATEMENT OF
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