



Investigation

Into the circumstances surrounding the live-fire incident involving a U.S. Navy F/A-18 aircraft that dropped three 500-pound bombs on Observation Post 10 at the Udairi Range, Kuwait, on 12 March 2001, resulting in the deaths of six military personnel and injuring 11 others.

EXECUTIVE SUMMARY

At about 1900 local time on 12 March 2001, a U.S. Navy F/A-18C Hornet dropped three 500-pound bombs on Observation Post (OP) 10, Udairi Range, Kuwait while participating in a night Close Air Support Exercise (CASEX). The incident resulted in the deaths of six military personnel (four U.S. Army soldiers, one U.S. Air Force airman, and one New Zealand Army major) and injuries to the 11 other military personnel who were present, including six members of the Kuwait Armed Forces. Property damage was approximately \$330,000.

Cause. The cause of the incident was human error. The incident Pilot improperly identified and designated the OP as the target and released his weapons before receiving clearance from the Ground Forward Air Controller (GFAC).

Contributing Factors. Three factors contributed to the incident: (1) non-standard and misleading assessments of the incident aircraft's heading relative to the target by the Forward Air Controller Airborne (FAC(A)) Pilot during the attack run; (2) loss of situational awareness by the GFAC during the terminal control phase, resulting in reduced time for an abort call, and (3) conditions at the Udairi Range complex which made the OP and target difficult to acquire and distinguish visually.

Recommendations. The Board recommended that appropriate administrative or disciplinary action be taken against the incident Pilot, and that appropriate administrative action be taken against the FAC (A) Pilot and GFAC; that standardization and coordination of the planning and execution of training events on Udairi Range should be improved; and that safety on Udairi Range should be improved.

Recognition. The Board recommended that appropriate recognition should be considered for personnel for their post-incident actions.

U.S. Central Command Actions. Commander in Chief, U.S. Central Command, has reviewed the report of investigation and has approved the findings of fact, opinions and recommendations 1404 through 1408. Recommendations 1401 through 1403 were modified to indicate that administrative or disciplinary action, as appropriate, should be considered with regard to the incident Pilot, the FAC(A) Pilot and the GFAC. The report has been forwarded to U.S. Central Command Component Commanders for action with regard to the recommendations. The Component Commanders will report back to the Commander in Chief regarding actions taken.



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UNITED STATES CENTRAL COMMAND
OFFICE OF THE COMMANDER IN CHIEF
7115 SOUTH BOUNDARY BOULEVARD
MACDILL AIR FORCE BASE, FLORIDA 33621-5101

APR 23 2001

MEMORANDUM FOR

Commander, U.S. Air Forces Central Command, Shaw Air Force
Base, South Carolina
Commander, U.S. Army Forces Central Command, Fort
McPherson, Georgia
Commander, U.S. Naval Forces Central Command, FPO AE
Commander, Special Operations Command Central

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12 March 2001

REF: Manual of the Judge Advocate General, U.S. Navy (JAGMAN)

1. The proceedings of the U.S. Central Command Investigation Board are approved, as are the findings of fact, opinions, conclusions, and recommendations 1404 through 1408. Recommendations 1401 through 1403 are modified as indicated below, and approved as modified. The report was prepared in compliance with the reference. The complete report is attached hereto and actions regarding the recommendations will be taken as indicated below.

2. Recommendations 1401 through 1403.

a. Recommendation 1401 provides, "That appropriate administrative or disciplinary action up to and including non-judicial punishment be taken against the incident Pilot." The recommendation is modified, as follows; "That administrative or disciplinary action, as appropriate, be considered with regard to the incident Pilot." The recommendation, as modified, is approved. My modification does not in any way reflect my view as to what action may or may not be appropriate. It is intended to assure the appropriate Service official of his or her complete discretion in the matter.

b. Recommendation 1402 provides, "That appropriate administrative action be taken against the Forward Air Controller (Airborne) Pilot." The recommendation is modified, as follows; "That administrative or disciplinary action, as appropriate, be considered with regard to the Forward Air

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Controller (Airborne) Pilot.” The recommendation, as modified, is approved. My modification does not in any way reflect my view as to what action may or may not be appropriate. It is intended to assure the appropriate Service official of his or her complete discretion in the matter.

c. Commander, U.S. Naval Forces Central Command (USNAVCENT) is directed to take recommendations 1401 and 1402, as modified, for action as deemed appropriate, and to inform me in writing of actions taken.

d. Recommendation 1403 provides, “That appropriate administrative action be taken against the Ground Forward Air Controller.” The recommendation is modified, as follows; “That administrative or disciplinary action, as appropriate, be considered with regard to the Ground Forward Air Controller.” The recommendation, as modified, is approved. My modification does not in any way reflect my view as to what action may or may not be appropriate. It is intended to assure the appropriate Service official of his or her complete discretion in the matter.

e. Commander, U.S. Air Forces Central Command is directed to take recommendation 1403 for action as deemed appropriate, and to inform me in writing of actions taken.

3. Recommendations 1404 - 1406.

a. Recommendation 1404 indicates that standardization and coordination of the planning and execution of joint and combined live fire events on Udairi Range should be improved. While we must train as we fight, commanders understand that we must do everything we can to ensure that the training environment, while realistic, is as safe as it can possibly be. With this in mind, USCENTAF, USNAVCENT, Commander, U.S. Army Forces Central Command (USARCENT), and Commander, Special Operations Command Central (SOCCENT) are directed to take recommendation 1404 for action. By necessity, such review will be a coordinated effort (USARCENT lead as Commander, Combined Joint Task Force, Kuwait). A combined initial report will be made to the Deputy Commander in Chief, U.S. Central Command no later than 45 days from the date of this memorandum identifying actions required to be completed

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before reinitiating training on Udairi Range, and combined progress reports will be submitted every 30 days thereafter until all contemplated action is completed.

b. Recommendations 1405 and 1406 relate to improvement of safety and use of personal protective equipment on Udairi Range. USARCENT is directed to take recommendation 1405 for action, and USCENAF, USARCENT, USNAVCENT, and SOCCENT are directed to take recommendation 1406 for action. Make individual initial and progress reports as directed above, and provide copies of such reports to each other.

4. Recommendation 1407 relates to deployment of Forward Surgical Teams. U.S. Central Command will coordinate with the Chairman of the Joint Chiefs of Staff to ensure that deployments of Forward Surgical Teams continue in order to ensure that timely, on-scene, state-of-the-art medical care is provided when necessary to U.S. Forces throughout the USCENCOM Area of Responsibility. This incident reinforces the requirement to maintain ready, capable, deployable trauma care teams in theater.

5. Recommendation 1408 indicates that appropriate recognition should be considered for personnel for their post-incident actions. USCENAF, USNAVCENT and USARCENT are directed to take recommendation 1408 for action. In this regard, I note that the tapes of the incident (enclosures 500-035 and 500-036) and other records of post-incident actions are particularly instructive.

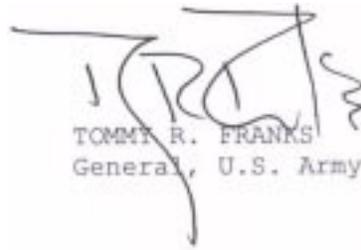
6. My staff has coordinated with the Services and with New Zealand officials so that they can effect next-of-kin notification regarding the results of the investigation. You will be informed regarding the date these notifications will be effected. My staff also has coordinated delivery of the report to Kuwait officials.

7. I ask each of you not to release any portion of the report or make any public comments regarding the report until after such notifications. We will make the report, without enclosures, available to the public on the USCENCOM Home Page following next-of-kin notification. All requests concerning the

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report made pursuant to the Freedom of Information Act and/or Privacy Act should be forwarded to USCENTCOM, to the attention of CCJA.

8. The thoughts and prayers of the men and women of Central Command are with the families of those lost and injured in this incident. Our responsibility is to take the actions necessary to preclude reoccurrence of such tragic accidents in the future.



TOMMY R. FRANKS
General, U.S. Army

Attachment
as

CF:
Chairman, Joint Chiefs of Staff
Chief of Staff, U.S. Air Force
Chief of Staff, U.S. Army
Chief of Naval Operations

7 April 2001

From: President, United States Central Command Investigation Board
To: Commander In Chief, United States Central Command

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on 12 March 2001

Ref: (a) Appointing Order, dated 14 March 2001
(b) U.S. Navy Manual of the Judge Advocate General (JAGMAN)

Encl: (1) Copies of referenced 100 Series Evidence about the Incident Aircrew
(2) Copies of referenced 200 Series Evidence about the Incident Aircraft Prior to the Incident
(3) Copies of referenced 300 Series Evidence about Event Planning, Governing Flight Instructions, Pre-Event Briefings, and Command Relationships
(4) Copies of referenced 400 Series Evidence about Udairi Range Rules
(5) Copies of referenced 500 Series Evidence about the Flight
(6) Copies of referenced 600 Series Evidence about the Ground Unit Personnel
(7) Copies of referenced 700 Series Evidence about the Incident Site
(8) Copies of referenced 800 Series Evidence about Post-Incident Examination of the Incident Aircraft
(9) Copies of referenced 900 Series Evidence about Other Post-Incident Technical Examinations
(10) Copies of referenced 1000 Series Evidence about Casualties and Property Damage
(11) 1100 Complete List of Documents and Evidence Considered by the Investigation Board
(12) Copies of referenced 1200 Series "Other"
(13) Copies of referenced 1300 Series Evidence Witness Statements
(14) Copy of Appointing Order, with revision, dated 14 and 26 March 2001, respectively

PRELIMINARY STATEMENT

1. Reference (a) directed an accident investigation into the circumstances surrounding the live-fire incident involving a U.S. Navy F/A-18 aircraft that dropped three MK-82, 500-pound, General Purpose bombs on an Observation Post (OP) during a night Close Air Support Exercise (CASEX) at the Udairi Range, Kuwait, on 12 March 2001. The incident, which occurred at approximately 1600Z (1900C local time), resulted in the deaths of six military personnel (five from the U.S. and one from New Zealand) and injured 11 other military personnel, including members of the Kuwait Armed Forces. The purpose of the investigation was to determine the cause of the incident, resulting deaths, injuries and damages, and any fault, neglect, or accountability. The Investigation

Board was further directed to make findings of fact, opinions, and recommendations, to include administrative and disciplinary action, as deemed appropriate, and to use reference (b) as a guide.

2. Coordination of investigative activities.

a. Immediately after the incident, the Commander, Carrier Air Wing THREE (CVW-3), on board USS HARRY S. TRUMAN, in order to collect and preserve evidence, initiated a Judge Advocate General's Manual (JAGMAN) investigation. Due to the unique multi-service and multi-national nature of the parties involved in this event, Commander In Chief, United States Central Command (USCINCCENT) appointed a United States Central Command (USCENTCOM) Investigation Board for this incident to minimize overlapping investigations by each of the services and other nations involved. The USCENTCOM Investigation Board arrived in Kuwait on 15 March 2001 and assumed the responsibilities for completing the JAGMAN investigation.

b. During this same period, the multi-service Aircraft Mishap Board (AMB), or safety investigation, led by the U.S. Navy, was also under way. Upon arrival in Kuwait, the President of the USCENTCOM Investigation Board met with the AMB to ensure full and complete cooperation between the two investigations. Jurisdiction, custody of evidence, and access to witnesses and non-privileged evidence were discussed. Full coordination and cooperation allowed both investigations to proceed smoothly.

3. Composition of the USCENTCOM Investigation Board.

Board Members

Lieutenant General Michael DeLong, USMC	President
Commander John E. Cole, USNR	Board Member
Lieutenant Colonel Kent Jacocks, USA	Board Member
Lieutenant Colonel Earle F. Hudson, Jr., USA	Board Member
Major Ronald P. Gaulton, USAF	Board Member

Participants

Brigadier General Al-Juhail Nasser, KAF	Kuwait
Colonel Richard Cassidy, NZ Army	New Zealand

Special Assistants

Colonel John LeHockey, USMC	Chief of Staff
Commander Kevin Couch, USN	Executive Assistant
Captain David M. Morriss, JAGC, USN	Legal Advisor
Major William E. Moxley, USAF	Legal Advisor
Lieutenant Colonel Al-Ali Ahmad, Ku JAG	Legal Advisor
Commander Michael Francis, USN	Safety Advisor
Lieutenant Colonel Dean Nelson, USAF	Safety Advisor

Major Erich Erker, USA	Safety Advisor
Colonel Marzouq Alqenai, KAF	Safety Advisor
Colonel Al-Taweel Ahmad, Ku-J3	Subject Matter Expert (Kuwait JOC)
Lieutenant Colonel Donald Tharp, USAF	Subject Matter Expert (TACP)
Lieutenant Colonel Al-Failakawi Taher, KAF	Subject Matter Expert (Kuwait F/A-18)
Lieutenant Commander Ernest Duplessis, USN	Subject Matter Expert (Public Affairs)
Lieutenant Commander Jay Ballard, USN	Subject Matter Expert (F/A-18)
Major Geoff Olander, USMC	Subject Matter Expert (Joint CAS)
Major Kevin P. Michaels, USA	Subject Matter Expert (Medical)

Support Staff

LN1 (SW) Suzanne H. Burleigh, USN	Court Reporter
LN2 Craig O. Ball, USN	Court Reporter
Staff Sergeant Ernesto L. Jimenez, USAF	Admin Support
Sergeant Keith B. Taylor, USA	Admin Support

4. Board Methodology. The Board conducted its work for each section in five phases: (1) collection of data and evidence; (2) analysis of data and evidence; (3) preparation of statements of fact; (4) analysis of statements of fact; and (5) development of opinions. Conclusions and recommendations were based on major facts and opinions. The first two phases are discussed in detail below. The remaining three phases were Board deliberations.

a. During the data collection phase, Board members visited the site of the incident and the aircraft carrier. They also examined the incident aircraft; related equipment; maintenance, operations and flight records; and the ground controller's equipment. The Board reviewed the Standard Operating Procedures (SOPs) at the joint, service, and unit level; the range regulations; event planning between supporting commands and participating agencies and units; the mission data recorder tapes; all available recorded radar tracking data; and photographs of the incident site. The Board also interviewed personnel involved in flight operations at the time of the incident, ground unit personnel who were present at the site, personnel who responded to the site after the incident, and other personnel believed to have knowledge of the event.

b. During the analysis phase, Board members analyzed all available data and evidence to determine aircrew and ground personnel background, training, proficiency, and currency. Evidence considered by the Board came from a variety of sources and media, both unclassified and classified. These included video and audio tapes, photographs, copies of electronic data transmissions and recordings, doctrinal publications, and statements by witnesses and subject matter experts. The Board also analyzed the condition of the aircraft and ground equipment prior to, during, and after the incident; the planning, pre-mission briefings, preparation, and execution of the exercise; the tactics, techniques, and procedures pertaining to close air support; and the damage that resulted from the incident.

(1) For example, the Board analyzed:

(a) Data taken from the incident aircraft Data Storage Unit (DSU) “black box” as well as the Cockpit Video Recording System (CVRS) 8 millimeter audio / video recorder. The DSU provided a variety of continually updated parameters which included: Global Positioning System (GPS) time, magnetic heading, aircraft position, indicated airspeed in knots and altitude in Mean Sea Level (MSL) as well as Above Ground Level (AGL). The CVRS tapes from the incident aircraft and two other aircraft were used to produce a composite transcript of all communications used in the target area.

(b) Data taken from Airborne Warning and Control System (AWACS) and Kuwaiti Ground Radar. This data was used in conjunction with the DSU data to substantiate aircraft location just prior to and during the incident.

(c) The bomb damage and injuries sustained.

(2) The Board also relied on technical support and expertise from organizations and units in the United States, such as the Aircraft Division and Weapons Division of the Naval Air Warfare Center and the Defense Computer Forensics Laboratory.

(3) In many cases, the original document was an electronic file. The evidence considered by the Board is considered to be an accurate representation of the original documents.

(4) In this phase, the Board also obtained statements and/or conducted interviews of personnel who, at the time of the incident, were involved in flight operations or were on the ground at OP 10:

(a) Staff Sergeant Timothy B. Crusing, USAF, the Ground Forward Air Controller (GFAC) controlling the ground and air portion of the CASEX at the time of the incident, was injured while participating in the exercise at OP 10. He was medically evacuated first to Landstuhl Regional Medical Center, Germany, and then to Walter Reed Army Medical Center in Washington, D.C. Represented by counsel, and after being advised of his counsel rights and rights under Article 31(b) of the UCMJ, he was interviewed telephonically from Walter Reed Medical Center on 31 March 2001. He later provided written responses to written questions.

(b) Master Sergeant Brent Miles, USA, was injured while observing the CASEX at OP 10. He was medically evacuated first to Landstuhl Regional Medical Center, Germany, and then to Walter Reed Army Medical Center in Washington, D.C. He was interviewed on 21 March 2001, at Walter Reed Medical Center, and provided a verbal statement.

(c) Sergeant First Class William Sullivan, USA, was injured while observing the CASEX at OP 10. He was medically evacuated first to Landstuhl Regional Medical Center, Germany, and then to Walter Reed Army Medical Center in Washington, D.C. On 26 March 2001, he provided written answers prior to his transfer from Landstuhl.

(d) Sergeant First Class Donald L. Spencer, USA, was injured while observing the CASEX at OP 10. He sustained minor injuries and was treated and released in Kuwait. The Investigation Board interviewed him on 17 March 2001 in Kuwait.

(e) Staff Sergeant Alton M. Adams, USA, was injured while observing the CASEX at OP 10. He sustained minor injuries and was treated and released in Kuwait. The Investigation Board interviewed him on 17 March 2001 in Kuwait.

(f) Commander David O. Zimmerman, USN, was the incident Pilot. During the initial JAGMAN, CDR Zimmerman was advised of his right to counsel and rights under Article 31(b) of the UCMJ and elected to consult with legal counsel before making a statement. On 16 March 2001, after consulting with counsel, CDR Zimmerman made a verbal personal statement to the Board indicating he was deeply saddened by what had occurred. On advice of counsel, CDR Zimmerman did not consent to be interviewed.

(g) Lieutenant Patrick T. Mowles, USN, and Lieutenant Andrea M. Powers, USN, were the Forward Air Controller Airborne (FAC (A)) aircrew at the time of the incident. LT Mowles was the Pilot and LT Powers was the Radar Intercept Officer (RIO) of the aircraft. They provided statements to the initial JAGMAN investigation appointed by CVW-3. They later decided to exercise their right to consult with legal counsel before making any further statements. No further statements were obtained from the Pilot, but on 27 March 2001, the Radar Intercept Officer provided additional information when ordered to testify under a grant of testimonial immunity.

(h) Colonel Saeid Mubarak, the Chief of the Forces Liaison Branch of the Kuwait Army, was injured while observing the CASEX and preparing for Kuwaiti artillery training later in the evening at OP 10. He sustained minor injuries and was treated and released. Because he was the senior Kuwaiti officer present at the site at the time of the incident, he was interviewed on 18 March 2001 and provided a verbal statement to the Board.

5. Standardization notes:

a. The joint and combined CAS exercise was known by several names: UNITED ACTION-05, UNITED ORBIT-05, AND CASEX 01-02. For simplicity, the term "CASEX" includes all day and night CASEX activities on 12 March 2001.

b. The incident occurred at approximately 1600Z/1900C local time. For standardization, all times in this report are reported in "Zulu" time.

c. The correct terminology for the U.S. Air Force ground personnel in this incident is “Enlisted Terminal Attack Controller,” or ETAC. However, to help keep the important actions of these personnel clear and distinct from their airborne counterparts, and to simplify references, the term “Ground Forward Air Controller,” or GFAC, is sometimes used.

6. Additionally, the Board analyzed the “character” of the entire mission in an effort to conclude the cause of the incident. That characterization is found in Section 10.

7. Enclosures. Enclosure (11) is a complete listing of the documents and evidence considered by the Board. All items were catalogued by category and numbered in the order that they were received. Enclosures (1) through (10) and (12) and (13) are copies of only those documents and photographs of evidence that were ultimately referenced in the Findings of Fact in this report. Enclosure (14) is the Appointing Order, with revision, dated 14 and 26 March 2001, respectively.

8. The Findings of Fact and Opinions will be presented in the following sequence:

Human and Equipment Factors

1. Squadron Information
2. Aircrew Background
3. Aircrew Training and Proficiency
4. Incident Aircraft Information
5. Ground Forward Air Controller (GFAC) Training and Proficiency
6. Ground Forward Air Controller (GFAC) Equipment
7. Observation Post (OP) Operations

The Environment

8. Mission Planning
9. Udairi Range

The Incident

10. Flight from Takeoff to Incident and GFAC Operations
11. Deaths, Injuries, and Damage to Property

9. Post-Incident Actions, Conclusions, and Recommendations are in sections 12-14, respectively.

ACRONYMS and GLOSSARY

ADB	Aircraft Discrepancy Book
ADCON	Administrative Control
AEG	Air Expeditionary Group
AF	Air Force
AFI	Air Force Instruction
AFJPAM	Air Force Joint Pamphlet
AGL	Above Ground Level
AMB	Aircraft Mishap Board
AOB	Advanced Operational Base
AOR	Area of Responsibility
ARCENT-KU	U.S. Army Forces Central Command-Kuwait
ASETf	Air and Space Expeditionary Task Force
ASOC	Air Support Operations Center
ASOG	Air Support Operations Group
ASOS	Air Support Operations Squadron
ATO	Air Tasking Order
AWACS	Airborne Warning and Control System
BP	Battle Position
BUNO	Bureau Number
CCG-2	Commander, Carrier Group Two
C2	Command and Control
Capt	Captain (Air Force)
CAS	Close Air Support
CASEX	Close Air Support Exercise
CDR	Commander (Navy)
CENTAF	US Air Forces Central Command
CJTF-KU	Coalition Joint Task Force-Kuwait
CJTF-KU (FWD)	Coalition Joint Task Force-Kuwait (Forward)
CJTF-SWA	Coalition Joint Task Force-Southern Watch
CJTF-SWA (J3)	Coalition Joint Task Force-Southern Watch (Operations)
COMNAVAIRINST	Commander, Naval Air Force Instruction
COMNAVAIRLANT	Commander, Naval Air Force, Atlantic
COMNAVAIRLANTINST	Commander, Naval Air Force, Atlantic, Instruction
COMNAVAIRPACINST	Commander, Naval Air Force, Pacific, Instruction
COMSTRKFIGHTWINGINST	Commander, Strike Fighter Wing Instruction
CP	Contact Point
CVN-75	USS HARRY S. TRUMAN Aircraft Carrier
CVRS	Cockpit Video Recording System
CVW-3	Carrier Air Wing-THREE
DDI	Digital Display Indicator
DSU	Data Storage Unit

EASOS	Expeditionary Air Support Operations Squadron
ECAS	Emergency Close Air Support
EOD	Explosive Ordnance Disposal
ETAC	Enlisted Terminal Attack Controller
FAC	Forward Air Controller
FAC (A)	Forward Air Controller (Airborne)
FAC (A) P	Forward Air Controller (Airborne) Pilot
FAC (A) R	Forward Air Controller (Airborne) Radar Intercept Officer
FLIR	Forward Looking Infrared Radar
FM	Frequency Modulation/Field Manual
FMC	Full Mission Capable
FPC	Final Planning Conference
FST	Forward Surgical Team
GAT	Guidance Apportionment and Targeting
GFAC	Ground Forward Air Controller
GLINT	IR Gated Laser Intensifier Tape
GLO	Ground Liaison Officer
GPS	Global Positioning System
HF	High Frequency
HMMWV	High Mobility Multipurpose Wheeled Vehicle
HUD	Heads Up Display
ID	Identify
IP	Initial Point
IPC	Initial Planning Conference
IR	Infrared
IR Pointer	Infrared Pointer
JAGC	Judge Advocate General's Corps
JAGMAN	Manual of the Judge Advocate General
JTF-SWA	Joint Task Force Southwest Asia
KAF	Kuwait Air Force
KAFH	Kuwait Armed Forces Hospital
KU JAG	Kuwait Legal Department
KU-J3	Kuwait-Department of Operations and Plans
LCDR	Lieutenant Commander (Navy)
LN1 (SW)	Legalman First Class (Surface Warfare)
LN2	Legalman Second Class
LNO	Naval Liaison Officer
LT	Lieutenant (Navy)
Lt Col	Lieutenant Colonel (Air Force)
LTC	Lieutenant Colonel (Army)
Maj	Major (Air Force)
MAJ	Major (Army)
MEDEVAC	Medical Evacuation
MCRP	Marine Corps Reference Publication

MPC	Mid-Planning Conference
MSG	Master Sergeant (Army)
MSL	Mean Sea Level
NAS	Naval Air Station
NATOPS	Naval Air Training and Operating Procedures Standardization
NAVCENT	US Naval Forces Central Command
NAWC(AD)	Naval Air Warfare Center (Aircraft Division)
NVD	Night Vision Device
NVG	Night Vision Goggles
NWP	Naval Warfare Publication
NZ	New Zealand
OIC	Officer in Charge
OP	Observation Post
OPCON	Operational Control
OPNAVINST	Chief of Naval Operations Instruction
OSW	Operation Southern Watch
PSAB	Prince Sultan Air Base
RCO	Range Control Officer
RIO	Radar Intercept Officer
RSO	Range Safety Officer
SA	Special Agent
SAS	Special Air Service
SATCOM	Satellite Communications
SEAD	Suppression of Enemy Air Defenses
SEAL	US Navy Special Operations Forces [Sea, Air, Land]
SFG	Special Forces Group
SFG (A)	Special Forces Group (Airborne)
SFODA	Special Forces Operational Detachment Alpha
SFC	Sergeant First Class (Army)
SGT	Sergeant (Army)
SGM	Sergeant Major (Army)
SOCCE	Special Operations Command and Control Element
SOCCENT	Special Operations Command Central
SOP	Standard Operating Procedures
SORTS	Status of Resources and Training System
SPC	Specialist (Army)
SPINS	Special Instructions
SSG	Staff Sergeant (Army)
SSgt	Staff Sergeant (Air Force)
T & R	Training and Readiness
TACON	Tactical Control
TACP	Tactical Air Control Party

TDC	Target Designator Control
TF	Task Force
TOT	Time on Target
TTT	Time to Target
UCMJ	Uniform Code of Military Justice
UCP	Unified Command Plan
UHF	Ultra High Frequency
USA	United States Army
USAF	United States Air Force
USCENTCOM	United States Central Command
USCINCCENT	Commander-in-Chief, U.S. Central Command
USMC	United States Marine Corps
USN	United States Navy
USNR	United States Navy Reserve
USS	United States Ship
VF	Fighter Squadron
VFA	Strike Fighter Squadron
VHF	Very High Frequency
VMFA	Marine Fighter Attack Squadron
WP	White Phosphorous
Z	Zulu Time (Greenwich Standard Time)

DEFINITIONS

- a. Abort – Abort the pass. Do not release ordnance. (Joint Pub 3-09.3, V-10)

- b. ADCON – Direction or exercise of authority over subordinate or other organizations in respect to administration and support, including organization of Service forces, control of resources and equipment, personnel management, unit logistics, individual and unit training, readiness, mobilization, demobilization, discipline, and other matters not included in the operational missions of the subordinate or other organizations. (Joint Pub 1-02, p. 22)

- c. Advanced Operational Base – Advanced Operational Base is a command, control, and support base established and operated by a Special Forces company from organic and attached resources. (Field Manual 100-25, p. 7-11)

- d. Auto Mode – Air-to-Ground automatic (AUTO) weapons delivery mode. With AUTO mode selected, bomb release is inhibited until certain conditions are met (Simplified, summary explanation of technical data contained in MDC B 1984-13C):
 - 1) The aircraft must be in the Air-to-Ground Master Mode.
 - 2) Master Armament Switch placed to “ARM” (this switch completes the circuit in the weapon’s delivery system).
 - 3) A target designated (selected) by any means (via FLIR, radar or HUD).
 - 4) The desired bomb or bombs selected on the aircraft stores page.
 - 5) The aircraft must be flown almost directly over the target (if the target is too far to the left or right of the aircraft’s flight path, the bomb release is inhibited).
 - 6) The bomb release “pickle button” must be depressed and held down prior to arriving at the computed bomb release point for the designated target. If the pickle button is depressed and released prior to arriving at the computed release point no bombs will be released since they would land short. Release is inhibited until the aircraft arrives at the computed solution. Same situation if the pickle button is depressed after the computed release solution has come and gone. No bombs will be released since the computed solution is no longer valid.

- e. Cleared Hot – You are cleared to release ordnance on this pass. (Joint Pub 3-09.3, V-10)

- f. Close Air Support – Air action by fixed- and rotary-wing aircraft against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces. Also called CAS. (Joint Pub 3-09.3, GL-11)

- g. Command and Control – The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. Also called C2. (Joint Pub 1-02, p. 104)
- h. Contact – Acknowledges sighting of a specified reference point. (Joint Pub 3-09.3, V-14)
- i. Continue – Continue the pass, you are not yet cleared to release any ordnance. (Joint Pub 3-09.3, V-10)
- j. Currency T & R (Training and Readiness), Currency Squadron, Qualified Flight.

Currency T & R: To paraphrase the T & R, an individual Pilot's currency is determined in levels (L1-4). Whenever a Pilot completes training events his currency Level improves. These "levels of currency" expire at various times. To maintain a L1 currency in CAS, an F/A-18 Pilot must complete a CAS event within 62 days, after that he drops to L2. After an additional 30 days (92 days total) he falls to L3, and so on. T & R currency levels for each pilot add to the squadron total to determine if the squadron is ready to deploy.

Currency Squadron: Each different type of aircraft (i.e., F/A-18, F-14) has a currency criteria table, used to manage risk when scheduling pilot training. For example, for an F/A-18 pilot to fly a night CAS event, the pilot must have flown one flight in the last six days (Time) and one day dive bombing flight (Mission) in the last 14 days. This ensures pilot familiarity in identified mission risk elements.

Qualified (Flight): Each different type of aircraft (i.e., F/A-18, F-14) has a Qualification Spread Sheet designating specific qualifications for various broad mission areas (i.e., Flight Lead, Strike Lead, NVG, etc.). Each qualification has its own series of training steps to achieve, and then maintain the specific mission qualification. To perform a training event, a pilot must be qualified and current (currency squadron). Once the training mission is complete, this returns his currency (currency T & R) to the next higher level and adds to the squadron's reported readiness.

Note: References are the COMNAVAIRLANTINST 3500.63E (T&R), COMSTRKFIGHTWINGINST 3710.14B, (WING STANDARD OPERATING PROCEDURES), COMSTRKFIGHTWINGINST 3500.7A (F/A-18 WING TRAINING MANUAL)

- k. Direct Control – Direct control will be used whenever possible. It occurs when the terminal controller is able to observe and control the attack. The terminal controller transmits “cleared hot” when he sees the aircraft is attacking the correct target. There may be times when the terminal controller may not be able to see the attacking aircraft (due to high altitude, standoff weapons, night, or poor visibility). In these cases, clearance to drop will only be given if the terminal controller can use other means to confirm that the aircraft is attacking the correct target and has friendly positions in sight, the mark in sight, and the target in sight, as appropriate. (Joint Pub 3-09.3, V-9)
- l. Emergency Close Air Support (ECAS) – Close Air Support missions conducted under emergency wartime conditions when a qualified terminal attack controller is unable to provide terminal attack control. All training in support of ECAS must be conducted under the direct, over-the-shoulder supervision of a certified terminal attack control trainer. (Air Force Instruction 13-102, p. 3)
- m. Enlisted Terminal Attack Controller – ETACs perform terminal control [of aircraft] and assist in liaison functions. [Called GFAC in this report] (Joint Pub 3-09.3, II-8)
- n. Forward Air Controller – The FAC is an aviator who, from a forward ground or airborne position, controls aircraft in close air support of ground troops. [When on the ground, in this report, referred to as GFAC.] (Joint Pub 3-09.3, II-8)
- o. Forward Air Controller (Airborne) – A specifically trained and qualified aviation officer who exercises control from the air of aircraft engaged in close air support of ground troops. The forward air controller (airborne) is normally an airborne extension of the tactical air control party. Also called FAC (A) (Joint Pub 3-09.3, GL-9)
- p. Forward Looking Infrared – An airborne electro-optical thermal imaging device that detects far-infrared energy, converts the energy into an electronic signal, and provides a visible image for day or night viewing. Also called FLIR. (Joint Pub 3-09.3, GL-9)
- q. “HAVOC 20” – Call sign of GFAC in this report.
- r. Indirect Control – Indirect control is not the preferred method of positive control. It is used when the terminal controller cannot observe the attack, but is in contact with someone who can. The terminal controller can issue clearance or abort the attack based on information from the observer. The maneuver force commander must authorize this form of control. (Joint Pub 3-09.3, V-10)
- s. Infrared [IR] pointer – A low power laser device operating in the near-infrared light spectrum that is visible with light amplifying night vision devices. Also called IR pointer. (Joint Pub 3-09.3, GL-10)
- t. “LATCH 41” – Call sign of Navy F-14B, FAC (A) in this report.

- u. “LION 71” – Call sign of Navy F/A-18C flight lead (incident aircraft) used in this report.
- v. “LION 72” – Call sign of Navy F/A-18C flight wingman aircraft used in this report.
- w. NATOPS Manual – The NATOPS Manual includes standardized ground and flight procedures, but does not include tactical doctrine. Compliance with the stipulated NATOPS manual requirements and procedures is mandatory except where specifically authorized in the manual. (F/18AC-Naval Flight Manual-002, p. 3)
- x. Night Vision Device – Any electro-optical device that is used to detect visible and infrared energy and provide a visible image. Night vision goggles, forward-looking infrared, thermal sights, and low light level television are night vision devices. Also called NVD. (Joint Pub 3-09.3, GL-11)
- y. Night Vision Goggle(s) – An electro-optical image intensifying device that detects visible and near-infrared energy, intensifies the energy, and provides a visible image for night viewing. Night vision goggles can be either hand-held or helmet-mounted. Also called NVG. (Joint Pub 3-09.3, GL-11)
- z. Nine-Line Briefing – A CAS briefing standardized for use with fixed-wing and rotary-wing aircraft. The brief is used for all threat conditions and does not dictate the CAS aircraft's tactics. Use of a standardized briefing sequence improves mission direction and control by allowing terminal controllers to pass information rapidly. The CAS briefing form (Figure V-2, Joint Pub 3-09.3, V-3) helps aircrews in determining if [sic] they have the information required to perform the mission. Remarks should include detailed threat descriptions, marking method of friendly locations (including magnetic bearing and distance in meters from the friendly position to the target if available), identifiable ground features, [and] danger close acceptance. (Joint Pub 3-09.3, V-1)
[This figure is on the next page.]

CAS Briefing Form (9-Line)

(Omit data not required, do not transmit line numbers. Units of measure are standard unless otherwise specified. * denotes minimum essential in limited communications environment. Bold denotes readback items when requested.)

Terminal controller: " _____, this is _____ "
(aircraft call sign) (terminal controller)

*1. IP/BP: " _____ "

*2. Heading: " _____ " (magnetic)
(IP/BP to target)

Offset: " _____ (left/right)"

*3. Distance: " _____ "
(IP-to-target in nautical miles/BP-to-target in meters)

*4. Target elevation: " _____ " (in feet MSL)

*5. Target description: " _____ "

*6.

Target location: " _____ "
(latitude/longitude or grid coordinates or offsets or visual)

7. Type mark: " _____ " Code: " _____ "
(WP, laser, IR, beacon) (actual code)

Laser to target line: " _____ " degrees"

*8. Location of friendlies: " _____ "

Position marked by: " _____ "

9. Egress: " _____ "

In the event of a beacon bombing request, insert beacon bombing chart line numbers here. (See Figure V-3.)

Remarks (As appropriate): " _____ "
(threats, restrictions, danger close, attack clearance, SEAD, abort codes, hazards)

NOTE: For AC-130 employment, lines 5, 6, and 8 are mandatory briefing items.

Remarks include detailed threat description, marking method of friendly locations (including magnetic bearing and distance in meters from the friendly position to the target, if available), identifiable ground features, danger close acceptance.

Time on target (TOT): " _____ "

OR

Time to target (TTT): "Stand by _____ plus _____, Hack."

IP/BP – Initial Point/Battle Point
SEAD – Suppression of Enemy Air Defenses
WP – White Phosphorous

aa. OPCODE – Operational Control (OPCON) is a military term for the authority delegated to echelons below the combatant commander. Specifically, OPCON means the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. OPCON does not, in and of itself, include authoritative direction for matters of administration, discipline, internal organization, or unit training. (Joint Pub 1-02, p. 340)

bb. Positive Control – The terminal controller or an observer in contact with the terminal controller must be in position to see the attacking aircraft and target, and receive verbal confirmation that the objective/mark is in sight from the attacking pilot/aircrew prior to commanding “cleared hot”. Aircrews must receive positive clearance from the terminal controller (“cleared hot”) before releasing any ordnance. The two methods of exercising positive control are direct and indirect control. (Joint Pub 3-09.3, V-9)

cc. Rope – Illumination of an aircraft with an IR pointer. (FM 90-38/MCRP 3-25B/NWP 6-02.1/AFJPAM 10-228, p.31)

dd. Snake – Directive to oscillate an IR pointer about a target. (FM 90-38/MCRP 3-25B/NWP 6-02.1/AFJPAM 10-228, p. 34)

ee. “SNIPER 61” – Call sign of Marine F/A-18C flight lead aircraft that performed CAS just before incident aircraft.

ff. “SNIPER 62” – Call sign of Marine F/A-18C flight wingman aircraft that performed CAS just before incident aircraft.

gg. Special Instructions (SPINs) – As used in this report, amplifying instructions that augment the Air Tasking Order. SPINs provide more precise data to executing units to enhance mission planning and provide data on search and rescue operations and other mission specific data the air tasking authority feels is needed at the lower unit level.

hh. Sparkle –Target marking by IR pointer. (FM 90-38/MCRP 3-25B/NWP 6-02.1/AFJPAM10-228, p 35)

ii. Steady – Directive to stop oscillation of IR pointer. (FM 90-38/MCRP 3-25B/NWP 6-02.1/AFJPAM 10-228, p. 37)

jj. Stop – Stop IR illumination of a target. (FM 90-38/MCRP 3-25B/NWP 6-02.1/AFJPAM 10-228, p. 37)

kk. TACON – Tactical Control (TACON) is inherent in OPCON and can be delegated. TACON is used in execution of operations. It is the command authority over assigned or attached forces or commands, or military capability or forces made available for tasking, that is limited to the detailed and usually local direction and control of movements or maneuvers necessary to accomplish assigned missions or tasks. (Joint Pub 1-02, p. 455)

ll. Tactical Air Control Party – A subordinate operational component of a tactical air control system designed to provide air liaison to land forces and for the control of aircraft. (Joint Pub 3-09.3, GL-12)

mm. Tally – Sighting of a target. (FM 90-38/MCRP 3-25B/NWP 6-02.1/AFJPAM 10/228, p. 39)

nn. Terminal Control – 1. The authority to direct the maneuver of aircraft which are delivering ordnance, passengers, or cargo to a specific location or target. Terminal control is a type of air control. 2. Any electronic, mechanical, or visual control given to aircraft to facilitate target acquisition and resolution. (Joint Pub 3-09.3, V-9)

oo. Visual – Sighting of a friendly aircraft/ground position. (FM 90-38/MCRP 3-25B/NWP 6-02.1/AFJPAM 10/228, p. 41)

JOINT DOCTRINE FOR CLOSE AIR SUPPORT

The purpose of this section is to identify the doctrinally correct tactics, techniques, and procedures for conducting Close Air Support (CAS) in a joint and combined environment and is accurately paraphrased from Joint Pub 3-09.3 Joint Tactics Techniques and Procedures for Close Air Support.

TRAINING

1. CAS demands rigorous training and detailed mission planning, as well as solid communications and procedural discipline. (Joint Pub 3-09.3, IV-15)
2. Night and adverse weather CAS demands a higher level of proficiency that can only come about through dedicated, realistic, joint CAS training. Night and limited visibility CAS relies heavily on systems and sensors. Equally critical is terminal controller and aircrew proficiency. (Joint Pub 3-09.3, V-12)

EXECUTION / TERMINAL CONTROL

3. Perhaps the single most important task in conducting CAS is correctly locating and identifying the friendly ground forces that will be in close proximity. However, the challenges of identifying friendly and enemy locations, identifying targets, and maintaining situational awareness become acute in the night or adverse weather CAS environment. The entire training, equipping, planning, tasking, and execution process must recognize these challenges. (Joint Pub 3-09.3, IV-16)
4. The terminal controller has the authority to clear aircraft to release weapons after specific or general release approval from the maneuver force commander. (Joint Pub 3-09.3, V-9)
5. Direct control will be used whenever possible. It occurs when the terminal controller is able to observe and control the attack. The terminal controller transmits “Cleared Hot” when he sees the aircraft is attacking the correct target. (Joint Pub 3-09.3, V-9)
6. A “cleared hot” clearance should be given as soon as possible in the delivery sequence after the terminal controller is convinced the attacking aircraft sees the target and will not release on friendly positions. (Joint Pub 3-09.3, V-9)
7. Aircrews must receive positive clearance from the terminal controller (“cleared hot”) before releasing any ordnance. (Joint Pub 3-09.3, V-9)
8. Aircrews conducting night / limited visibility CAS must be in positive communication with ground forces. When IR pointers are employed, ground forces must further hear “VISUAL” (meaning terminal controller’s position is positively identified) and “TALLY TARGET” (meaning the aircraft has positive target identification). (Joint Pub 3-09.3, V-13)

9. Marking friendlies is the least desirable method of providing a target mark. Marking friendlies can be confusing and should be used cautiously and only when no other method is available. (Joint Pub 3-09.3, V-7)

10. The CAS brief, also known as the “Nine-Line Briefing,” is standardized for use with fixed-wing and rotary-wing aircraft. The brief is used for all threat conditions and does not dictate the CAS aircraft’s tactics. The mission brief follows the numbered sequence (1-9) of the CAS Briefing Form. Use of a standardized briefing sequence improves mission direction and control by allowing terminal controllers to pass information rapidly. This mission information and sequence may be modified to fit the tactical situation. The CAS briefing form helps aircrews in determining if they have the information required to perform the mission. (Joint Pub 3-09.3, V-1/2)

FINDINGS OF FACT AND OPINIONS

HUMAN AND EQUIPMENT FACTORS

The purpose of this overview is to describe those human and equipment factors that impact on an individual's ability to successfully perform their assigned duties.

SECTION 1 - SQUADRON INFORMATION

The purpose of this section is to describe VFA-37's chain of command, training history, and primary focus while deployed in the Arabian Gulf.

FINDINGS OF FACT

101. The incident Pilot is the Commanding Officer of Strike Fighter Squadron Three Seven (VFA-37). The incident Forward Air Controller (Airborne) (FAC (A)) aircrew are assigned to Fighter Squadron Three Two (VF-32). VFA-37 and VF-32 are TACON and ADCON to Carrier Air Wing Three (CVW-3) and embarked on board the aircraft carrier, USS HARRY S. TRUMAN (CVN-75). CVW-3 is TACON and ADCON to Commander Carrier Battle Group Two (CCG-2) and is also embarked in CVN-75. CVW-3 began its current deployment in CVN-75 on 28 November 2000. CCG-2 transferred to the 5th Fleet Area Of Responsibility (AOR) on 27 December 2000 and began flying Operation Southern Watch (OSW) missions on 4 January 2001. CCG-2 is OPCON to 5th Fleet/United States Naval Forces Central Command (NAVCENT) while in the 5th Fleet AOR. NAVCENT is the U.S. Navy component of United States Central Command (USCENTCOM). (Documents 300-001, 300-002, 1200-034[S], 1200-035[C], 1200-036[C], 1200-046)

102. On 13 November 2000, the Commander, Second Fleet, certified CVW-3 for deployment. Discrepancies were noted in the deployment certification message with regard to Amphibious Warfare (CAS is a sub-mission of Amphibious Warfare). Some of those comments regarded the lack of live-fire training that was available during strike missions (some of which were CAS). (Document 1200-036[C])

103. VFA-37 deployed qualified and current (see definition of "Currency T & R") to perform all primary mission areas to include CAS. (Documents 300-049[C], 300-069, 300-072, 1200-036[C])

104. VFA-37 released three Status Of Readiness and Training (SORTS) messages from December 2000 to February 2001 reporting that their amphibious warfare readiness was lowered due to "limited CAS opportunities." (Document 300-049[C])

105. VFA-37 used the CASEX for CAS training. (Documents 300-001, 300-038[S], 1300-056, 1300-57, 1300-058)

106. The Commander, and Deputy Commander, CVW-3 stated that they actively sought CAS opportunities whenever possible but the limiting factor was range availability. (Documents 100-006, 1300-056, 1300-057, 1300-058)

107. Between 28 November 2000 and 2 January 2001, with only 13 total flying days, CVW-3 and VFA-37 focused on the use of “smart weapons” in support of Operation Southern Watch (OSW). (Document 100-006, 1300-056, 1300-058)

OPINIONS

108. That VFA-37 and CVW-3 were properly certified to deploy with discrepancies. These discrepancies did not affect the squadron’s ability to deploy, but resulted in lower readiness in CAS. (Facts 101, 102, 103)

109. That VFA-37’s primary focus upon entering the Arabian Gulf was OSW and combat missions over Iraq, not CAS. (Facts 106)

110. That VFA-37 and Commander, Second Fleet identified the lack of pre-deployment live CAS training. CVW-3 was proactive in their search for CAS training to improve Air Wing readiness. (Facts 102-106)

SECTION 2 – AIRCREW BACKGROUND

The purpose of this section is to describe the history and medical status of the incident aircrew.

FINDINGS OF FACT

INCIDENT PILOT

201. The incident Pilot was CDR David O. Zimmerman, USN, the Commanding Officer of VFA-37. He was fully qualified for operations in instrument flight. He was Naval Air Training and Operating Procedures Standardization (NATOPS) qualified in the F/A-18C, a Night Vision Goggle (NVG) Instructor Pilot and current in the use of NVGs. He had 3.2 NVG hours in the 30 days prior to the mishap. (Documents 100-001, 100-004, 100-017, 300-001, 300-026, 300-031)

202. He was medically qualified and certified to fly the evening of 12 March 2001. There is no evidence to suggest that he was self-medicating, taking prescription drugs or using illicit substances at the time of the incident. (Documents 100-001, 100-016, 100-021)

INCIDENT FAC (A) PILOT AND FAC (A) RADAR INTERCEPT OFFICER (RIO)

203. The Forward Air Controller (Airborne) (FAC (A)) aircrew were LT Patrick T. Mowles, USN, VF-32, Pilot, and LT Andrea M. Powers, USN, VF-32, Radar Intercept Officer (RIO). They were both fully qualified for operations in instrument flight conditions; NATOPS qualified in the F-14B and the FAC (A) mission, and were NVG current. The FAC (A) aircrew's NVG hours in the 30 days prior to the incident were 4.0 hours for the FAC (A) Pilot and 1.2 hours for the FAC (A) RIO. (Documents 100-002, 100-023, 100-024, 300-002)

204. The FAC (A) aircrew were medically qualified and certified to fly the evening of 12 March 2001. There is no evidence to suggest that they were self-medicating, taking prescription drugs or using illicit substances at the time of the incident. (Documents 100-002, 100-020, 100-022, 100-014, 100-015)

OPINIONS

205. That the incident Pilot and FAC (A) aircrew were fully qualified and current to fly naval aircraft in all weather, at night and qualified and current to use NVGs. That FAC (A) aircrew were both qualified and current to perform as FAC (A)s. (Facts 201-204)

206. That at the time of the incident, the incident Pilot and FAC (A) aircrew did not have any medical or physiological issues that would have presented an aeromedical hazard or contraindication to flight. (Facts 201-204)

SECTION 3 - AIRCREW TRAINING AND PROFICIENCY

The purpose of this section is to describe the training and readiness level of the aircrew prior to the incident. Commander, Naval Air Forces Atlantic (COMNAVAIRLANT)/ Commander, Naval Air Forces Pacific Instruction (COMNAVAIRPACINST) 3500.67E is the U.S. Navy's Instruction specifically outlining the training and readiness requirements for Navy F/A-18 and F-14 aircrew members.

FINDINGS OF FACT

INCIDENT PILOT

301. CDR Zimmerman's flight times are: F/A-18: 1194 hours and total naval flight time: 3341 hours. (Documents 100-001, 100-004, 100-017, 300-001)

302. The incident Pilot's sorties and flight hours for the 30 days prior to the incident were:

- a. Day: 14 sorties / 25.4 hours
- b. Night: 4 sorties / 5.7 hours (NVG: 3 sorties / 3.2 hours)
- c. Total: 18 sorties / 31.1 hours
(Documents 100-004, 100-017)

303. The Commander, Carrier Group Two and Commander, CVW-3 stated that the incident Pilot is a mature, experienced aviator and that they have no reservations about his ability. (Document 1300-058, 1300-063)

304. The incident Pilot had flown six flights in the 14 days prior to the incident, one of which was a night, inert bombing sortie over water on 9 March 2001. The Pilot had flown two bombing missions to Udairi Range since arriving in the Arabian Gulf prior to the incident flight. Both flights were during the day, and one was a CAS flight with live 500-pound bombs on 9 March 2001. (Documents 100-004, 100-017)

305. According to the standards of both CVW-3 and VFA-37, the incident Pilot was both qualified and current (see definition of "Currency Squadron") to execute the night CAS bombing mission. (Document 300-026)

INCIDENT FAC (A) PILOT AND FAC (A) RADAR INTERCEPT OFFICER (RIO)

306. The total naval flight times were: the FAC (A) Pilot, LT Mowles-1206.0 hours, and the FAC (A) RIO, LT Powers-864.2 hours. (Documents 100-023, 100-024)

307. The FAC (A) Pilot's and FAC (A) RIO's sorties and flight hours for the 30 days prior to the incident were:

a. FAC (A) Pilot:

(1) Day: 13 sorties / 28.6 hours

(2) Night: 4 sorties / 6.8 hours (NVG: 4 sorties / 4.0 hours)

(3) Total: 17 sorties / 35.4 hours

b. FAC (A) RIO:

(1) Day: 8 sorties / 16.8 hours

(2) Night: 1 sortie / 2.0 hours (NVG: 1 sortie / 1.2 hours)

(3) Total: 9 sorties / 18.8 hours
(Documents 100-023, 100-024)

308. The Commander, CVW-3 stated that he has full confidence in the ability of the FAC (A) aircrew. (Document 100-025)

309. The last FAC (A) missions flown by the aircrew prior to the night of the incident were:

a. FAC (A) Pilot: 12 January 2001 (Day)

b. FAC (A) RIO: 12 March 2001 (Day)
(Documents 100-023, 100-024, 300-002, 1300-052)

310. According to the standards of both CVW-3 and VF-32, the FAC (A) aircrew were both qualified and current (see definition of "Currency Squadron") to execute the night FAC (A) mission. (Documents 100-002, 100-023, 100-024, 100-030)

OPINIONS

311. That the incident Pilot and FAC (A) aircrew are well-respected aviators and fully qualified and current to be at Udairi for their respective missions during the CASEX on 12 March 2001. (Facts 301-310)

SECTION 4 - INCIDENT AIRCRAFT INFORMATION

The purpose of this section is to describe the operational and mechanical condition of the incident aircraft and its related weapons systems.

FINDINGS OF FACT

PRE-FLIGHT

401. The U.S. Navy F/A 18C aircraft flown the evening of 12 March 2001 was Bureau Number (BUNO) 165183, more commonly known by its aircraft side number 302. Aircraft 302 is assigned to Strike Fighter Squadron Three Seven (VFA-37) (Documents 200-006, 300-001)

402. Aircraft 302 had a complete check of the weapons release system six days prior to flying on the evening of 12 March 2001, and passed the inspection with an “all checks good” comment. For the incident flight, three live MK-82, 500-pound, General Purpose bombs were loaded on aircraft 302 on stations 2, 3, and 8. (Documents 200-006, 200-011, 300-028)

403. Aircraft 302 had six discrepancy reports written on its Cockpit Video Recording System (CVRS) for the Heads Up Display (HUD) and left Digital Display Indicator (DDI) over the previous 59 days prior to flying the evening of 12 March 2001. The incident aircraft HUD/left DDI CVRS did not function the night of the incident. This equipment is not required for night CAS missions. (Document 200-008, 300-079, 300-026)

404. At the time the incident Pilot signed for the aircraft, there were three minor discrepancies (maintenance discrepancies which do not affect safety of flight) in the Aircraft Discrepancy Book (ADB): starboard supplemental light burned out; starboard engine mount bushings approaching high time; and port engine mount bushings approaching high time. The aircraft was certified as “safe to fly” by VFA-37 maintenance. (Document 200-006)

405. The NVGs issued to the incident Pilot were AN/AVS-9 (V) goggles serial number 1202, and they passed a 90-day inspection on 14 December 2000 (88 days prior to the incident). (Document 800-002)

406. A Forward Looking Infrared (FLIR) pod was on aircraft 302 for the incident launch. (Document 200-006)

IN-FLIGHT

407. All aircraft equipment required for CAS training, and used during the incident, performed as designed. (Documents 200-006, 300-026, 300-079, 800-001, 800-002, 800-004, 800-010, 800-013, 800-014, 800-017)

POST-FLIGHT

408. Aircraft 302 was impounded post-landing and moved to the hangar bay of CVN-75 pending post-incident maintenance check completion and follow-on release of the aircraft by the USN Aircraft Mishap Board. (Documents 800-001, 800-007, Reference OPNAVINST 3750.Q)

409. At 1832Z, 14 March 2001, on board USS HARRY S. TRUMAN, F/A-18 BUNO 165183 Data Storage Unit (DSU) was downloaded by a Naval Air Warfare Center Aircraft Division (NAWC (AD)) representative. (Document 800-010)

410. Technical Representatives from the Naval Air Systems Command F/A-18 Fleet Support Team at NAS North Island and the Boeing Accident Investigation Office in St. Louis stated that the audio and video tracks recorded by the F/A-18 HUD recording system are synchronous (i.e., the audio recorded on the tape will not fall out of sequence with the video). (Documents 800-006, 800-011)

411. On 15 March 2001, aircraft 302 had an emergency weapons jettison and weapons parent rack check performed on stations 2, 3, and 8. No discrepancies were noted on the “normal” and “emergency” weapons release checks. (Document 800-001)

412. On 16 March 2001, aircraft 302 had a functional and operational test performed on the FLIR, HUD, and Target Designator Control (TDC – a button positioned on the throttle that the pilot uses to designate a target with either the HUD, or another sensor on the aircraft) with no discrepancies noted. (Document 800-001)

413. On 16 March 2001, the incident pilot’s AN/AVS-9 (V) NVGs, serial number 1202, were inspected with one discrepancy noted, “Goggle collimation out of tolerance in accordance with NA-16-35AVS9-2.” (Documents 800-002, 800-009)

414. “Goggle Collimation” is a term used by maintenance personnel to describe the measurable alignment of the two binocular lenses that the pilot looks through. It is a correctable condition that can be fixed during the regularly scheduled 90-day inspections. (Documents 800-009, 800-013, 800-014)

415. The Navy’s F/A-18 NVG Instruction requires the pilot to check the NVGs prior to each flight for focus and image clarity. (Document 300-031)

416. The incident Pilot accepted and used the NVGs. (Documents 100-017, 200-006, 500-032)

417. The incident Pilot did not initiate a post-flight maintenance check of his NVGs or otherwise note any discrepancies with his NVGs. (Document 800-2)

OPINIONS

418. That the aircraft, to include the FLIR, NVGs, radar (weapon targeting system), and weapons as well as the normal and emergency jettison systems, did not have any incident related maintenance discrepancies from pre-flight, to takeoff, to landing to post-incident maintenance inspections. (Facts 401-417)

419. That all post-incident checks on the aircraft were accomplished expeditiously and with no discrepancies noted that would have affected the aircraft during the incident. The NVGs worked the night of the incident and the maintenance discrepancy did not affect their overall effectiveness during the incident flight. (Facts 408-416)

SECTION 5 – GFAC TRAINING AND PROFICIENCY

The purpose of this section is to describe the training and readiness level of the Ground Forward Air Controllers (GFACs) prior to the incident. AFI 13-102 is the Air Force's instruction that specifies the training, certification, and currency requirements for ETACs.

FINDINGS OF FACT

501. SSgt Timothy B. Crusing, USAF, is permanently assigned to the 19th Air Support Operations Squadron, Fort Campbell, Kentucky. While deployed to Kuwait, he was assigned to the 332d Expeditionary Air Support Operations Squadron (EASOS). The 332 EASOS is ADCON to the 332nd Air Expeditionary Group, which in turn is ADCON to the 9th Air and Space Expeditionary Task Force (ASETf)-Southern Watch (SW). The 9 ASETf-SW is attached to US Air Forces Central Command (CENTAF)/9th Air Force for the purposes of command and control and administrative support. (Documents 1200-047, 1300-059, 1300-061)

502. SSgt Crusing was current and qualified to perform duties as an Enlisted Terminal Attack Controller (ETAC) and qualified to perform Emergency Close Air Support (ECAS) training in accordance with AFI 13-102, 9th Air Force Supplement, 18th Air Support Operations Group Supplement, and 19th Air Support Operations Squadron Supplement. (Documents 400-018, 600-009, 600-026, 600-027, 600-028, 600-029)

503. Between 8 and 10 January 2001, SSgt Crusing received the US Army Forces Central Command-Kuwait (ARCENT-KU) Range and Training Safety briefing and, per ARCENT-KU Range Standard Operating Procedures (SOP) and AR 385-63, was certified to perform: Officer-in-Charge (OIC), Range Safety Officer (RSO), Range Control Officer (RCO), and GFAC. (Documents 400-018, 400-023)

504. Data taken from 332 EASOS daily CAS log, and cross referenced with 5th SFG Advanced Operations Base's (AOB) training schedule, indicates SSgt Crusing was scheduled to control a total of 20 CAS missions between 28 January 2001 and 4 March 2001. Of those missions, 11 day and two night (1 Live-inert, 1 Dry (simulated)) missions, were scheduled at Udairi Range. (Document 600-026)

OPINIONS

505. That at the time of the incident, SSgt Crusing was a fully qualified and current GFAC authorized to conduct terminal attack control and provide ECAS training on Udairi Range. (Facts 502-504)

506. That SSgt Crusing was highly experienced and proficient in performing his duties as a GFAC and ECAS trainer at Udairi Range. (Facts 502-504)

SECTION 6 – GROUND FORWARD AIR CONTROL (GFAC) EQUIPMENT

The purpose of this section is to describe the operational status of the GFAC's equipment and the standards for equipping the GFAC (day and night).

FINDINGS OF FACT

601. The minimum required equipment for daytime CAS operations is a radio for two-way communication. Suggested items for marking devices include a VS-17 panel, mirror, flares, etc. (Documents 600-033, 600-034)
602. The planned equipment for the conduct of the CASEX on OP 10, as stated at the Final Planning Conference (FPC), were: VHF, UHF, and SATCOM radios, a laser target designator, Ground Commander's IR Pointer, and markings for friendly positions including: VS-17 panel (day), IR strobe/IR firefly, GLINT tape, and smoke. (Document 300-039[S])
603. During the day of the incident, OP 10 was marked with one VS-17 panel on top of at least one of the HMMWVs; one orange parachute panel attached to the TACP vehicle antenna; one VS-17 panel tied between a HMMWV's radio antennas; a signal mirror; and smoke. (Documents 600-004, 1300-031, 1300-053, 1300-054, 1300-059)
604. The following radio equipment was available at OP 10 during both the day and night of the incident: a radio suite comprised of one UHF radio; one HF radio; one VHF radio; two secure/frequency hopping FM radios; two additional portable UHF/VHF radios; and one portable UHF/VHF/FM/SATCOM radio. GFAC used one portable UHF/VHF radio during CASEX operations. (Documents 600-035, 700-011, 1300-059)
605. The minimum required equipment for night time CAS operations is NVGs, a radio for two-way communications, and IR marking devices for both friendly positions and the target. Suggested IR marking devices include: IR Strobe, IR Pointer, overt strobe, flares, etc. (Documents 600-033, 600-034)
606. During the night of the incident, there were two fully operational IR pointers at OP 10. (Documents 1300-031, 1300-059, 500-035[S])
607. At the time of the incident, OP 10 was marked with fully operational equipment including a visible white strobe light located at the right rear on top of the TACP vehicle antenna base, and a circular array of chemical sticks behind the right rear of the TACP vehicle. A single IR strobe was placed on the top front of the TACP vehicle. (Documents 700-013, 1300-030, 1300-031, 1300-048, 1300-052, 1300-059)
608. Both the SNIPER flight and the FAC (A) R reported seeing only a single light source. (Documents 1300-022, 1300-024, 1300-052, 1300-059)

609. At the time of the incident, there were two fully functional NVGs at OP 10.
(Documents 1300-031, 1300-048, 1300-059)

610. Personnel at the OP without NVGs reported seeing a visible white strobe light.
(Documents 1300-030, 1300-031, 1300-048)

OPINIONS

611. That the GFAC's equipment was in compliance with the requirements for type and number of radios, marking devices, and NVGs. (Facts 601-607, 609)

612. That SSgt Crusing correctly marked the OP for both day and night operations in accordance with procedures established during the CASEX FPC. (Facts 602, 603, 606-608)

SECTION 7 – OP 10 OPERATIONS

The purpose of this section is to describe the GFACs and Emergency Close Air Support (ECAS) training being conducted at Udairi Range on 12 March 2001. The Udairi Range is a multi-purpose range designed to support all battalion task force weapons and CAS live-fire training. It is located on the desert floor in Northern Kuwait and has limited contours and terrain features. The impact area is not fenced and is inhabited at various time by Bedouins. Observation Post (OP) 10 is located on a ridge south of the impact area. A 20-foot tower marks OP 10. The location of OP 10 provides a vantage point to observe and control air-to-ground and ground-to-ground fires.

FINDINGS OF FACT

701. SSgt Crusing and SSgt Faley, USAF, also assigned to 332d Expeditionary Air Support Operations Squadron (EASOS), USAF GFAC personnel, arrived at OP 10 at 0812Z on 12 March 2001. SSgt Crusing checked in with Range Control at 0813Z. (Document 600-030)

702. SSgt Crusing was the senior GFAC at OP 10, responsible for the Tactical Air Control Party (TACP) participation in the CASEX and the ECAS training. As the senior GFAC, he was also the range Officer-in-Charge (OIC), Range Safety Officer (RSO), and Range Control Officer (RCO). (Documents 400-018, 600-030, 1300-054, 1300-059, 1300-061)

703. Three US Army 707th EOD personnel were conducting range-clearing operations on Udairi Range. During live-fire CAS, they relocated to OP 10 for safety reasons. They were not part of the TACP nor were they participating in the CASEX and ECAS training. (Documents 1300-031, 1300-054)

704. Five US Army personnel from Advanced Operational Base (AOB) 590 were on OP 10. Four were Special Forces personnel undergoing ECAS training in conjunction with the CASEX, and one individual from the AOB was there to observe ECAS training. (Documents 1300-031, 1300-048, 1300-054)

705. Also at the OP were six Kuwaiti Army personnel, three to observe the CASEX and three waiting for artillery training later that evening, and one New Zealand Army SAS officer who was observing the CASEX as the CJTF-KU Training Officer. They were not actively participating in ECAS training at the time of the incident. (Documents 1300-030, 1300-032, 1300-048, 1300-054, 1300-059)

706. SSgt Crusing stated that the number of personnel on OP 10 was not a distraction. MAJ Henley and SGM Olson, the AOB 590 commander and sergeant major respectively, visited the training site for four hours the day of the incident. They witnessed ECAS training and indicated it was being conducted in a highly professional manner. (Documents 1300-053, 1300-059, 1300-060)

707. At the time of the incident, six vehicles were located at OP 10. (Documents 700-001, 700-002, 700-003, 1000-005, 1000-007)

708. At the time of the incident, seventeen personnel occupied OP 10. (Documents 1000-002, 1300-030, 1300-031, 1300-032)

OPINIONS

709. That numerous personnel occupied OP 10 throughout the day of the incident, but that SSgt Crusing maintained a highly professional atmosphere. The number of people did not adversely affect his performance as the GFAC or ECAS trainer. (Facts 702-708)

710. SSgt Crusing was not over tasked on the day of the incident because the responsibilities of OIC, RSO and RCO are inherent in performing GFAC duties. (Facts 701, 702, 706)

THE ENVIRONMENT

The purpose of this section is to provide an overview of the environment in which the exercise was conducted; covering Mission Planning and the Udairi Range and how information was or was not, disseminated to all aircrew and ground personnel participating in the CASEX.

SECTION 8 - MISSION PLANNING

This section describes the overall planning and execution of the CASEX and identifies the units conducting the planning and those executing the training. It identifies individual and unit responsibilities and describes the changes to the schedule, ordnance loads, and how the aircrew and ground personnel briefed, or failed to brief, before the incident flight.

FINDINGS OF FACT

PLANNING

Note: Facts 801-802 concern general information about the exercise and the participants.

801. The CASEX plan called for the following participants (United States, Kuwait, United Kingdom) and sorties: (Documents 1200-032[S], 300-051[S], 300-042[S])

- a. Thirty-two F/A-18C and eleven F-14B sorties from CVW-3 on board CVN-75, to include the "SNIPER 61," "LION 71" and the "LATCH 41" flights.
- b. Twelve F/A-18D sorties from Marine Fighter Attack Squadron (VMFA) 225 at Al Jaber.
- c. Fourteen F/A-18C sorties from the Kuwaiti Air Force at Al Jaber.
- d. Six GR-1 sorties from the RAF 13th Squadron at Ali Al Salem.
- e. Ten F-15E sorties from 494th Fighter Squadron at Al Jaber.

802. The 332d Expeditionary Air Support Operations Squadron (EASOS) from Camp Doha provided the Air Support Operations Center (ASOC) operating during the CASEX. They also provided the TACP operating at OP 10 during the CASEX. (Documents 1300-34, 1300-054)

Note: Facts 803-804 concern the three Planning Conferences held in preparation for the CASEX.

803. There were three planning conferences for the CASEX. They were held at Camp Doha and run by CJTF-SWA, which operates out of Prince Sultan Air Base (PSAB), Saudi Arabia. (Document 300-033)

- a. Initial Planning Conference (IPC) on 17 Jan 2001.
- b. Mid Planning Conference (MPC) on 13 Feb 2001.
- c. Final Planning Conference (FPC) on 9 Mar 2001.

804. The CVW-3 representative, LT Powers, and 332 EASOS/ASOC Commander, Maj Clarkin, who had attended the IPC and MPC were absent from the FPC. At the FPC, the ASOC was represented by a new Commander. Lt Col Call had taken command from Maj Clarkin on 3 March 2001. The CVW-3 representative did not attend the FPC due to involvement in the CASEX brief on CVN-75. (Documents 300-071 exhibit w [S], 300-033, 1300-034, 1300-052).

RULES

Note: Facts 805-809 concern the briefs and various documents given to the pilots of CVW-3 by the resident experts from within theater, as well as the CASEX Special Instructions (SPINS) and ATO.

805. On 22 January 2001, the ARCENT-Kuwait Range Control Officer (RCO), Mr. Broadwater, and an ETAC representative from the 332 EASOS, SSgt Avalos, visited CVN-75/CVW-3 and briefed specific issues on the Udairi Range. The CVW-3 FAC (A) aircrew were also given a separate FAC (A) brief. (Documents 400-011, 400-007, 1300-036, 1300-052)

806. The 332d Air Expeditionary Group (AEG) In-flight Guide was sent to LT Powers, VF-32, by Maj Clarkin, 332 EASOS, and it contained information on the Udairi Range. (Documents 300-071 exhibit y [S], 1300-052)

807. Various sources were inconsistent with regard to clearing passes. For example:

- a. The 332 EASOS brief noted the requirement to do a clearing pass when Bedouins or livestock are within 1 kilometer. (Document 400-007)
- b. The Range SOP stated that deliveries are prohibited if Bedouins are within 2 kilometers (3 kilometers for strafing). (Document 400-018)
- c. Only the Range SOP addressed identifying the location of friendly troops and ground controllers as an additional reason for doing a low/slow clearing pass. (Document 400-018)

d. The 332 AEG In-flight Guide stated “Clearing pass required unless range cleared by GFAC, RCO, or previous flight.” (Document 300-071 exhibit y[S])

808. Various sources were contradictory with regard to altitudes.

a. The Ground Liaison Officer (GLO) Brief stated that the fixed wing minimum altitude for clearing passes was 3000 feet Mean Sea Level (MSL). (Document 300-044[S])

b. The CASEX Special Instructions (SPINS) stated that the fixed wing minimum altitude for clearing passes was 2000 feet MSL. (Document 300-042[S])

c. The Udairi Range SOP required fixed wing aircraft to do their clearing passes at no greater than 1000 feet (day) or 2000 feet (night). (Document 400-018)

809. The planning documents were contradictory with regard to ordnance loads.

a. The Guidance Apportionment and Targeting (GAT) section of CJTF-SWA (J3) produced a graphical “flow” of CASEX sorties with regard to assignment of call signs to flights based on their ordnance loads. (Documents 500-028[S], 300-042[S])

b. The SPINS stated that the LION call sign was reserved for inert ordnance loads only. (Document 300-042[S])

c. The ATO assigned “LION 71” its call sign. The ordnance load was at the discretion of CVW-3. (Document 300-037[S])

FAC (A) – “LATCH 41”

Note: Facts 810-822 concern the issue of whether “LATCH-41” flight should have been present at Udairi Range.

810. On 02 March 2001, MAJ Davey, JTF-SWA (J3) Ground Operations, sent an email to Maj Clarkin, then the 332 EASOS Commander, stating “We are not going to use a FAC (A) at Udari [sic] for the exercise.” (Document 300-067[S])

811. Both Maj Clarkin and MAJ Davey stated that the concern over placing a FAC (A) over the Udairi Range was not related to safety. (Document 1300-035, 300-073)

812. MAJ Davey was concerned the presence of a FAC (A) at Udairi would detract from Navy SEAL training in the east sector and cause confusion between the GFAC and FAC (A) with regard to control of aircraft. (Document 300-080)

813. Maj Clarkin was concerned that the lack of a FAC (A) would detract from ETAC training. (Document 1300-035)

814. On 6 Mar 2001, the JTF-SWA / J3 GAT LNO (LCDR Kimmel) sent an email to JTF-SWA / J3 Long Range Plans (Capt Flynn) confirming the intent to put LUU-2 flares on the night FAC (A)s. This is an ordnance load that would require use of the Udairi range. (Document 300-071, Exhibit h., 400-018)

815. The CASEX SPINS stated that there would be a FAC (A) in the East sector not at Udairi Range. (Document 300-042[S])

816. The CASEX SPINS, Attachment 1, depicted the exercise area graphically, showing a picture of an A-10, labeled "FAC (A)" in the east sector, but not in the west sector (Udairi Range). (Document 300-042[S])

817. The ATO tasked the "LATCH 41" flight as a FAC (A). The instructions were to go to "Point Zulu" (a control point central to all exercise sectors) and check in with CONDOR (the call sign of the ASOC). (Document 300-051[S])

818. The CASEX SPINS granted the ASOC "responsibility for distribution and flow" of CAS fighters into required sectors for employment. (Document 300-042[S])

819. SSgt Crusing stated that he was called by the ASOC on 11 March 2001 to discuss the use of a FAC (A) at Udairi on the night of 12 March 2001. He agreed to have a FAC (A) on station. (Document 1300-059)

820. On 12 March 2001, LT Powers called the EASOS/ASOS Commander, Lt Col Call, and confirmed that "LATCH 41" would be the FAC (A) at Udairi that evening. (Documents 1300-034, 1300-052)

821. LT Powers stated that she had talked to CDR Zimmerman on the day of 12 March 2001 to inform him that she would be the FAC (A) at Udairi range that night. (Document 1300-052)

822. Lt Col Call, the senior officer on watch in the ASOC on 12 March 2001 and the new 332 EASOS Commander, stated that he believed that having a FAC (A) over Udairi at night was an approved part of the CASEX plan, and instructed his staff to send the "LATCH 41" flight to Udairi Range. (Documents 1300-034, 1300-015)

PILOT – "LION 71"

823. SSgt Crusing stated that in his mind, he had ensured that the range was clear of animals and Bedouins in conjunction with "LATCH 41." He did not feel that additional clearing passes by the SNIPER and LION flights would have been effective due to darkness. (Document 1300-059)

Note: Facts 824-825 concern the issue of whether the Incident flight was supposed to have been carrying inert ordnance.

824. Lt Col Tulberg, JTF-SWA (J3) Combat Plans, stated that during the ATO writing process, call signs were mis-assigned due to administrative errors. He stated that the "LION 71" flight had been intended for live ordnance during planning, but was assigned the LION call sign by mistake. (Documents 300-042[S], 300-074)

825. SSgt Crusing stated that he knew that the "LION 71" flight had live ordnance. (Document 1300-059)

OPINIONS

826. That during planning for the CASEX, the participants were exposed to a variety of documents and briefings, which contained some contradictory and confusing information caused by multiple, conflicting sources. (Facts 805-809)

827. The 332 AEG In-Flight Guide and the brief from the 332 EASOS required a "clearing pass" to ensure the range was not fouled with indigenous personnel and livestock. SSgt Crusing felt confident that he had cleared the range, in conjunction with the "LATCH 41" flight, prior to darkness, and that the "SNIPER 61" and "LION 71" flights would not have added to this with additional clearing passes due to darkness. While neither the SNIPER nor LION flights met the clearing pass requirements of the current Range SOP, the GFAC felt, at the time of the incident, that the functional requirement and intent of the clearing pass had been met. (Facts 807, 823)

828. That the GFAC, ASOC Commander, and FAC (A) had known about, and agreed to, the employment of a FAC (A) at Udairi Range for the night CASEX event. (Facts 817, 819-820, 822)

829. That the conflict between Maj Clarkin, ASOC Commander (outgoing) and Maj Davey, JTF-SWA (J3) Ground, was not clearly understood by Lt Col Call, the new ASOC Commander. All participants did not understand JTF-SWA's intent for the FAC (A) to remain in the eastern sector of the CASEX (not at Udairi). (Facts 810-822)

830. That planning and coordination for a FAC (A) at Udairi range between the ASOC, FAC (A), and GFAC continued after the Final Planning Conference, but these discussions did not contribute to the incident. (Facts 819-820, 822)

831. That the confusion between the ATO, SPINS, EASOS/ASOC Commander, and the CVW-3 representative, as to whether or not the FAC (A) should have been at Udairi on 12 March 2001, did not contribute to the incident. (Facts 810-822)

832. That everyone involved in the incident at OP 10 on 12 March 2001 had known that "LION 71" was carrying live ordnance. The sorties were planned for live ordnance and were executed with live ordnance, and an administrative error in the ATO writing process was the only reason that the flight was assigned a LION call sign. (Facts 824, 825)

SECTION 9 – UDAIRI RANGE

This section describes the Udairi Range to include prior Close Air Support (CAS) incidents and actions that Range Control took as a result of those incidents.

FINDINGS OF FACT

901. The Udairi Range is a multi-purpose range designed to support all battalion task force weapon systems and CAS live-fire training. It is located on the desert floor in Northwest Kuwait. It has limited contours and terrain features. The impact area is not fenced and is inhabited at various times by Bedouins. (Documents 400-018, 400-024)

902. Since August 2000, there have been four documented CAS incidents at the Udairi Range, including the one on 12 March 2001. (Document 1300-036)

Note: Statements 903 – 906 below identify prior CAS incidents at Udairi Range and actions that Range Control took as a result of those incidents.

903. On 9 August 2000, during a CASEX, an F-16 from the 332d Air Expeditionary Group, Al Jaber Air Base, performing Forward Air Controller Airborne (FAC (A)) duties, misidentified the target and launched two white phosphorous (WP) rockets that impacted 150 meters south of Observation Post (OP) 10. (Document 1300-036, Exhibit c.)

904. On 15 October 2000, during a day training exercise, an A-10 was given clearance by a GFAC and fired approximately 80 rounds of inert 30mm rounds about 30 meters from a Bedouin tent. (Document 1300-036, Exhibit d.)

905. On 26 February 2001, during daylight CAS training mission under GFAC control, a USMC F/A-18 from CVN-75 misidentified the target area in Udairi and dropped a live MK-82, 500-pound bomb, in the vicinity of OP 8. No injuries to personnel or damage to equipment were reported as a result of the incident. (Document 400-022)

906. Range Control actions as a result of the incidents were as follows:

- a. Annex D, Range Procedures for Fixed-Wing Air to Ground Operations, was changed on 15 November 2000 to restrict delivery of ordnance to within two kilometers of Bedouin camps. (Document 400-001)
- b. Range Control and the 332 EASOS worked together to secure a better target array. More than ten HMMWV size targets were emplaced during the first two weeks of November 2000. (Documents 400-016 and 1300-036, Exhibits h., i., j., k.)
- c. A tower was constructed on OP 10 and the rooftop was painted white with a red cross on 15 November 2000. (Document 1300-036, Exhibits h., i., j., k.)

OPINIONS

907. That identification of OPs and the target area, and differentiation between the two, have been documented problems that have contributed to previous range incidents. (Facts 901-905)

908. That despite four documented incidents in the past eight months, and attempts to improve conditions, OPs and targets remain hard for pilots to see day or night. (Facts 901-906)

SECTION 10 – THE INCIDENT

The purpose of this section is to describe the incident flight and ground actions from beginning to end. The data used to develop the incident flight included: mission record HUD/Voice tape data, incident weapons storage data page, Kuwait Ground Radar, FAC (A) Radar Intercept Officer (RIO) statements, GFAC statements, ASOC statements, and other witness statements.

FLIGHT FROM TAKEOFF TO INCIDENT

FINDINGS OF FACT

Note: Analysis of the incident aircraft information and Kuwaiti ground radar indicated that there was a base time difference between the two sources of approximately four minutes. This was determined by comparing data points at similar locations. The time difference was the result of the two systems using a different time source. This time difference was not a factor in the reconstruction.

BACKGROUND ENVIRONMENT AT UDAIRI RANGE

Facts 1001-1005 reflect the environment on the Udairi Range at the time of the incident.

1001. The weather at the Udairi Range was: Scattered clouds 900 feet, Scattered clouds 25,000 feet, Visibility 10 nautical miles, Winds (surface) 330 degrees at 06 knots, with an Altimeter reading of 29.92. The temperature was 75 degrees F. (Document 500-044)

1002. Sunset was 1445Z with the Moonrise at 1759Z; Moon Illumination was 0%. (Documents 300-024, 1300-013)

1003. The target set, as described from the air by the aircrews, is a cratered blackened out area with indiscernible vehicles vice a defined target array. (Documents 500-032, 500-038[S])

1004. The friendly position was described as a long ridgeline running east to west. The OP is on the ridge two kilometers south of the target area and marked by a white strobe light. (Documents 500-032, 500-038[S])

1005. In and around the Udairi Range there were multiple light sources including: manned OPs, Bedouin campsites within 2-4 kilometers, and other vehicles. (Documents 500-032, 1300-006, 1300-007, 1300-037, 1300-052, 1300-059)

GFAC

Facts 1006-1009 describe who was on OP 10 during the day of the incident and related issues.

1006. The GFAC personnel arrived at OP 10 at 0812Z. The first Special Forces Operation Detachment Alpha (SFODA) to be trained that day was already on site. GFAC opened the site with Range Control at 0813Z. (Documents 600-030, 1300-059)

1007. During the day portion of the CASEX, the GFAC directed a flight of fighters to return to base because they could not positively ID the friendly and target locations. The GFACs had marked the friendly location with smoke, two VS-17 panels and an orange parachute canopy panel. (Documents 1300-053, 1300-059)

1008. The GFAC marked the OP for night operations with a visible white strobe light, an IR strobe light, and a circular pattern of chemical sticks. (Documents 1300-031, 1300-048, 1300-059)

1009. One of the observers at OP 10 volunteered to operate the IR pointer that was used to illuminate the target for the incident Pilot. (Documents 1300-031, 500-032, 700-013, 1300-059)

FAC (A)

1010. Upon arrival at the Udairi Range at 1435Z and just prior to sunset, the FAC (A) did a clearing pass without FLIR or NVGs at 1000 feet Above Ground Level (AGL). (Documents 1300-001, 1300-008, 1300-052, 1300-061)

1011. The GFAC stated that he did not think SNIPER and LION flights were required to perform a clearing pass because the FAC (A) had conducted one earlier during the day to positively identify the OP and target and verify the absence of Bedouins and livestock. (Documents 1300-059, 1300-061)

1012. The FAC (A) and GFAC agreed that they would share responsibility for control of the in-coming strike aircraft. The GFAC would maintain "Positive Direct Control" (observe and control the attack) of the fighters and retain "Final Clearance Authority" (terminal control) for weapon release. The FAC (A) was responsible for aircraft check-in and target area orientation, to include talk-on of the aircraft to the friendly position and the target. (Documents 500-032, 1300-001, 1300-008, 1300-052, 1300-059, 1300-061)

SNIPER FLIGHT

Facts 1013-1020 relate to the SNIPER track over the ground, a flight of two F/A-18C's from VMFA-312, CVW-3. SNIPER flight is the CAS event just prior to the incident event. It was also at night with live ordnance. Additionally, these facts highlight the pattern of communication between the FAC (A), GFAC and strike aircraft.

1013. After arrival at Udairi Range, the SNIPER flight did not do a clearing pass, nor did the FAC (A) or GFAC request it. (Documents 500-032, 1300-006, 1300-007, 1300-022, 1300-024, 1300-052, 1300-059)

1014. SNIPER flight did not receive a nine-line brief, nor did they request one. The nine line brief, or modified nine line, is the standard/convention for CAS, but Joint Doctrine does not make it a requirement. (Documents 500-032, 1300-006, 1300-007, 1300-022, 1300-024, 1300-052, 1300-059)

1015. "SNIPER 61" acknowledged all restrictions on run-in, the no fire area around the OP, and the requirement for a "TARGET IN SIGHT, FRIENDLIES IN SIGHT" prior to being given "CLEARED HOT." (Documents 500-032, 500-038[S])

1016. "SNIPER 61" acknowledged both the friendly and target location talk-on by the "FAC (A)," then described the ridge, the strobe on OP 10, and the craters in the target area. (Documents 500-032, 500-038[S])

1017. The SNIPER flight received 18 separate descriptive calls from the GFAC and FAC (A) on target and friendly positions and expressed difficulty acquiring and maintaining visual of both the target and OP 10 prior to first weapon release. (Documents 500-032, 500-038[S], 1300-006, 1300-007, 1300-022, 1300-024)

1018. The non-standard CAS communication transmission by the FAC (A) of "GOOD NOSE POSITION," made on all SNIPER flight attack runs preceded all GFAC "CLEARED HOT" calls. (Documents 500-032, 500-038[S], Joint Pub 3-09.3)

1019. The GFAC stated that the "GOOD NOSE POSITION" calls gave him a "warm fuzzy" feeling, but he did not base his "CLEARED HOT" calls on them. (Documents 500-032, 1300-059)

1020. All SNIPER attacks occurred after a "CLEARED HOT" by the GFAC. All weapons impacted the target area. (Documents 500-032, 500-038[S], 1300-006, 1300-007, 1300-022, 1300-024, 1300-052)

LION FLIGHT

Note: Facts 1021-1040 relate to the incident aircraft track over the ground

1021. Upon arrival at Udairi Range, the LION flight did not conduct a full clearing pass, nor did the FAC (A) or GFAC request it. (Documents 1300-035, 1300-052, 1300-059 500-032, 1300-033, 500-035[S])

1022. The LION flight did not receive a nine-line brief, nor did they request one. The nine line brief, or modified nine line, is the standard/convention for CAS, but Joint Doctrine does not make it a requirement. (Documents 500-032, 500-035[S], 1300-037, 1300-052, 1300-059)

1023. The incident Pilot acknowledged all restrictions on run-in, the no fire area around the OP, and the requirement to call "TARGET IN SIGHT, FRIENDLIES IN SIGHT" prior to being given "CLEARED HOT." (Documents 500-032, 500-035[S], 500-036[S])

1024. The incident Pilot identified the target and OP during his pass over the Udairi Range prior to his target run. However, he never identified them both at the same time. (Documents 500-032, 500-035[S])
1025. The incident Pilot acknowledged both the friendly and target location talk-on with “COPY,” but never described the ridge or strobe on OP 10 and the darkened areas of the target area. (Documents 500-032, 500-035[S])
1026. The incident Pilot received 14 descriptive calls from the FAC (A) and GFAC prior to turning inbound on the attack run. The incident Pilot continued to communicate descriptions that caused the GFAC and FAC (A) to believe he correctly identified the target and OP. (Documents 500-032, 500-035[S], 1300-052, 1300-059)
1027. The incident Pilot overflowed the OP and the target and proceeded outbound. After he turned inbound, the aircraft was pointed at the OP and the incident Pilot requested that the target be illuminated. (Document 500-032, 500-035[S], 1300-059)
1028. The GFAC took his eyes off of “LION 71,” and turned to ensure that the observer was illuminating the correct target. (Document 1300-059)
1029. When the GFAC turned back to reacquire “LION 71,” he saw three aircraft. (Documents 500-033, 1300-059)
1030. The GFAC asked if “LION 71” was inbound and the incident Pilot replied, “INBOUND.” (Documents 500-032, 500-035[S])
1031. The incident Pilot never transmitted “TARGET IN SIGHT, FRIENDLIES IN SIGHT” during his attack run. (Documents 500-032, 500-035[S])
1032. The FAC (A), using non-standard CAS communications, transmitted “GOOD NOSE POSITION,” and the incident Pilot and GFAC received it. (Documents 500-032, 500-035[S], 1300-059)
1033. The aircraft was in Air-to-Ground “auto mode.” (Documents 500-035[S]. See definition in glossary.)
1034. Naval Strike Air Warfare Center, TOPGUN (Navy Fighter Weapons School), and all three Fleet Replacement Squadrons consider the “auto mode” of the F/A-18 a valid and accepted method of dropping bombs in a CAS environment. (Documents 100-033, 100-034)
1035. The incident Pilot released weapons before receiving “CLEARED HOT” from the GFAC. (Documents 500-032, 500-35[S], 500-043, 800-010, 800-011, 800-015, 800-016)
1036. The aircraft recorded two firing pulses (bomb release “pickle button” depressions). One pulse before the “CLEARED HOT,” which caused weapons release,

and one pulse after the “CLEARED HOT” call (post weapon release). (Documents 500-035[S], 500-043, 800-010, 800-011, 800-015, 800-016)

1037. Immediately after weapons release, the GFAC called “CLEARED HOT ON SPARKLE.” Sparkle was cut off by the incident Pilot’s acknowledgement with his “CLEARED HOT” (Documents 1300-059, 500-032, 500-035[S], 800-016)

1038. After giving “LION 71” the “CLEARED HOT ON SPARKLE” call, the GFAC realized that the incident Pilot had targeted the OP, and called “ABORT, ABORT, ABORT.” (Documents 500-032, 500-035[S], 1300-059, 800-016)

1039. Three 500-pound bombs impacted and detonated on OP 10. (Documents 500-032, 500-035[S], 1000-001, 1000-002, 1300-059)

1040. All flights returned to USS HARRY S. TRUMAN, recovering uneventfully. The FAC (A) recovered uneventfully after acting as the on-scene mission commander for the MEDEVAC effort. (Documents 300-001, 300-024, 500-032, 1300-001, 1300-008, 1300-052)

OPINIONS

SNIPER

1041. That SNIPER flight experienced difficulty in acquiring both the OP and the intended target. The FAC (A) and “SNIPER 61” engaged in lengthy, but thorough, OP and target area talk-ons because the OP and the target were very hard to see. Despite this, weapons still landed in the impact area. (Facts 1003-1005, 1012, 1015-1018, 1020).

1042. That during the SNIPER flight, the FAC (A) P used non-standard terminology and inserted himself into the control phase of their attacks. The FAC (A) calls of “NOSE POSITION LOOKS GOOD” conflicted with the GFAC’s terminal control and contributed to degraded situational awareness for the SNIPER flight and the GFAC. (Facts 1012, 1018-1020)

INCIDENT PILOT

1043. That the incident Pilot improperly identified and designated OP 10 as the target and released his weapons early. (Facts 1021-1028, 1032-1039)

1044. That the identification of OP 10 as the target could have been a combination of several factors; non-standard communication between the incident Pilot, GFAC and FAC (A); other light sources in the area to include a Bedouin camp 2-4 kilometers west to southwest of the OP; no simultaneous identification of the target and OP; and misidentification of the IR illumination source on OP 10 as the target. (Facts 1003-1005, 1021-1026, 1032)

FAC (A)

1045. That the FAC (A) P inserted himself into the terminal control phase of all attacks with his non-standard “GOOD NOSE POSITION” calls. This resulted in a “warm fuzzy” (false situational awareness) by the GFAC and may have resulted in a “warm fuzzy” by the incident Pilot during his attack. (Facts 1012, 1019-1020, 1033)

GFAC

1046. That the GFAC accepted non-standard terminology (inbound, nose position, etc.). The request by the incident Pilot to illuminate the target, caused the GFAC to turn his attention to an observer utilizing the IR pointer to ensure the target was marked and diverted the GFAC away from maintaining visual on the incident aircraft. (Facts 1018-1019, 1024-1025, 1029-1033, 138-1039)

1047. That the GFAC’s loss of situational awareness significantly reduced the amount of time he had to make a valid determination that an abort was warranted. (Facts 1029-1033, 1037-1039)

SECTION 11 - DEATHS, INJURIES, AND DAMAGE TO PROPERTY

The purpose of this section is to describe the actions taken by the incident MEDEVAC crewmembers, personnel at the OP (GFAC, Special Forces Soldiers, etc.), and by all first responders; and to document, for the record, the deaths, injuries, and the damage to property caused by the incident.

FINDINGS OF FACT

1101. The incident occurred at Observation Post (OP) 10 is located at (Grid 38R QT 1465974309), Udairi Range, Kuwait. (Document 1000-002)
1102. On 12 March 2001, three MK-82, 500-pound bombs detonated within 50 meters of OP 10, Udairi Range, Kuwait. (Document 1000-002)
1103. Six vehicles were at OP 10 at the time of the incident: a GMC Tahoe; a U.S. Army HMMWV; a USAF HMMWV; and a Chevrolet Suburban. All four vehicles sustained significant damage. The Kuwaitis did not report any damage to their vehicles. (Document 1000-002).
1104. At the time of the incident, 10 U.S., six Kuwaiti, and one New Zealand service members were at OP 10. (Documents 1000-002, 1300-032)
1105. Personnel at OP 10 did not use Kevlar helmets or Kevlar vests. The only Kevlar helmets and vests at the incident site were stored in equipment boxes for the three Explosive Ordnance Disposal personnel (EOD). (Document 1000-021)
1106. The Kevlar vest was designed to provide effective defense against shrapnel from mines, grenades, artillery fire, mortar shells, and rifle bullets. (Documents 1200-038, 1200-039)
1107. The standard Kevlar helmet provides ballistic protection to the head from fragmenting munitions. (Document 1200-038)
1108. The wearing of Kevlar helmets and vests is not required at OP 10. (Document 400-018)
1109. Four U.S. and one New Zealand service members were pronounced dead at OP 10. Additionally, six U.S. and six Kuwaiti service members were also injured at OP 10. (Documents 1000-001, 1000-002, 1300-028, 1300-032)
1110. At 1601Z, following the explosions, SSgt Timothy Crusing, USAF, requested MEDEVAC support from his position at OP 10. (Documents 1300-031, 1300-059)
1111. U.S. casualties provided self-aid/buddy aid to victims. (Documents 1300-016, 1300-017, 1300-018, 1300-020, 1300-030, 1300-031)

1112. A Special Forces team with one medic was coincidentally enroute to OP 10 and arrived shortly after the incident. SSG Hollingsworth, Special Forces medic, provided additional buddy aid and triaged patients. Four casualties were critical, two were ambulatory with minor wounds, and five had no signs of life. (Documents 1300-020, 1300-029)

1113. At 1615Z, Range Control notified LTC (Dr.) Bussell, ARCENT-KU Surgeon about the incident. LTC (Dr.) Bussell notified the 126th Forward Surgical Team (FST) of potential casualties. (Document 1300-028)

1114. At 1618Z and 1625Z, UH60 MEDEVAC helicopters departed Camp Doha enroute to OP 10. (Documents 1000-014, 1000-015)

1115. The 126th FST Commander notified the Ministry of Defense-Kuwait Armed Forces Hospital (KAFH) of incoming casualties. (Document 1000-018)

1116. Prior to the arrival of first UH60, one Kuwaiti vehicle at the site evacuated the six injured Kuwaiti service members. They are as follows: (Documents 1000-023, 1000-020, 1000-024, 1300-031, 1300-032)

RANK	NAME	SERVICE	DIAGNOSIS
Warrant Officer	ABDULLA ATTYA SEIF	Kuwait Army	
First Sergeant	FHAID MONEEKHER RASHED AL-SHAMRI	Kuwait Army	
First Lieutenant	HAMED M. OBAID AL-ANZI	Kuwait Army	
Sergeant	MOHAMED YOUSEF AL-MULLA	Kuwait Army	
Lance Corporal	MUNSOOR OBAID MOTLAQ	Kuwait Army	
Colonel	SAEID MUBERAK	Kuwait Army	

1117. At 1635Z, the first UH60 arrived with SGT Beltcher, a flight medic. SSG Hollingsworth and SGT Beltcher loaded four critical patients on the helicopter. They are as follows: (Documents 1000-014, 1000-018, 1300-020, 1300-029, 1300-046)

RANK	NAME	SERVICE	UNIT
SSG	BOUDREAU, RICHARD	USA	707 TH EOD
SSgt	CRUSING, TIMOTHY	USAF	19 ASOS
MSG	MILES, BRENT	USA	3 RD SFG(A)
SFC	SULLIVAN, WILLIAM	USA	3 RD SFG(A)

1118. At 1646Z, the second UH60 with LTC Bussell on board, arrived and hovered awaiting the departure of the first UH60. (Documents 1000-015, 1300-028, 1300-038)

1119. At 1650Z, the first UH60 departed OP 10 to KAFH. SSG Boudreau died enroute from injuries. (Documents 1000-014, 1300-020, 1300-046)

1120. The second UH60 landed at OP 10 and LTC Bussell pronounced the five service members with no signs of life as deceased. They are as follows: (Documents 1300-028, 1300-038)

RANK	NAME	SERVICE	UNIT
SSgt	FALEY, JASON M.	USAF	19 ASOS
SPC	FRELIGH, PHILIP MICHAEL	USA	707 TH EOD
MAJ	McNUTT, JOHN	NZ ARMY	CJTF-KU (FWD)
SSG	WESTBERG, TROY JAMES	USA	3 RD SFG(A)
SPC	WILDFONG, JASON DOUGLAS	USA	707 TH EOD

1121. At 1708Z, the first UH60 arrived at KAFH. Patients were met by 126st FST. (Document 1000-014, 1000-018)

1122. At 1715Z, the second UH60 departed OP 10, with LTC Bussell and two non-critical patients, to Camp Doha U.S. Army Health Clinic. (Documents 1000-015, 1000-017, 1000-019)

1123. At 1743Z, SFC Spencer and SSG Adams were treated at the U.S. Army Health Clinic and released to their unit. Their injuries as follows: (Documents 1000-017, 1000-019)

RANK	NAME	SERVICE	UNIT	DIAGNOSIS
SFC	SPENCER, DONALD	USA	5 TH SFG(A)	
SSG	ADAMS, ALTON	USA	3 RD SFG(A)	

1124. Intrinsic Action Task Force 2-5 dispatched three M113 tracked ambulances, with seven line medics, one physician assistant, and one physician following the initial request for MEDEVAC. They were initially located in the vicinity of ranges 4, 5, and 6. They arrived just after the second UH60 departed. Delta Company, TF 2-5 deployed one M113 with two medics to the accident site to provide support for security personnel. (Documents 1000-002, 1300-050)

1125. The KAFH augmented the U.S. surgical team. MAJ (Dr.) Mohammed Ajmi, Vascular Surgeon, and Dr. Monier O. El-Hefny, Anesthesiologist assisted the U.S. FST. (Documents 1000-010, 1000-018)

1126. On 12 March 2001, MSG Miles was transported to Landstuhl Regional Medical Center. His injuries were as follows: (Documents 1000-018, 1000-022, 1300-028)

RANK	NAME	DIAGNOSIS
MSG	MILES, BRENT	

1127. On 14 March 2001, SSgt Crusing and SFC Sullivan were transported with a critical care team to Landstuhl Regional Medical Center. Their injuries were as follows: (Documents 1000-018, 1000-022)

RANK	NAME	DIAGNOSIS
SSgt	CRUSING, TIMOTHY	
SFC	SULLIVAN, WILLIAM	

1128. On 15 March 01, the six deceased service members had autopsies performed at Landstuhl Regional Medical Center. The causes of death were: (Documents 1000-004, 1000-012)

RANK	NAME	SERVICE	CAUSE OF DEATH
SSG	BOUDREAU, RICHARD	USA	
SSgt	FALEY, JASON M.	USAF	
SPC	FRELIGH, PHILIP MICHAEL	USA	
MAJ	McNUTT, JOHN	NZ ARMY	
SSG	WESTBERG, TROY JAMES	USA	
SPC	WILDFONG, JASON DOUGLAS	USA	

1129. The following equipment was destroyed:

a. 1999 Chevrolet Suburban: leased to SOCCE. The estimated value of the vehicle at the time of loss was \$52,800. (Document 1000-007)

b. 2001 GMC Tahoe 4x4: leased through Europcar Lease to MAJ McNutt. The estimated value of the vehicle at the time of loss was \$34,288. (Document 1000-007)

c. U.S. Army HMMWV: estimated value of the vehicle and associated installed communication gear at the time of loss was \$34,735. (Document 1000-007)

d. U.S. Air Force HMMWV: estimated value of the vehicle and the associated installed communications gear was \$58,374. (Document 1000-007)

1130. Various additional items of equipment, valued at approximately \$150,000, including personal equipment were destroyed. (Documents 1000-007, 1000-021)

OPINIONS

1131. The Kevlar helmet and vest may have lessened the extent of injuries and may have provided increased survivability. (Facts 1105-1108, 1116, 1123, 1126-1128)

1132. The medical system could not prevent the deaths of six service members. Their deaths were the result of the detonation of three 500-pound bombs within 50 meters of OP 10, Udairi Range. (Facts 1102, 1110-1115, 1119-1120, 1124, 1128)

SECTION 12 – POST-INCIDENT ACTIONS

The purpose of this section is to identify and depict those actions taken by individuals and units at the OP following the incident that are worthy of recognition.

FINDINGS OF FACT

1201. SSG Alton Adams, USA, SFC Donald Spencer, USA, and MSG Brent Miles, USA, began buddy aid to at least two critically injured service members and stabilized life threatening wounds. (Documents 500-032, 500-035[S], 1000-001, 1000-002, 1300-016, 1300-017, 1300-018, 1300-020, 1300-022, 1300-028, 1300-030, 1300-031, 1300-032, 1300-059, 1300-061)

1202. Although badly injured, SSgt Timothy Crusing, USAF, initiated the request for medical assistance, provided the necessary information on casualty status to the FAC (A) and initiated buddy aid. (Documents 500-032, 500-035[S], 1000-001, 1000-002, 1300-016, 1300-017, 1300-018, 1300-020, 1300-022, 1300-028, 1300-030, 1300-031, 1300-032, 1300-059, 1300-061)

1203. SSG Chris Hollingsworth, USA, and SGT Ronald Beltcher, USA, assumed medical responsibility on the scene, by triaging eleven service members for evacuation. (Documents 1000-001, 1000-002, 1000-014, 1000-015, 1000-018, 1000-022, 1300-020, 1300-028, 1300-029, 1300-032, 1300-046)

1204. The members of the Advanced Operational Base (AOB) 590, 571st Medical Company (Air Ambulance), 126th Forward Surgical Team, Camp Doha U.S. Army Health Clinic, and Kuwait Armed Forces Hospital, responded, transported, and treated the casualties. (Documents 1000-001, 1000-002, 1000-010, 1000-014, 1000-015, 1000-017, 1000-018, 1000-019, 1000-022, 1300-020, 1300-028, 1300-029, 1300-032, 1300-046)

1205. The Intrinsic Action Task Force 2-5 dispatched medical and security personnel for incident site security and recovery. (Documents 1000-002, 1300-050)

1206. After the impact of three 500-pound bombs within 50 meters of OP 10, the FAC (A) aircrew, LT Patrick Mowles, USN, and LT Andrea Powers, USN, immediately assumed responsibility as the on-scene commander and relayed information from the ground, helped provide critical information to the Air MEDEVAC, and facilitated a rapid medical response. They stayed on-scene until ordered to return to base. (Documents 500-032, 500-035S, 1000-001, 1000-002, 1300-001, 1300-008, 1300-052)

OPINIONS

1207. SSgt Timothy Crusing's actions contributed to saving lives. (Facts 1202, 1206)

1208. SGT Ronald Beltcher's, SSG Alton Adams', SSG Chris Hollingsworth's, SFC Donald Spencer's, and MSG Brent Miles' actions contributed to minimizing the loss of life, eyesight, and limb. (Fact 1201)

1209. The AOB 590, 571st Medical Company (Air Ambulance), 126th Forward Surgical Team, and the U.S. Army Health Clinic contributed to minimizing the loss of life, eyesight, and limb. (Facts 1201-1204, 1206)

1210. LT Patrick Mowles' and LT Andrea Powers' actions contributed to saving lives. (Facts 1202, 1206)

1211. The Kuwait Armed Forces Hospital contributed to minimizing the loss of life, eyesight, and limb. (Fact 1204)

1212. Task Force 2-5 secured the site and evacuated the dead service members in a solemn and dignified manner. (Fact 1205)

SECTION 13 - CONCLUSIONS

Summary of Major Findings of Fact and Opinions

1301. On 12 March 2001, a U.S. Navy F/A-18 from VFA-37 embarked on board USS HARRY S. TRUMAN, CVN-75, dropped three 500-pound bombs on Observation Post (OP) 10 at Udairi Range, Kuwait, during a close air support exercise. Five U.S. military personnel and one New Zealand Army officer died. Five other U.S. military personnel and six members of the Kuwait Army were injured. Property damage in the amount of approximately \$330,000 resulted.

1302. The cause of the incident was Pilot error. The incident Pilot improperly identified and designated OP 10 as the target and released his weapons prior to receiving clearance.

1303. The Forward Air Controller (Airborne) (FAC (A)) Pilot's actions contributed to this incident. The FAC (A)'s non-standard and misleading terminal assessments of the incident aircraft's heading relative to the target during the attack run erroneously raised the situational awareness of the Ground Forward Air Controller (GFAC) and the incident Pilot.

1304. The GFAC's actions contributed to this incident. He lost situational awareness with regard to the location of the incident aircraft during the terminal control phase of the attack run reducing the time for an "ABORT" call.

1305. The conditions at the Udairi Range were a contributing factor to this incident. The observation posts and targets at the Udairi Range complex are very difficult to acquire visually both day and night.

1306. The medical system could not have prevented the deaths that resulted from the incident. U.S. and host-nation medical response was effective and well coordinated.

SECTION 14 -RECOMMENDATIONS

1401. That appropriate administrative or disciplinary action up to and including non-judicial punishment be taken against the incident Pilot.

1402. That appropriate administrative action be taken against the Forward Air Controller (Airborne) Pilot.

1403. That appropriate administrative action be taken against the Ground Forward Air Controller.

1404. That standardization and coordination of the planning and execution of joint and combined live fire events on Udairi Range should be improved.

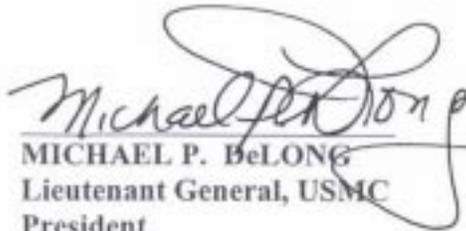
1405. That safety on Udairi Range must be improved.

1406. Personal protective equipment, such as Kevlar vests and helmets, should be used on the Udairi Range during live fire events

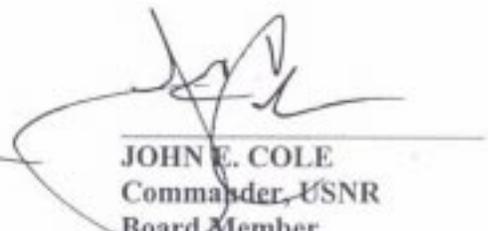
1407. That Forward Surgical Team deployments should continue in order to foster strong host-nation medical cooperation and support.

1408. That appropriate recognition should be considered for personnel for their post-incident actions.

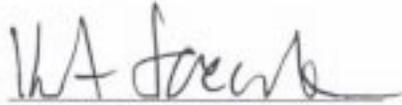
SIGNATURES OF BOARD MEMBERS



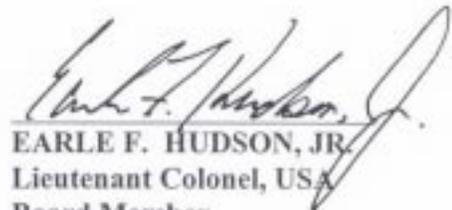
MICHAEL P. BeLONG
Lieutenant General, USMC
President



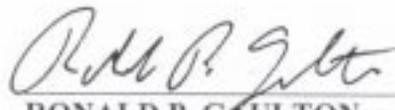
JOHN E. COLE
Commander, USNR
Board Member



KENT JACOCKS
Lieutenant Colonel, USA
Board Member



EARLE F. HUDSON, JR.
Lieutenant Colonel, USA
Board Member



RONALD P. GAULTON
Major, USAF
Board Member
