

**“Assumed Hostile”**  
**The *USS Vincennes* Shoot-Down of Iran Air Flight 655 on July 3, 1998**

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## Introduction

On July 3 1988, while engaging in combat with Iranian gunboats in the Southern Persian Gulf as part of Joint Task Force Middle East, the USS Vincennes (CG-49) shot down an Iranian civilian airliner with two SM-2 missiles after allegedly mistaking it for an Iranian F-14. The Vincennes, a high-tech cruiser of Aegis class commanded by Captain Will Rogers III, was to be providing naval escort for oil tankers passing through the Gulf. The Airbus aircraft, Iran Air Flight 655, was on its twice-a-week routine scheduled flight from Bandar Abbas to Dubai in the United Arab Emirates when it was said to have strayed too close to the U.S. Navy warship. The pilot of Flight 655, Captain Mohsen Rezaian, was transporting 290 people, 66 of them children, when the surface-to-air missiles hit. The plane blew up over Iranian water<sup>1</sup>, six miles away from the Vincennes, killing everyone onboard.

The destruction Iran Air Flight 655 was an appalling human tragedy. It came at the height of the Iraq-Iran war, in an era of America’s “limited warfare” in the Gulf with ambiguous rules of engagement and lethal technologies. It undermined the U.S. decision-making system, and questioned its political agenda in the Gulf, in which the U.S. had strongly denied any “secret support” for Iraq. For the Navy, it was a professional disgrace. The Navy’s most expensive surface warship, the \$1.2 billion Aegis-class cruiser<sup>2</sup>, had used its guided *Standard* missiles to blow up a commercial jumbo jet in its first time in combat.

The Vincennes affair occurred on the eve of the United States’ Independence Day, four months away from the 1988 Presidential election. It was followed by weeks of Washington’s reluctance to disclose full details about the incident, as well as complete denial of responsibility. In Iran, national mourning quickly turned into vows of revenge. At the July 14 United Nations Security Council hearing of the event, the Iranian government demanded an apology from the United States and compensation for family victims. While responding that “I will never apologize for the United States of America”, Vice President George Bush promised a full investigation that would hopefully shed light on some of the murkiest details that surrounded the morning of July 3. How did the state-of-the-art *Spy* radar system on the USS Vincennes mistake the bulky, wide-bodied Airbus A300 for a sleek, supersonic F14 jetfighter barely one-third the commercial plane’s size? What was the Vincennes doing in Iranian water<sup>3</sup>? Why did the American-educated pilot of Flight 655 fail to respond to warnings, which were broadcasted on emergency UHF, and VHF channels supposedly monitored by both civilian and military aircrafts<sup>4</sup>?

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<sup>1</sup> George C. Wilson, *Navy Missile Downs Iranian Jetliner on 4th of July*, Washington Post Monday, July 4, 1988; Page A01

<sup>2</sup> See Exhibit II: Anatomy of an Aegis Cruiser

<sup>3</sup> A charge that the Pentagon initially denied, but the USS Vincennes’ Aegis-generated map of its positions showed otherwise. While conceding of such evidence, Captain Rogers insisted that he had pursued the Iranian gunboats into their territorial water in self-defense.

<sup>4</sup> Annex 10 to the Convention on International Civil Aviation, to which Iran is a party, provides that commercial aircraft “shall continuously guard the VHF emergency frequency 121.5 MHZ in areas or over routers where the possibility of interception of aircraft or other hazardous situations exist...”

### **An Eventful Morning in the Tanker War (1984-1988)**

Captain Will Rogers woke up to an eventful morning in the Gulf. It was only 6:33 a.m. local time on July 3 when the duty officer in the ship's combat information center (CIC), the nerve center two decks below Rogers's sea cabin, informed him that the U.S. Navy frigate *Montgomery* (FF-1082) had just found some unwanted company coming through the western entrance of the Strait of Hormuz: "Skipper, you better come down. It sounds like the *Montgomery* has her nose in a beehive."<sup>5</sup>

The Strait of Hormuz, the entrance to the Persian Gulf from the Indian Ocean, is only 32 miles-wide at its narrowest point, a relatively small strip of ocean compared to its great strategic importance. Everyday, tankers bearing half the world's imported oil passes through the strait, as it is the only sea route where oil from Kuwait, Iraq, Iran, Saudi Arabia, Bahrain, Qatar, as well as most of United Arab Emirates can be transported<sup>6</sup>. The Iran-Iraq War had made traveling through the strait dangerous: gunboats of the Iranian Revolutionary Guard, based on the islands of Hengam and Abu Musa, had been attacking tankers and merchantmen bound to and from Kuwait, Iraq's main ally in the war. Tension had been escalating since an Iranian *Silkworm* missile hit the U.S.-flagged, Kuwaiti owned<sup>7</sup> oil tanker *Sea Isle City* in Kuwaiti waters on October 16, 1987, injuring 18 crewmen. Three days later, Washington retaliated by destroying an Iranian off-shore oil platform, and by using the Navy's Sea, Air, and Land (SEAL) commandos, blew up a second one nearby. By early 1988, the Gulf was busy with naval operations, with at least ten Western navies and eight regional navies patrolling the area, escorting their oil tankers through the strait. The morning of July 3, 1988 appeared to be just another busy day of potentially deadly confrontations in the tanker war.

Some 50 miles to the northeast of the Vincennes, the *Montgomery* spotted a half-dozen Revolutionary Guard gunboats coming out to the strait from their island bases, many of them were moving in near a Liberian tanker called the *Stoval*. At 7:11, the *Montgomery* reported hearing "five to seven" explosions coming about the tanker, and fleet headquarters in Bahrain ordered the Vincennes Northeast to support the *Montgomery*. Rear Admiral Anthony Less, the commander of the Joint Taskforce-Middle East, was not interested to put the cruiser in combat situation, but merely wanted to dispatch the Vincennes's helicopter on a reconnaissance mission. So Capt. Richard McKenna, Less's chief of surface warfare, relayed what he thought were clear orders to Rogers: "send your [helicopter] north to investigate, but keep your ship farther south, in case more boats emerge from the Revolutionary Guard base on Abu Musa"<sup>8</sup>.

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<sup>5</sup> *Storm Center*, Will Rogers and Gene Gregston, p5

<sup>6</sup> Encyclopedia of the Orient: <http://i-cias.com/e.o/hormuz.htm>

<sup>7</sup> In 1986, Kuwait asked the United States to reregister 11 tankers - half of its fleet - under the American flag with the specific intention that their ships would be entitled to U.S. Navy protection against the increasingly frequent and destructive Iranian attacks.

<sup>8</sup> John Barry and Roger Charles, "Sea of Lies," *Newsweek*, July 13, 1992, 29-39

The “Robocruiser”<sup>9</sup> was already smashing through the waves of at 30 knots into the Strait of Hormuz when it received the reconnaissance order. The cruiser’s SH-60B Seahawk helicopter lifted off and sped north. Within 20 minutes it was circling over the Iranian gunboats, which were being called upon by Oman’s coastguards to leave. The Omanis wanted the Vincennes to leave, too. “U.S. Navy warship,” an Omani officer intoned over the radio, “maneuvering at speeds up to 30 knots is not in accordance with innocent passage. Please leave Omani water.” On the Vincennes, Rogers had ordered his crew to battle stations for readiness against small-craft attack, and did not bother to reply. It was not until Bahrain ordered the Vincennes to head back toward Abu Musa that Rogers grudgingly turned his ship around<sup>10</sup>. But he left his helicopter behind to watch the Iranian boats. It was to be a fatal mistake.

On the morning of 3 July, the Vincennes was not alone in the Oman Gulf. Besides the USS Elmer Montgomery, some 25 miles to the east the USS Sides (FFG-14) was on its way to rendezvous with another merchant ship scheduled for U.S. Navy escort. From the CIC of the Sides, commanding Captain David Carlson and his staff could see virtually the same information that Captain Rogers saw on the large-screen displays of the Vincennes via the *Link-11* data link. This electronic system enabled all three warships to exchange tactical information in real time.

The reconnaissance Seahawk helicopter was following retreating gunboats north as it was fired upon. Its pilot radioed the Vincennes as it maneuvered to safety, “Trinity Sword. This is Ocean Lord 25. We’re taking fire. Executing evasion.” From the combat information center of the Sides, Captain Carlson sensed something “wasn’t good here.” Under the rules of engagement, the reconnaissance helicopter should not have been flying close enough to be threatened by the light weapons of the Iranian small craft<sup>11</sup>.

Nevertheless, the gunboats had committed a hostile act. Under the navy's rules of engagement, Rogers could order hot pursuit. The warship was again cruising North at 30 knots, heading towards the gunboats. By 9:41, the Vincennes was warned by Bahrain that it had now crossed the 12- mile limit off the coast - into Iranians waters. By then, Captain Carlson recounted, “Rogers started asking permission to shoot at the boats. We already knew the helicopter was okay, and if the boats were a threat, you didn’t need permission to fire.”

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<sup>9</sup> The Vincennes had only arrived in Bahrain on 29 May, but officers on other ships already sarcastically referred to it as “Robocruiser” for its reputation of aggressiveness. In early June, Rogers infuriated Capt. Roger Hattan, then commander of the accompanying USS Sides (FFG-14), by ordering him to close in on an Iranian warship (the frigate *Alborz*) that was conducting a search on a large bulk carrier (*the Vevey*) for possible war material bound for Iraq. (D. R. Carlson, pp 87-92 September 1989 *U.S. Naval Institute Proceedings*)

<sup>10</sup> “At 8:40, Captain McKenna in Bahrain returned to his command center and was startled to see that the Vincennes was on the top of the Omani peninsula - about 40 miles north from where he believed he had ordered Rogers to remain.” *Ibid*

<sup>11</sup> The rule of engagement calls for the reconnaissance helicopter to approach no closer than four miles. In the sworn testimony to the Investigator, when asked “You were actually in the CPA (closest point of approach) that you were told not to go inside, is that correct?” Lieutenant Collier replied, “Yes sir.”

It is worth noting here that the Aegis system was designed as a *total weapon system*, from detection to kill. The heart of the system is the advanced *Spy* radar, which is able to perform search, track and missile guidance functions simultaneously with a track capacity of over 100 targets<sup>12</sup>. This state-of-the-art radar and weapon system was not designed for small-craft battles, however. The Iranian gunboats were so small that they would flicker in and out of the Vincennes's surface search radar. Regardless of the lack of clear targets, after obtaining Bahrain's permission to shoot, the captain of the technologically advanced cruiser commenced firing of the ship's five-inch guns, shooting at what would be tiny targets at 8000 yards away.

No one was really sure how many of the Revolutionary Guard boats were hit that day, but at the end of the day the Vincennes's only confirmed kill was also the last thing Captain Rogers would want to hit: a commercial aircraft with almost a full load of passengers.

### **Iran Air 655's Final Flight**

At precisely 9:45:30, Iran Air Capt. Mohsen Rezaian announced to the tower at Bandar Abbas airport that his A300B2 Airbus was ready to take off. A minute later, the airplane took off into the haze of the Gulf<sup>13</sup>, its scheduled course headed for Dubai, in the United Arab Emirates. Although Rezaian could never know it, his flight path would also take him and his human cargo almost directly over the Vincennes' naval battle happening 55 miles to the southwest.

From the windowless CIC of the Vincennes, at 9:47 the powerful *Spy* radar picked up a distant blip – a plane lifting off from the airport at Bander Abbas. Since Bander Abbas is a military as well as a civilian airport, all outbound flights would be automatically tagged “assumed hostile”. In the Vincennes' “Air Alley”, the row of operators who handled air warfare, Petty Officer Andrew Anderson tried to identify the incoming plane by sending an IFF (Identification, Friend or Foe) query through the Aegis computer. By standard practice, all planes carry a transponder that automatically answers the IFF query with Mode 1 or 2 (military), or Mode 3 (civilian). Anderson got a Mode 3. Thinking it must be COMAIR (a commercial aircraft), he reached beside his console for the navy's listing of commercial flights over the gulf. But as he scanned the schedule, he missed Iran Air Flight 655. Apparently, in the darkness of the CIC, its arc lights flickered every time the Vincennes's five-inch gun fired off another round at the Iranian gunboats; he was confused by the gulf's four different time zones<sup>14</sup>.

Anderson turned to the petty officer next to him in Air Alley and wondered aloud if the blip could be an Iranian warplane - an F-4 or F-14 perhaps? Their boss in Air Alley, Lt. Clay Zoicher, who had stood on this watch only twice, was worrying at the moment about an Iranian P-3 patrol plane that was making its way down the Iranian coastline. Could the

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<sup>12</sup> See Exhibit II: Anatomy of an Aegis Cruiser

<sup>13</sup> The yellowish haze is caused by fine-grained sand whipped across the gulf from the Arabian Desert. It was argued in Rogers' *Storm Center* that the haze prevented the Vincennes crew from visual contact with Air 655 prior to missiles launch.

<sup>14</sup> *Sea of Lies*, Newsweek, July 13, 1992, 29-39

P-3 be coordinating an attack on the Vincennes with the unidentified bogey? Zocher decided to pass the concern in Air Alley up the chain of command to Lt. Cmdr. Scott Lustig, the Vincennes' tactical commander for air warfare.

Lustig ordered Air Alley to flash the incoming plane a warning: "Unidentified aircraft...You are approaching a United States naval warship in international waters." It was the standard challenge, broadcast over the international distress frequencies routinely monitored by military and commercial aircraft. Hearing no response over the radio, Petty Officer Anderson again beamed out an IFF query. Only this time, the response he got back was different. Upon his console flashed Mode 2: military aircraft<sup>15</sup>. "Possible Astro!"<sup>16</sup> Anderson sang out, at a moment of near chaos in the CIC. It was 9:51. The incoming plane was 32 miles away. What do we do? He asked Rogers.

Rogers was not absolutely sure if his ship did face an enemy warplane. The plane seemed too high – some 7,000 feet - for an attack approach. By now, seeing the same track activity via the *Link-11* system on his frigate 19 miles away, Captain Carlson of the USS Sides had ordered his tactical action officer to "light him up", a standard practice to illuminate military aircrafts with missile fire control radar as a warning for them to turn around. Still, "track number 4131" did not change course, but picked up more speed and altitude. Three more times, the warning went out from the USS Vincennes: "Iranian fighter...you are steering into danger and are subject to United States naval defensive measures."

On the Vincennes, words were coming out of Air Alley that the aircraft, now definitively tagged on the big screen as an F-14, was descending and picking up speed<sup>17</sup>. Rogers had to make a decision. An F-14 could do little damage to the Vincennes. The version that Washington sold to its ally the Shah of Iran in the early 1970's was purely a fighter plane, not configured to strike surface targets. Still, if Rogers were to attack it with a missile, he had to fire before the aircraft closed much within 10 miles. After all, Rogers did not want to make the same mistake of the skipper of the USS Stark, Capt. Glenn Brindel. A year earlier, Brindel's ship was struck and almost sunk by a pair of anti-ship missiles fired by the pilot of a lone Iraqi Mirage F-1. Thirty-seven American sailors died aboard the Stark that day.

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<sup>15</sup> In his book "Storm Center"<sup>15</sup>, Rogers based much of his decision making on this piece of IFF "confirmation". Only much later did the investigators figure out that Anderson had forgotten to reset the range on his IFF device. The Mode 2 did not come from the Airbus, climbing peacefully above the gulf, but from an Iranian military plane still on the runway back in Bander Abbas.

<sup>16</sup> The code word for an F-14, *Ibid*

<sup>17</sup> Psychologists often refer to this behavior as "scenario fulfillment" - you see what you expect. The tapes of the CIC's data later showed no such thing. Anderson's screen must have shown that the plane was traveling 380 knots at 12,000 feet and climbing. Yet Anderson was shouting out that the speed was 455 knots, the altitude 7,800 feet and descending. (See Exhibit III: Track of Flight 655)

At 9:54:05, with the plane 11 miles away, Rogers reached up and switched the firing key to "free" the ship's SM-2 anti-aircraft missiles. In Air Alley, Zoicher had been given the green light to fire<sup>18</sup>.

Some 10 miles away, Captain Rezaian of Iran Air was calmly reporting to Bander Abbas that he had reached his first check-point crossing the gulf. He heard none of the Vincennes warnings. His four radio bandwidths were taken up with air-control chatter. "Have a nice day," the tower radioed. "Thank you, good day," replied the pilot. Thirty seconds later, the first missile blew the left wing off his aircraft.

A few miles away, on the bridge of the Montgomery, horrified crewmen looked as a large wing of a commercial airliner, with an engine pod still attached, plummeted into the sea along with bodies and debris. Aboard the USS Sides, Captain Carlson recalled his crew's exclamation: "He shot down COMAIR!"<sup>19</sup> The wreckage was simply too big to be that of a fighter jet.

### **Iran vs. United States**

The Pentagon at first vehemently denied the downing of the unarmed airliner, declaring that information from the fleet indicated that the Vincennes, equipped with the Aegis electronic battle management system, had shot down an attacking Iranian F14 jet fighter<sup>20</sup>. However, detailed reports and electronic intelligence, plus the vividly broadcasted images of floating bodies and scattered debris, made it obvious that a "tragic case of mistaken identity"<sup>21</sup> had actually taken place in the Gulf that day.

It was the first time any U.S. military unit had shot down a civilian airliner. It occurred almost five years after a Soviet fighter pilot shot down an off-course Korean Airline Flight 007, killing 269 people. At the first news conference eleven hours after the shooting of Flight 655, Adm. William J. Crowe Jr., chairman of the Joint Chiefs of Staff, said there were "fundamental differences" between the actions of United States in this incident and the Soviet Union in the downing of Korean Air Flight 007, which strayed into Soviet airspace on the night of Sept. 1, 1983, during a flight from Alaska to Japan. The Soviet airspace was not a war zone like the Persian Gulf, Crowe said, "and there was not combat in progress" as was the case yesterday. "It was at very high altitude" and no Soviet warnings were issued. Like most people in the administration at the time, Admiral Crowe was relying on information briefed to him by Captain Rogers. Stressing that the information was incomplete, Crowe said to the press that the Iranian airliner was flying outside the commercial air corridor and had been descending and picking up speed when it closed in on the Vincennes. A large map next to Crowe's podium showed the position of the Vincennes at the time of the shoot-down: it was well within international waters.

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<sup>18</sup> The Aegis tape log later showed that the young lieutenant pressed the wrong keys on his console 23 times. A veteran petty officer had to lean over and hit the right ones.

<sup>19</sup> D. R. Carlson, pp 87-92 September 1989 *U.S. Naval Institute Proceedings*

<sup>20</sup> George C. Wilson, *Navy Missile Downs Iranian Jetliner on 4th of July*, Washington Post Monday, July 4, 1988; Page A01

<sup>21</sup> *Ibid*

The Soviet shoot-down of Korea Air 007 analogy was brought up again at the United Nations. "The United States is responsible for the consequences of its barbaric massacre of innocent passengers," exclaimed Iran's Foreign Minister Ali Akbar Velayati at the UN Security Council hearing of the case. These words reflected a widespread belief among Muslim leaders that the downing of Flight 655 was deliberate<sup>22</sup>. "We will not have the crimes of America unanswered," said an Iranian radio commentary. "We will resist the plots of the Great Satan and avenge the blood of our martyrs from criminal mercenaries!"

The White House decided that Vice President George Bush should defend the United States before the U.N. Security Council. The job of preparing the case was assigned to Richard Williamson, then assistant secretary of state for international organizations. He found it exceedingly difficult to get answers out of Crowe's staff, which were handling the affair at the Pentagon. Suspicious, he warned the vice president's chief of staff, Craig Fuller, to be very careful about committing Bush to any facts. Fuller's reaction was that he never trusted the Pentagon anyway<sup>23</sup>. Bush's speech focused on the resolution to end the Iran-Iraq War, but what few facts it did include about the Vincennes incident were wrong. Out of all the murky details of that fateful morning, Bush stated to members of the Security Council, "one thing is clear, and that is that USS Vincennes acted in self-defense.... It occurred in the midst of a naval attack initiated by Iranian vessels against a neutral vessel and subsequently against the Vincennes when she came to the aid of the innocent ship in distress."

By July 14, the day of Bush's speech, the Pentagon knew the truth but failed to share it with the vice president. The tapes of the Vincennes Aegis system, with its combat and navigational data reached the United States on July 5 and what they showed was reported to the Pentagon on July 10. The Vincennes had been in Iranian territorial waters. The Iranian airliner was well within the commercial air corridor and had been ascending, not descending. The merchant vessels were not under any imminent threats.

The UN Security Council declined to issue a condemnation of the U.S. action. While still insisting that the action of the Vincennes was "justifiable defense", the Reagan administration promised to pay compensation to the families of the victims, as well as conduct a "full investigation" of the incident by a military team under the command of Rear Adm. William N. Fogarty, U.S. Central Command.

The subsequent finding of the Fogarty report only confirmed that the Vincennes had acted appropriately on that fateful Sunday. Two years later, Captain Will Rogers received the second-highest peacetime honor of U.S. armed forces, the Legion of Merit medal "for exceptionally meritorious conduct in the performance of outstanding service as commanding officer" of the Vincennes in the period from April 1987 to May 1989, according to a navy citation issued in the name of President Bush. The Vincennes'

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<sup>22</sup> "Washington said the Vincennes mistook the Airbus A300 for an attacking warplane and fired in self-defense after repeated warnings, but Iran said the attack was deliberate." (*World Court to hear Iran vs. U.S. case in September*, Reuter)

<sup>23</sup> John Barry and Roger Charles, "Sea of Lies," *Newsweek*, July 13, 1992, 29-39



weapons and combat systems officer, Lieutenant-Commander Scott Lustig, also won two Navy Commendation Medals.

Iran’s Islamic leader Ayatollah Khomeini vowed after the downing of Flight 655 that the sky would “rain blood”<sup>24</sup>. These words were still fresh everyone’s memory on December 21 1988, when American Pan Am Flight 103 was blown out of the sky over Lockerbie, Scotland, killing all 259 people aboard and 11 more on the ground. Although the evidence of the bomb’s timer led investigators to two suspects living in Libya, it was widely believed that Iran masterminded the Lockerbie bombing as revenge for the downing of Airbus A300<sup>25</sup>.

On 14 June 1993, without acknowledging liability, the U.S. government paid about \$2.9 million to *non-Iranian* relatives of passengers aboard the plane. It made no payments to the Iranians because their country had filed a claim against the United States in an international court<sup>26</sup>. Relatives of some of the victims sued the federal government and four defense contractors that built the air defense system used on the Vincennes. A federal judge in San Francisco dismissed the lawsuit, and the Ninth U.S. Circuit Court of Appeals upheld the dismissal on grounds that soldiers can sue neither the government nor contractors for negligence in wartime. “There can be no doubt that during the ‘tanker war’ a ‘time of war’ existed,” the court said.

Almost four years later, in a settlement before the International Court of Justice on February 22, 1996, the U.S. Government agreed to pay Iran \$131.8 million, including compensation for the 248 Iranian passengers killed aboard the aircraft<sup>27</sup>.



In summing up the tragic story for which there seemed to be no justification, one should recall the words of one journalist in the conclusion of his report on the July 3, 1988 event: “In its final report, the Navy concluded that the Aegis system had performed just fine. Officially, though everything had gone wrong, no one was to blame. On Air 655, where nothing had gone wrong, everybody was dead.”<sup>28</sup>

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<sup>24</sup> *Iran blamed for Lockerbie bomb*, BBC World, 05 Jun 2000  
<http://news.bbc.co.uk/1/hi/world/777589.stm>

<sup>25</sup> The two bombing suspects Abdelbaset Ali Mohamed al-Megrahi and Al Amin Khalifa Fhimah were living in Libya at the time. The United States and the United Kingdom wanted the men tried in an American or British court, but Libyan dictator Muammar Qaddafi refused to extradite them until 1998, when Scottish judges were to be presiding over the case. (*Analysis: The whole story? BBC’s coverage of the Pan Am 103 bombing*. Wednesday, 31 January, 2001, <http://news.bbc.co.uk/1/hi/world/europe/1146240.stm>)

<sup>26</sup> “Iran refused the U.S. offer of humanitarian compensation and filed a proceeding in May 1989 claiming violation of the 1971 Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation (the “Montreal Convention”), the 1944 Convention on International Civil Aviation (the “Chicago Convention”), and the 1955 bilateral Treaty of Amity between Iran and the United States”  
<http://www.state.gov/r/pa/ho/pubs/8534.htm>

<sup>27</sup> *U.S., Iran reach agreement*, Friday, February 23, 1996 Associated Press

<sup>28</sup> *Travels Through Arabia, From Tripoli to Tehran*, Christopher Dickey, Newsweek Bureau Chief in Paris.

Exhibit 1: The Strait of Hormuz



## Exhibit II: Anatomy an Aegis Cruiser

(Source: United States Navy)

The USS Vincennes was the first of the United States Navy's AEGIS Cruisers of the *Ticonderoga* Class to enter the Pacific Fleet.



Awarded: August 28, 1981

Keel laid: October 19, 1982

Launched: January 14, 1984

Commissioned: July 6, 1985

Builder: Ingalls Shipbuilding, West Bank, Pascagoula, Miss.

Propulsion system: four General Electric LM 2500 gas turbine engines

Propellers: two

Blades on each Propeller: five

Length: 567 feet (173 meters)

Beam: 55 feet (16.8 meters)

Draft: 34 feet (10.2 meters)

Displacement: approx. 9,600 tons full load

Speed: 30+ knots

Cost: about \$1.2 billion

Aircraft: two SH-60 *Sea Hawk* (LAMPS 3)

Armament: two Mk 26 missile launchers for Standard missiles and ASROC, Mk 46 torpedoes, Harpoon missile launchers two Mk 45 5-inch/54 caliber lightweight guns, two Phalanx CIWS

Homeport: Yokosuka, Japan

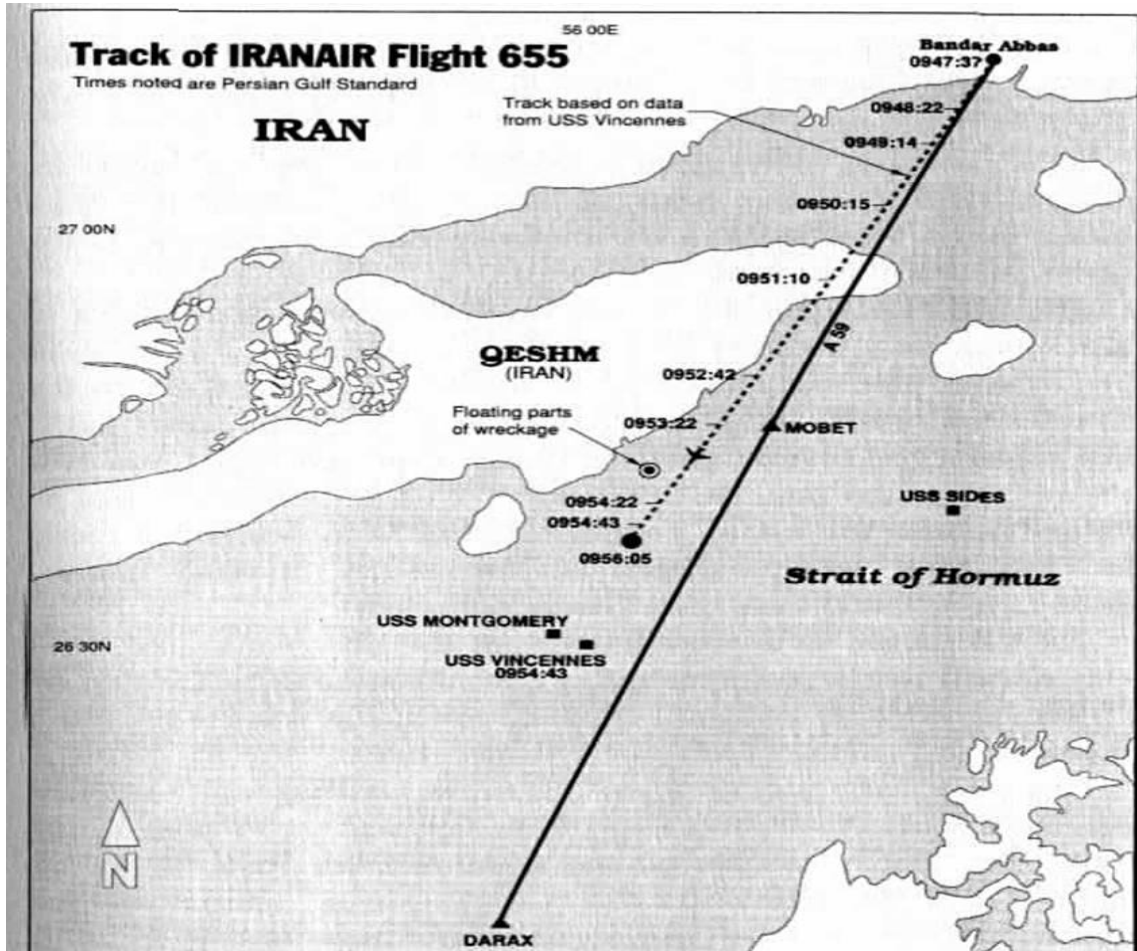
Crew: 33 Officers, 27 Chief Petty Officers and approx. 340 Enlisted

### Aegis Combat System:

(<http://www.chinfo.navy.mil/navpalib/factfile/weapons/wep-aeg.html>)

The Aegis weapons system is a surface-to-air integrated weapons system. It is designed to defend the fleet against any airborne threat. The heart of the Aegis system is the AN/SPY-1 Phased-array radar system coupled with the AN/UYK-1 high-speed computer system. This combination is able to detect incoming missiles or aircraft, sort them by assigning a threat value, assign on-board Standard surface-to-air missiles, and guide the missiles to their targets. Aegis can track up to 100 targets at any given time. The radar panels are flat structures, mounted to give 360 degree coverage around the ship. These are an improvement over the old rotating type of radar in that there are no moving parts. The old rotating radar covered only the area they were scanning. Phased arrays switch rapidly and cover the entire range around the ship in milliseconds.

**Exhibit III: Track of Flight 655**



Source: *USS Vincennes, Crisis Decision Making* by Lieutenant Colonel David Evans, U. S. Marine Corps (Retired), Department of Naval Science, University of California at Berkley.

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