



DEPARTMENT OF THE ARMY
UNITED STATES ARMY COMBAT READINESS CENTER
FORT RUCKER ALABAMA 36362-5363

REPLY TO
ATTENTION OF

S: 14 June 2016

CSSC-O

14 March 2016

MEMORANDUM FOR Director, Deputy (b)(6) Program Executive Office-Missiles and Space, 5250 Martin Road, Redstone Arsenal, AL 35898-8000

SUBJECT: Technical Report of U.S. Army Accident

1. Enclosed is the Aircraft Accident Report required by AR 385-10 for the accident involving a Joint Land Elevated Netted Sensor Aerostat that occurred at Aberdeen, MD, on 28 October 2015. There are two copies of the report, one for retention at the unit and one for submission through the ACOM/ASCC/DRU commander to the U.S. Army Combat Readiness Center (USACRC).
2. Reviewing officials will review the report, provide written concurrence or non-concurrence with the findings and recommendations, and forward the report through the designated chain of command to the approving authority. The approving authority (ACOM commander) will approve or disapprove each finding and recommendation made by the investigation board as amended by reviewing officials. All comments will become part of the report and will be retained with the report.
3. Please note this report is to be used for accident prevention purposes only. Release of any portion of this report by any unit or agency at any time, without prior written approval from the Commander, USACRC, is specifically prohibited.
4. Point of contact for this report is Mr. (b)(6) Tech Quality Control, Aviation, DSN (b)(6) COMM (b)(6).

ORIGINAL SIGNED

- 2 Encls
1. Channel Copy
2. Unit Copy

(b)(6)
Director, G3



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
UNITED STATES ARMY COMBAT READINESS CENTER
FORT RUCKER ALABAMA 36362-5363

CSSC-O

14 March 2016

MEMORANDUM FOR Commander (AFPE-SA), U.S. Army Forces Command, 4700 Knox Street, Bldg 8-1808, Fort Bragg, NC 28310-5000

SUBJECT: Technical Report of U.S. Army Accident

1. Enclosed is a copy of the Aircraft Accident Report required by AR 385-10 for the accident involving a Joint Land Elevated Netted Sensor Aerostat that occurred at Aberdeen, MD, on 28 October 2015. The Channel Copy has been forwarded to the Director, Deputy (b)(6) Program Executive Office-Missiles and Space, 5250 Martin Road, Redstone Arsenal, AL 35898-8000, for processing through the appropriate review channels.
2. The Channel Copy is to be processed through the appropriate reviewing authorities, to include your headquarters. The approving authority will record comments, to include Army Command, date of review, and signature block, in block 1, DA Form 2397 (Tab A). Under the provisions of AR 385-10, paragraph 3-17, the Army Command (Approving Authority) will ensure the Channel Copy of the report is returned to the U.S. Army Combat Readiness/ Safety Center (USACRC), ATTN: CSSC-O, within 90 calendar days from the date of this memorandum. If this suspense date cannot be met, an electronic message requesting an extension must be transmitted to (b)(6)@mail.mil or contact Mr. (b)(6), Chief, Data Quality Control Division at DSN (b)(6) COMM (b)(6) (b)(6) explaining reasons for delay.
3. Please note this report is to be used for accident prevention purposes only. The report may not be used as evidence or to obtain evidence for other administrative, adverse, or disciplinary actions, nor to determine the misconduct, line-of-duty status, or pecuniary liability of any individual. Release of any portion of this report by any unit or agency at any time, without prior written approval from the Commander, USACRC, is specifically prohibited.

ORIGINAL SIGNED

Encl
as

(b)(6)
Director, G3

TECHNICAL REPORT OF U.S. ARMY AIRCRAFT ACCIDENT INDEX B For use of this form, see DA Pamphlet 385-40; the proponent agency is OCSA.					REQUIREMENTS CONTROL SYMBOL CSOCS-309			
1. MISSION, TYPE, DESIGN, AND SERIES JLENS Aerostat		2. CASE NO.		a. Date (YYYYMMDD) 20151028	b. Time 1147	c. Acft Serial No. 74M002		
3. TAB	Title				DA Form No.	Encl	Not Appl	See Remarks
a.	Statement of Reviewing Officials (In Channel Copy Only)				2397	<input checked="" type="checkbox"/>		
b.	Summary				2397-1	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
c.	Findings and Recommendations				2397-2	<input checked="" type="checkbox"/>		
d.	Narrative				2397-3	<input checked="" type="checkbox"/>		
e.	Summary of Witness Interviews				2397-4	<input checked="" type="checkbox"/>		
f.	Wreckage Distribution				2397-5	<input checked="" type="checkbox"/>		
g.	In-Flight or Terrain Impact and Crash Damage Data				2397-6	<input checked="" type="checkbox"/>		
h.	Maintenance and Materiel Data				2397-7	<input checked="" type="checkbox"/>		
i.	Personal Data				2397-8	<input checked="" type="checkbox"/>		
j.	Injury/Occupational Illness Data				2397-9		<input checked="" type="checkbox"/>	
k.	Personal Protection/Escapes/Survival/Rescue Data				2397-10		<input checked="" type="checkbox"/>	
l.	Weather/Environmental				2397-11	<input checked="" type="checkbox"/>		
m.	Fire				2397-12		<input checked="" type="checkbox"/>	
4. REMARKS 3b. DA Form 2397-U was submitted in lieu of DA Form 2397-1								
5. BOARD MEMBERS								
a. President (Name and Signature)		Grade	Branch	Rating	Address and Tel. No.			
(b)(6)		MAJ/O4	AV	SRARAV	USACRC Fort Rucker, AL 36362-5363 DSN (b)(6)			
		E-mail						
		(b)(6) @mail.mil						
b. Recorder (Name and Signature)		Grade	Branch	Rating	Address and Tel. No.			
(b)(6)		CW4/W4	AV	SRARAV	USACRC Fort Rucker, AL 36362-5363 DSN (b)(6)			
		E-mail						
		(b)(6) @mail.mil						
c. Flight Surgeon (Name and Signature)		Grade	Branch	Rating	Address and Tel. No.			
(b)(6)		COL/O6	MC	FS	(b)(6)			
		E-mail						
		(b)(6) @mail.mil						
d. Instructor Pilot (Name and Signature)		Grade	Branch	Rating	Address and Tel. No.			
(b)(6)		GS13	DAC		(b)(6) 350 Vandenberg St Peterson AFB, CO 80918			
		E-mail						
		(b)(6) @mail.mil						
e. Maint Officer/Tech/SME (Name and Signature)		Grade	Branch	Rating	Address and Tel. No.			
(b)(6)		GS15	DAC		PEOMES-CMDS-JPO 5250 Martin Rd Redstone Arsenal, AL 35803			
		E-mail						
		(b)(6) @mail.mil						
f. Other (Name and Signature)		Grade	Branch	Rating	Address and Tel. No.			
SME, OSOH Specialist (b)(6)		GS12	DAC		AMCOM Safety 5301 Martin Rd Redstone Arsenal, AL 35803			
		E-mail						
		(b)(6) @mail.mil			(b)(6)			

DA FORM 2397-14, FEB 2009

PREVIOUS EDITION IS OBSOLETE.

APD LC v1.00

UNMANNED AIRCRAFT SYSTEM ACCIDENT REPORT (UASAR)				REQUIREMENTS CONTROL SYMBOL CSOCS-309	
Use for all UAS Aviation Accidents For use of this form, see DA Pamphlet 385-40; the proponent agency is OCSA.					
1. ACCIDENT CASE INFORMATION		a. Date (YYYYMMDD) 20151028	b. Time (Local) 1147	c. UA Tail Number 74M002	
2. ACCIDENT CLASS/ CATEGORY		a. Classification <input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F	b. Category <input checked="" type="checkbox"/> Flight <input type="checkbox"/> Flight Related <input type="checkbox"/> Aircraft Ground		3. UAS MTDS See Blk 12
4. PERIOD OF DAY <input type="checkbox"/> Dawn <input checked="" type="checkbox"/> Day <input type="checkbox"/> Dusk <input type="checkbox"/> Night		5. AIRCRAFT INVOLVED	a. Number of Aircraft Involved 1	b. In Flight/Mid-Air Collision <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	6. NEAREST MILITARY INSTALLATION Aberdeen Proving Ground, MD
7. ACCIDENT LOCATION		a. <input checked="" type="checkbox"/> On-Post <input type="checkbox"/> Off-Post	b. <input checked="" type="checkbox"/> On Airfield <input type="checkbox"/> Not on Airfield	c. City Aberdeen	d. State MD
		e. Country USA	f. Grid and/or Lat/Long N39.375 W76.304		
8. ORGANIZATION INVOLVED					
a. Unit Designation (b)(3)		b. Unit Identification Code (UIC) (b)(3)	c. Home Station Aberdeen Proving Ground	d. Army Headquarters FORSCOM	
9. ACCOUNTABLE ORGANIZATION (If same as block 8 leave blank)					
a. Unit Designation		b. Unit Identification Code (UIC)	c. Home Station	d. Army Headquarters	
10. ACCIDENT COST DATA		a. UA Total Loss <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	b. UA Damage or replacement Cost (Excluding Man-hours) \$ 42,758,047	c. Number of Man-Hours	d. Man-Hours Cost \$
e. Other UAS Sub-System Cost \$ 145,510,405		f. Other Damage Cost-Military \$	g. Other Damage Cost-Civilian \$	h. Injury/Occupational Illness \$	i. Total Cost (This UAS) \$ 188,268,452
11. GENERAL DATA		a. Mission	a(1). Type Mission S	a(2). Aircraft Mode <input type="checkbox"/> Single-ship <input checked="" type="checkbox"/> Multi-ship <input type="checkbox"/> Manned/Unmanned Teaming	a(3). Level of Interoperability (LOI) <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input checked="" type="checkbox"/> NA
a(4). Simultaneous UA Operation? (If Yes, specify number & MTDS)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		b. Flight Plan <input type="checkbox"/> Military <input type="checkbox"/> Civil <input checked="" type="checkbox"/> Operation's Log	c. Flight Rules <input type="checkbox"/> VFR <input type="checkbox"/> IFR
d. Mission/ Training	d(1). At what level was mission/training conducted? <input type="checkbox"/> Bde <input type="checkbox"/> Bn <input checked="" type="checkbox"/> Co <input type="checkbox"/> Plt <input type="checkbox"/> Sqd <input type="checkbox"/> Team <input type="checkbox"/> Crew			d(2). Who approved the mission/training? Rank & Position: LTC, Bn Commander	
d(3). Was a mission brief completed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	d(4). Who was in charge during the mission? Rank & Position: 1LT, Mission Director			d(5). Who was the senior leader present during the mission/training? Rank & Position: 1LT, Mission Director	
e. Risk Management (RM)	e(1). RM Performed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	e(2). Who performed the RM? Rank & Position: CPT, Battery Commander		e(3). RM Approved? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	e(4). Who accepted risks? Rank & Position: LTC, Bn Commander
e(5). What was the level of the risk after controls applied? <input type="checkbox"/> Low <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> High <input type="checkbox"/> Extremely High			e(6). How was the RM process communicated? (Check all that apply.) <input checked="" type="checkbox"/> Worksheet <input type="checkbox"/> Verbal Brief <input type="checkbox"/> Order <input type="checkbox"/> Not Communicated		
e(7). Accident event identified/considered during RM process? If yes, complete blocks 11a(7)a thru 11e(7)d <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			e(7)a. What was the level of the identified risk? <input type="checkbox"/> Low <input type="checkbox"/> Moderate <input type="checkbox"/> High <input type="checkbox"/> Extremely High		
e(7)b. Was the control measure(s) applied? <input type="checkbox"/> Yes <input type="checkbox"/> No		e(7)c. Who was responsible for implementing the controls? Rank & Position:		e(7)d. Was the potential for accident event accepted as residual risk? <input type="checkbox"/> Yes <input type="checkbox"/> No	
f. Digital Source Collector (DSC)	f(1). DSC installed? (If yes, enter type of DSC) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No COT Video and Hard drive			f(2). Data captured and preserved? (If yes, specify storage location) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Multiple Source	
g. Fire <input checked="" type="checkbox"/> None <input type="checkbox"/> Inflight <input type="checkbox"/> Postcrash <input type="checkbox"/> Other (Specify)		h. Hazardous Material Spillage If yes & a Class A, B or C accident, attach DA Form 2397-6 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		i. Did accident occur while on an exercise or at a training facility/center? (If yes, enter the name) (b)(3)	
12. SUMMARY (Attach a continuation sheet(s) as needed) See Tab D, Narrative 11c. No flight rules apply to Aerostat					

13. FLIGHT DATA	Flight Duration	Phase of Operation (Enter max of 3 codes from Table 3-4 of DA Pam 385-40 or specify the phase if there is no code for it in the table)	Altitude MSL	Altitude AGL	Airspeed KIAS	UA Weight	UA Overgross Weight for Conditions Yes No	14. TYPE EVENTS (Enter max of 3 codes from Appendix F table F-3 of DA Pam 385-40 or specify the type event which best describes the accident/incident event if there is no code for it in the table.)
a. At Emergency/ Onset	Hours 313 Tenths 4	13	2,744	2,717	0	17,697	(b)(5)	82 16 51
b. At Impact/Acdt or Termination	Hours 316 Tenths 7	R	1,150	30	0	17,697		
c. Flight Ctrl Malfunction	Check all that apply: (b)(5) Human (b)(5) Environmental (b)(5) Materiel (b)(5) Hardware (b)(5) Software (b)(5) Component/Part (b)(5) Not Applicable							
15. ACCIDENT CAUSE FACTORS (For blocks 15a-c, D=definite, S=Suspected, U=Undetermined and N=No/None)								a. Human Factors (Check box D, S, U or N. If D or S, complete blocks 15a(1)(a)-(e))
a(1). System Inadequacies (Enter max of 3 codes in each block below from table B-5 (Additional codes in table B-1) DA Pam 385-40 or if there is no code in the table, write in that which best describes the failure)								(b)(5)D (b)(5)S (b)(5)U (b)(5)N
a(1)a. Support Failure (b)(5)		a(1)b. Standards Failure (b)(5)		a(1)c. Training Failure (b)(5)		a(1)d. Leader Failure (b)(5)		
a(1)e. Individual Failure (b)(5)		b. Materiel Factors (Check box D, S, U or N. If D or S, complete blocks 15b(1)-(2)) (b)(5)D (b)(5)S (b)(5)U (b)(5)N				b(1). Type (Check all that apply.) (b)(5)Component/Part (b)(5)Hardware (b)(5)Software		
b(2). Component and Part (Part that initiated failure/malfunction)								
		UAS Subsystem (UA, GCS, GDT, TALS, etc.)		Major Component		Part		
a. Nomenclature				Aerostat		Empennage Port Fin		
b. Type, Design, and Series								
c. Part Number				4D00368H01-8				
d. NSN/ Manufacturer's Number								
e. Manufacturer's Code				0J6J5				
f. Serial Number				74M002				
g. Cause of Failure/ Malfunction				(b)(5) Materiel Design (b)(5) Maintenance Manufacture		(Enter the applicable Failure Codes (max 2) using table 1-2, DA Pam 738-751 (TAMMS-Aviation))		
c. Environmental Factors (Check box D, S, U or N, as appropriate.) (b)(5)D (b)(5)S (b)(5)U (b)(5)N (b)(5)VMC (b)(5)MC (b)(5)Icing (b)(5)Turbulence				c(1). General (Check all that apply.)		c(2). Weather Conditions (Enter max of 3 codes from Appendix F table 3-26 of DA Pam 385-40 or specify the weather condition if there is no code for it in the table.)		
c(3). Environmental Signal Factors (b)(5)Uplink (b)(5)Downlink (b)(5)Interference (b)(5)E ³ (b)(5)NA (b)(5)Other (Specify)								
c(4). Other Environmental Factors (Enter max of 3 codes from Appendix F table 3-27 of DA Pam 385-40 or specify the weather condition if there is no code for it in the table.)								
16. LOSS OF LINK (Check box D, S, U or N. If D or S, complete blocks 16 a-d) (b)(5)D (b)(5)S (b)(5)U (b)(5)N				a. Type of Link Lost <input type="checkbox"/> Uplink <input type="checkbox"/> Downlink <input type="checkbox"/> Unknown		b. Type of Link <input type="checkbox"/> LOS <input type="checkbox"/> BLOS <input type="checkbox"/> C-Band <input type="checkbox"/> Ku-Band <input type="checkbox"/> Other (Specify)		
c. UA distance from the GCS at time of LOL				d. LOL Factors (Check all that apply.) <input type="checkbox"/> Human <input type="checkbox"/> Environment <input type="checkbox"/> Materiel <input type="checkbox"/> Hardware <input type="checkbox"/> Software <input type="checkbox"/> Component/Part				
17. TAKE OFF/LANDING DATA (Complete block 17a if accident occurred during take-off phase and block 17b if during landing phase.)								
a. Take-Off (T/O) Phase		a(1). T/O Method <input type="checkbox"/> ATLS <input type="checkbox"/> Launcher <input type="checkbox"/> Manual		a(2). T/O Accident Factors (Check all that apply.) <input type="checkbox"/> Human <input type="checkbox"/> Environment <input type="checkbox"/> Materiel <input type="checkbox"/> Hardware <input type="checkbox"/> Software <input type="checkbox"/> Component/Part				
b. Landing Phase		b(1). Landing Method <input type="checkbox"/> ATLS <input type="checkbox"/> TALS <input type="checkbox"/> FTS <input type="checkbox"/> Manual		b(2). Landing Accident Factors (Check all that apply.) <input type="checkbox"/> Human <input type="checkbox"/> Environment <input type="checkbox"/> Materiel <input type="checkbox"/> Hardware <input type="checkbox"/> Software <input type="checkbox"/> Component/Part				

18. TYPE OF STRIKE										
<input type="checkbox"/> Wire <input type="checkbox"/> Bird <input type="checkbox"/> Tree <input type="checkbox"/> Object <input type="checkbox"/> Lighting <input type="checkbox"/> Antenna <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Other (Specify)										
19. PERSONNEL DATA (Complete for each crew member with access to flight controls, personnel injured/occupational illness, personnel having a contributing role in the accident; use additional forms if needed.)										
a. Name (Last, First, MI)		(1) SSN	(2) Grade	(3) Gender	(4) Duty	(5) SVC	(6) UIC (Assigned)	(7) Contributing Role	(8) On Fit Ctrls	(9) Lab Test
(b)(6)		(b)(6)	E6	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female	AO	A	wezmaa	(b)(5) (b)(5)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Pos (b)(5) Neg Not Required
(10) Activity		(11) Individual Status		(12) Injury/Occupational Illness		(13) MTDS		(14) Total		
(a) Hrs Slept 7		(a) RL <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> Msn Prep <input checked="" type="checkbox"/> Msn Qual		(If "yes" complete and attach DA Form 2397-9)		Fit Hrs		Fit Hrs		
(b) Hrs Worked 3		(b) FAC <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> NA (SUAS Operators)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
(c) Hrs Flown 3		(c) Redeployed Date (YYYYMMDD) 20110525								
b. Name (Last, First, MI)		(1) SSN	(2) Grade	(3) Gender	(4) Duty	(5) SVC	(6) UIC (Assigned)	(7) Contributing Role	(8) On Fit Ctrls	(9) Lab Test
(b)(6)		(b)(6)	E3	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female	AO	A	wezmaa	(b)(5) (b)(5)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Pos (b)(5) Neg Not Required
(10) Activity		(11) Individual Status		(12) Injury/Occupational Illness		(13) MTDS		(14) Total		
(a) Hrs Slept 5		(a) RL <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> Msn Prep <input checked="" type="checkbox"/> Msn Qual		(If "yes" complete and attach DA Form 2397-9)		Fit Hrs		Fit Hrs		
(b) Hrs Worked 7		(b) FAC <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> NA (SUAS Operators)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
(c) Hrs Flown 7		(c) Redeployed Date (YYYYMMDD)								
c. Name (Last, First, MI)		(1) SSN	(2) Grade	(3) Gender	(4) Duty	(5) SVC	(6) UIC (Assigned)	(7) Contributing Role	(8) On Fit Ctrls	(9) Lab Test
(b)(6)		(b)(6)	E5	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female	MPO	A	wezmaa	(b)(5) (b)(5)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Pos (b)(5) Neg Not Required
(10) Activity		(11) Individual Status		(12) Injury/Occupational Illness		(13) MTDS		(14) Total		
(a) Hrs Slept 5		(a) RL <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> Msn Prep <input checked="" type="checkbox"/> Msn Qual		(If "yes" complete and attach DA Form 2397-9)		Fit Hrs		Fit Hrs		
(b) Hrs Worked 7		(b) FAC <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> NA (SUAS Operators)		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
(c) Hrs Flown 7		(c) Redeployed Date (YYYYMMDD)								
20. FINDINGS AND RECOMMENDATIONS (See instructions in DA Pam 385-40, para 2-24, for writing findings and recommendations. Use additional sheets if needed)										
See Tab C, Findings and Recommendations										
19a-c(13)-(14). N/A										
21. LIST OF ATTACHMENTS (ECOD/ACOD, CCAD, PQDR, DA Forms 2397-series, etc.)										
CCAD Report (USACRC 16-301), DA Forms 2397-U, -2, -3, -4, -5, -6, -7, -8, -11, -13, -14										
22. BOARD PRESIDENT/ASO/POC (Name, Signature, and Date)				a. Grade		b. Branch		Address and Tel No. (DSN and Com)		
(b)(6)				MAJ/O4		AV		USACRC		
				E-Mail				Bldg 4905, Ruf Avenue		
				(b)(6)				Fort Rucker, AL 36362-5363		
								DSN (b)(6)		
23. COMMAND REVIEW (Only required for class A, B & C)										
Reviewer	Organization	Name (Last, First, MI)	Rank	Comments		Signature				
a. Unit Commander				<input type="checkbox"/> Concur <input type="checkbox"/> Non-concur						
b. Reviewing Official				<input type="checkbox"/> Concur <input type="checkbox"/> Non-concur						
c. Approving Authority				<input type="checkbox"/> Concur <input type="checkbox"/> Non-concur						
d. DA Review	USACR/SC	(b)(6)	DAC	Approved for entry into ASMIS (YYYYMMDD)						

TECHNICAL REPORT OF U.S. ARMY AIRCRAFT ACCIDENT

PART III - FINDINGS AND RECOMMENDATIONS

For use of this form, see DA Pamphlet 385-40; the proponent agency is OCSA.

REQUIREMENTS CONTROL SYMBOL
CSOCS-309

1. FINDINGS AND RECOMMENDATIONS (Use additional sheet if required.)

FINDING 1 (b)(5)

(b)(5)

2. CODED SUMMARY OF ACCIDENT FINDINGS, SYSTEM INADEQUACIES, AND RECOMMENDATIONS

a. Personnel		(5) Mistake/Error Code	System Inadequacies		Remedial Measures/Recommendations			
(1) Duty (b)(5)	(2) Role (b)(5)	(b)(5)	1	(b)(5)	1	2	3	(b)(5)
(3) Phase of Operation (b)(5)	(4) ATM Task No. (b)(5)		2		2	(b)(5)	3	(b)(5)
			3		1	2	3	
b. Personnel		(5) Mistake/Error Code						
(1) Duty (b)(5)	(2) Role (b)(5)	(b)(5)	1	(b)(5)	1	2	3	(b)(5)
(3) Phase of Operation (b)(5)	(4) ATM Task No. (b)(5)		2		1	(b)(5)	3	(b)(5)
			3		1	2	3	
c. Personnel		(5) Mistake/Error Code						
(1) Duty (b)(5)	(2) Role (b)(5)	(b)(5)	1	(b)(5)	1	2	3	(b)(5)
(3) Phase of Operation (b)(5)	(4) ATM Task No. (b)(5)		2		1	(b)(5)	3	(b)(5)
			3		1	2	3	
d. Materiel		(4) Failure Code						
(1) Role (b)(5)	(2) Phase of Operation (b)(5)	(b)(5)	1	(b)(5)	1	2	3	(b)(5)
(3) Failed Part Number (b)(5)			2		1	(b)(5)	3	(b)(5)
			3		1	2	3	
e. Environmental		(3) Condition Code						
(1) Role (b)(5)	(2) Phase of Operation (b)(5)	(b)(5)	1	(b)(5)	1	2	3	(b)(5)
			2		1	(b)(5)	3	(b)(5)
			3		1	2	3	

3. CASE NO.	a. Date (YYYYMMDD) 20151028	b. Time 1147	c. Acft Serial No. 74M002
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(b)(5)

RECOMMENDATION 1:

a. Unit Level Action: Commander, [REDACTED]

(b)(3)

(b)(5)

b. Higher Level Action: None.

c. Army Level Action: Program Executive Office-Missiles and Space (PEO-MS):

(b)(5)

(b)(5)

FINDING 2

(b)(5)

(b)(5)

(b)(5)

RECOMMENDATION 2:

- a. Unit Level Action: None.
- b. Higher Level Action: None.
- c. Army Level Action: PEO-Missiles and Space:

(b)(5)

FINDING 3

(b)(5)

(b)(5)

(b)(5)

RECOMMENDATION 3:

- a. Unit Level Action: None.
- b. Higher Level Action: None.
- c. Army Level Action: PEO-Missiles and Space.

(b)(5)

(b)(5)

(b)(5)

FINDING 4

(b)(5)

(b)(5)

(b)(5)

RECOMMENDATION 4:

- a. Unit Level Action: None.
- b. Higher Level Action: None.
- c. Army Level Action: PEO-Missiles and Space:

(b)(5)

(b)(5)

FINDING 5

(b)(5)

(b)(5)

RECOMMENDATION 5:

a. Unit Level Action: Commander, (b)(3)

(b)(5)

b. Higher Level Action: Commander, (b)(3)

(b)(5)

c. Army Level Action:

(b)(5)

FINDING 6 (b)(5)

(b)(5)

(b)(5)

RECOMMENDATION 6:

a. Unit Level Action: Commander, (b)(3)

(b)(5)

b. Higher Level Action: Commander, (b)(3)

(b)(5)

c. Army Level Action: (b)(3)

(b)(5)

(b)(5)

FINDING 7

(b)(5)

(b)(5)

RECOMMENDATION 7:

a. Unit Level Action: Commander, (b)(3)

(b)(5)

b. Higher Level Action: Commander, (b)(3) (b)(5)

(b)(5)

c. Army Level Action:

(b)(5)

FINDING 8

(b)(5)

(b)(5)

RECOMMENDATION 8:

a. Unit Level Action: Commander, (b)(3),

(b)(5)

b. Higher Level Action: Commander, (b)(3) (b)(5)

(b)(5)

c. Army Level Action: PEO-Missiles and Space, (b)(5)

(b)(5)

FINDING 9 (b)(5)

(b)(5)

RECOMMENDATION 9:

a. Unit Level Action: None.

b. Higher Level Action: None.

c. Army Level Action: PEO-Missiles and Space:

DA Form 2397-2 (Cont'd) -- 201510281147X74M002

(b)(5)

TECHNICAL REPORT OF U.S. ARMY AIRCRAFT ACCIDENT
PART IV - NARRATIVE

For use of this form, see DA Pamphlet 385-40, the proponent agency is OCSA.

REQUIREMENTS CONTROL SYMBOL
CSOCS-309

1. NARRATIVE ACCOUNT OF INVESTIGATION (Use format shown in DA Pamphlet 385-40.)

1. History of Flight.

a. Preflight Phase. The accident aerostat was a Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS), Serial Number (S/N) 74M002, operated by (b)(3) with oversight by the Program Executive Office for Missiles and Space (PEO MS) and managed by the Program Manager for Cruise Missile Defense System (PM CMDS).

JLENS was developed as a supporting program of the Army and Joint Integrated Air and Missile Defense architecture to provide persistent, over-the-horizon radar surveillance and fire control quality data on Army and Joint Networks. JLENS was designed to enable asymmetrical defense against a wide variety of air and surface threats, including manned and unmanned aircraft, cruise missiles and surface moving targets on land and sea. Following the Analysis of Alternatives (AoA) in February 2003, the Army approved the Operational Requirements Document (ORD) on 22 January 2004. In support of the ORD, the JLENS capability provides persistent wide area surveillance and fire control capability, (b)(3)

The JLENS system consists of two aerostats with embedded radars and ground support equipment. One aerostat holds the Surveillance Radar (SuR) System, and the second holds the Fire Control Radar (FCR) System, connected to a Command and Control (C2) node for each system. The two systems operate together as a JLENS Orbit, or can be operated independently. Each aerostat is 74-meters in length and tethered to a Mobile Mooring Station (MMS). The MMS is part of the ground support equipment, with tether available for flight operations at altitudes up to 10,000 feet.

The Vice Chairman for the Joint Chiefs of Staff signed a memorandum on 11 January 1996 to address (b)(3)

(b)(3) The joint program's purpose was to establish a long endurance, elevated surveillance platform for beyond line of sight surveillance to counter this threat. Management for the Aerostat Joint Project Office was assigned to the United States Army Space and Missile Defense Command. The program entered the life cycle in the Concept Exploration phase in July 1996 when the program requested proposals to develop aerostat based concepts for cruise missile defense.

2. CASE NO.	a. Date (YYYYMMDD)	b. Time	c. Acft Serial No.
	20151028	1147	74M002

In 1997, the Army held a competitive source selection, culminating with the award to a Joint Venture of Hughes Aircraft Company and the Raytheon Company on 30 January 1998. In March 1999, The Army Acquisition Executive (AAE) designated the Aerostat Joint Program as an Acquisition Category (ACAT) II program. The JLENS program transitioned to the PEO MS in August 2001 to support completion of the requirements development process and establish a program of record. A new Department of Defense Instruction 5000 was issued in 2003 placing the program into the Technology Development phase where it remained until reaching Acquisitions Program Milestone B. The program definition, risk reduction and technology development efforts prior to the AoA in February 2003, established the ORD in January 2004. The technology development effort demonstrated the potential for use in Air and Missile Defense to address (b)(3)

The Office of the Secretary of Defense (OSD) conducted a Milestone B review in August 2005 resulting in an Acquisition Decision Memorandum (ADM) designating the program funding, which provided (b)(4). As a result of the technology development phase efforts, the Defense Acquisition Executive (DAE) approved the JLENS program to enter the Engineering and Manufacturing Development (EMD) phase in August 2005. This approval retained the Milestone Decision Authority (MDA) for this program at the OSD level. The additional funding provided for this effort was (b)(4). The EMD program successfully transitioned the technology development effort and delivered two engineering prototype JLENS Orbits.

In 2006, the JLENS EMD contract was awarded to Raytheon Integrated Defense Systems for (b)(4) (Part of the (b)(4) EMD cost). The two engineering prototype orbits were used to identify design improvements, testing, and doctrinal refinement of this new capability. As part of the test, (b)(3) (active component) was created and manned with (b)(3). NCOs and Officers under an MTO&E to support tactical deployed operations. Dugway Proving Grounds, (DPG) Utah and the Air Force, Utah Test and Training Range, (UTTR) was selected as the site to support a one year test from February 2011 to February 2012.

As part of the U.S. Army's resource review process and prioritization, the Army zeroed the production program (Nunn-McCurdy breach) to meet DoD cost reductions in June 2011 while the system was conducting the test at DPG. In the Nunn-McCurdy Acquisition Decision

Memorandum (ADM), signed 24 May 2012, the Defense Authority Executive (DAE) directed the program be restructured to consist only of two EMD prototype orbits, complete planned EMD test and evaluation, and rescinded the 2005 Milestone B approval. While some development testing was completed on the prototype systems, the EMD phase was not completed. The ADM directed the Army to participate in an Operational Exercise with one complete prototype JLENS Orbit (b)(3)

(b)(3)
Early User Tests (EUTs) were conducted from October to November 2012 and May to June 2013. Limitations and capabilities were identified in the EUTs and accepted by the Combatant commanders (COCOM) (b)(3)

A single orbit was transferred from DPG to Aberdeen Proving Grounds (APG), MD, and incorporated into the (b)(3). The prototype JLENS Orbit delivery did not include all spares for a complete system due to funding restrictions.

In support of Operational (b)(3) conducted a PCS move from DPG Utah to APG Maryland in June 2014 to conduct a 3 year test of the system integrated with (b)(3) was assigned three command and control relationships; Operational Control (OPCON), Tactical Control (TACON), and Administrative Control (ADCON). OPCON of the unit was held by (b)(3)

(and further delegated to (b)(3). TACON of the unit was held by either the (b)(3) or by the (b)(3)

While either JLENS aerostat was aloft (b)(3) executes TACON, and when the JLENS aerostat was moored, the (b)(3) executes TACON. ADCON was held by U.S. Army (b)(3) and (b)(3)

was delegated by Permanent Order 121-32 to (b)(3) through (b)(3)

(b)(3) was executed by (b)(3) under the supervision of (b)(3) (b)(3)

a single prototype JLENS Orbit was installed at two locations 3 NM apart; Graces Quarters not located on a military installation, and G-Field located on APG Edgewood range. Once site construction was complete and the JLENS Orbit installed, system integration and checkout was jointly conducted with (b)(3)

**LIMITED USE SAFETY
ACCIDENT INVESTIGATION REPORT**

the JLENS Product Office and Raytheon (prime contractor). The SuR system site at Grace's Quarters was operationally handed off to (b)(3) on 08 May 2015 and conducted its first flight 18 December 2014. The FCR site at G-field, APG Edgewood Area, was operationally transferred to (b)(3) on 08 September 2015. Its first flight was conducted 18 August 2015. The JLENS C2 nodes were tied into the (b)(3) to support an assessment for a possible enduring JLENS mission recommendation to the JROC in 2016. During the test period, deliberate risk assessments were conducted quarterly for (b)(3) to incorporate seasonal weather changes. The last assessment, dated September 2015, categorized the operation as moderate risk and signed by the (b)(3) commander located at (b)(3). The risk was assessed as moderate because of a hazard to tether handlers during launch and recovery operations.

Each JLENS aerostat requires 11 personnel to in-haul, out-haul the aerostat, and operate the associated mission equipment. The crew consists of one Mission Director (MD), two Flight Directors (FD), three Telemetry and Control Monitors (T&C), four Mission Support Specialists (MS), five Fire Control Radar Operators, six Winch Cab Operators (WO), seven Nose Line Handlers (NL), eight Two Close Haul Line Handlers (CH), nine Confluence Point Tag Line Handlers (CP), and ten Fiber Optic/aft Lightning Cable Handlers (FO). The JLENS requires 24 hour monitoring, even when the aerostats are moored due to the monitoring requirements of the inflated aerostat and the security requirements at each site. The JLENS crew is required to monitor the system with a fully inflated aerostat for the duration of the 3 year test, as the time it takes to disassemble, deflate, store, inflate, assemble and checkout the aerostat and radar would interrupt the testing schedule.

b. Flight Phase. The FCS aerostat at G-field was launched off the MMS on 15 October 2015 at 1048. Within 13 days the FCR system had remained aloft for a record time of over 290 hours. (b)(3)

(b)(5)

**LIMITED USE SAFETY
ACCIDENT INVESTIGATION REPORT**

(b)(5) At 11:47:38 on 28 October, FCS aerostat detached from its MMS at G-field. The aerostat had approximately 6,602 feet of tether deployed still attached as it drifted north-northwest. (b)(5)

The Mission Operations crew member unsuccessfully attempted to call 911, but was successful in contacting APG Range Control and notified them of the breakaway. The Mission Director then notified (b)(3) of the tether breakaway. Upon notification from Range Control, the APG installation command activated their Emergency Operations Center (EOC) to coordinate and facilitate emergency notifications to Maryland and Pennsylvania state authorities of the JLENS aerostat tether break. The APG EOC continued to track the direction and altitude of the aerostat with support from (b)(3). Aircraft support and tracking was coordinated by (b)(3) to track and locate the drifting aerostat using Air Force fighters, Coast Guard helicopters and (b)(3) radar systems. Due to heavy low lying clouds, and the (b)(3) of the Aerostat, constant tracking of the drifting JLENS FCS aerostat could not be maintained. At 14:16:23, the FCS aerostat was spotted and reported by Pennsylvania State Police stationary in a low-lying rugged, wooded area near Muncy, PA.

c. Post-flight Phase. The FCS aerostat recovery site was initially secured by PA State Police, then later augmented by PA Army National Guard (PAARNG) Soldiers. While guarding the site, six PAARNG Soldiers verified the front section of the aerostat and radar were intact. The JLENS FCS aerostat was held in place by the tether which had become entangled in the trees. (b)(3) command and Soldiers reached the Danville, PAARNG Armory (near Muncy, PA) the evening of 28 October 2015 to assist with recovery operations. Members of the (b)(3) arrived to take command of the recovery operation supported by engineers and support personnel from the JLENS Project Office and the JLENS manufacturing contractor. While a plan was constructed to recover the JLENS safely, PA State agencies and the PAARNG established an on-site coordination center with support from FEMA and the Red Cross. The PA State police remained on site to provide security and traffic control as local and national media arrived. On the night of 28 October, the JLENS FCS aerostat became entangled in a tree line along

**LIMITED USE SAFETY
ACCIDENT INVESTIGATION REPORT**

a corn field at (b)(6) Muncy, PA. That night, winds caused the tail section of the aerostat to rip off in the trees while the main body of the aerostat was pushed into a low lying, wooded area approximately a mile away.

The U.S. Army Combat Readiness Center Centralized Accident Investigation Team arrived on 29 October 2015 and began the investigation. From 29 to 31 October the aerostat was dismantled and palletized for removal and transport to the JLENS manufacturing hanger at Elisabeth City, NC.

2. Human Factors Investigation.

a. Personnel Background.

(1) SSG (b)(6) entered the U.S. Army on (b)(6) (b)(6) He graduated from the PATRIOT fire control enhanced operator school December 2007 and was awarded the Military Occupational Specialty (MOS) 14E. SSG (b)(6) has completed Warrior Leader Course, Unit Movement Officer Course, Equal Opportunity Leaders Course and Advance Leader Course.

(2) SGT (b)(6) entered the U.S. Army on (b)(6) He graduated from the PATRIOT fire control enhanced operator school on March 2007 and was awarded the MOS 14E, SGT (b)(6) has completed Warrior Leader Course and the Advance Leader Course.

b. Personnel Management.

(1) SSG (b)(6) was assigned to (b)(3) in (b)(6) while the unit was still in Dugway Proving Grounds. There he received hands on training on the system and later became certified as a Flight Director when the system began its operational test in Aberdeen Proving Grounds in July 2014.

SSG (b)(6) was well respected by peers and supervisors. He was considered a top performer in his position, as is evidenced by his selection for and success with his training to be a JLENS Flight Director. He was relied upon as an SME in this position, and was frequently sought after for his advice and decisions. (b)(6), (b)(5)

(b)(6), (b)(5)

(b)(6)

The Board concluded

(b)(5), (b)(6)

(b)(5)

(b)(5)

(b)(6)

(b)(6)

(2) SGT (b)(6) was the mission support crew member at the time of the accident. He was well regarded by his peers and had acceptable performance according to his supervisors. (b)(5)

(b)(5)

(b)(6), (b)(5)

(b)(6), (b)(5) The Board concluded (b)(5)
(b)(5)
(b)(5) (b)(6)

c. Aircraft Suitability. The accident aerostat S/N 74M002 was properly designed to suspend the mission payload at operating altitudes. The aerostat was within weight and balance and had not exceeded its maximum gross weight for the mission.

d. Communications/Air Traffic Services. Air traffic services functioned as designed.

e. Meteorological Information. Weather observation was performed by the Air Force's 15th Operational Weather Squadron. The weather (b)(5) in the accident.

f. Navigational Aids. Investigation revealed (b)(5)

g. Ground Support. Investigation revealed (b)(5)

h. Crash Survival. The aerostat was severely damaged on impact with trees, no personnel were onboard and no ground personnel were injured.

i. Emergency Egress. N/A

j. Special Investigation. None conducted.

k. Witness Investigation. The Accident Investigation Board interviewed numerous personnel during the course of the investigation. Summaries of these interviews are located at Tab E.

3. Materiel Factors Investigation.

a. Aircraft Airworthiness. A review of the aerostat, S/N X74M002, historical and weight and balance records indicate the aerostat was airworthy with no restrictions. The aerostat had

accumulated 7,374 flight hour time since new (TSN). A review of the weight and balance form revealed (b)(5)
(b)(5) The aerostat's approximate weight at the time of the accident was 17,697.080 pounds.

(1) Maintenance Records. Review of the TCOM, L.P. records indicate the 40 foot Environmental Control Unit (ECU) International Organization for Standardization (ISO) and 74 meter Aerostat Cart and Assembly, TCOM Part Number (P/N) 4D01177G01, was accepted by Raytheon Integrated Defense Systems (IDS) and entered into service 18 August 2010. It was delivered to Dugway Proving Ground (DPG), Utah Test and Training Range (UTTR). The aerostat returned to TCOM, L.P. on 30 June 2014 to inspect, repair, as necessary (IRAN) and was completed 19 December 2014. Raytheon IDC accepted the Aerostat Cart and Assembly on 10 February 2015. The Aerostat Cart and Assembly was transferred to APG on 12 February 2015. The MMS transferred directly from DPG UTTR to APG. TCOM, L.P. records indicate the tether, TCOM P/N 3D16935H01, S/N 010, completed the acceptance tests and checks on 14 March 2014. TCOM, L.P. records indicate the MMS, TCOM P/N 4D00002G01, S/N 74M001, entered service on 14 June 2010. The tether was shipped to APG on 4 December 2014. The tether returned to MFTF for a rework on 17 March 2015, then returned to APG on 14 July 2015.

(2) Weight and Balance Records. A review of the weight and balance records revealed (b)(5)
(b)(5)

(3) Adequacy of Preflight. There were no noted anomalies revealed on the prelaunch system inspection.

b. Digital Source Collector (video, data and voice recorder). These systems were operational (b)(5)

(b)(5) The data from the JLENS systems and video and voices of the crew were successfully extracted from the OCR. (b)(5)

c. Airframe. The aerostat sustained catastrophic damage due to contact with a tree line ripping the empennage section from the main

body. The Main structure then descended into a heavily wooded area further damaging the structure. During recovery, the fabric was further cut into sections in order to remove it from the private wooded area for further analysis.

d. Systems.

(1) Warning System. T&C flight director data recording logs showed multiple warnings and cautions (b)(5)

(2) Electrical System. Pre break: All electronics operated normally. Empennage failures and warnings were recorded in the Telemetry and Control (T&C) along with Tether tension and the mandate to re-terminate the tether. Post break: Emergency DC Blowers were reported engaged on the T&C console just before the final break of the tether. These blowers are operated by three emergency battery units design to operate when Power is lost in the aerostat. The final pictures of the aerostat show the blowers were still operating. The transponder did not activate because the FAA had instructed JLENS to turn them off. (b)(5)

(b)(5)

e. Power Plant. N/A

f. Transmission/Gearboxes and Drive Train. N/A

g. Laboratory Analysis. The fabric analysis was conducted by Natick Laboratory. See Tab 6b for the field report.

h. Crash Site Information. The aerostat parts were in two places. The first impact was at (b)(6) at the edge of a field in the trees. The aerostat continued to move northwest down a stream feed hollow to a secondary hollow where the mooring lines and tether cause the aerostat to halt. No roads were available to the aerostats final resting point. All access to the aerostat was by foot, through difficult terrain, until the second day, when the land

owner allowed a trail to be cut through the forest allowing all-terrain vehicle access.

i. Fire. There was no post-crash fire.

4. Analysis. After analyzing the human, materiel, and environmental data collected during the investigation, the CAI Board determined (b)(5) caused the accident. Rationale for this conclusion is as follows:

a. Accident Sequence. The Board reconstructed the accident sequence using interviews, photographs, digital source data, and timelines. The accident sequence, as determined by the Board, is described below:

(b)(5)

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

**LIMITED USE SAFETY
ACCIDENT INVESTIGATION REPORT**

(b)(5)

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

**LIMITED USE SAFETY
ACCIDENT INVESTIGATION REPORT**

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

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ACCIDENT INVESTIGATION REPORT**

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

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ACCIDENT INVESTIGATION REPORT**

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

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ACCIDENT INVESTIGATION REPORT**

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

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ACCIDENT INVESTIGATION REPORT**

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

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ACCIDENT INVESTIGATION REPORT**

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

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ACCIDENT INVESTIGATION REPORT**

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

**LIMITED USE SAFETY
ACCIDENT INVESTIGATION REPORT**

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

**LIMITED USE SAFETY
ACCIDENT INVESTIGATION REPORT**

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

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ACCIDENT INVESTIGATION REPORT**

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

**LIMITED USE SAFETY
ACCIDENT INVESTIGATION REPORT**

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

**LIMITED USE SAFETY
ACCIDENT INVESTIGATION REPORT**

DA Form 2397-3 (Cont'd) - 201510281147X74M002

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ACCIDENT INVESTIGATION REPORT**

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

**LIMITED USE SAFETY
ACCIDENT INVESTIGATION REPORT**

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

**LIMITED USE SAFETY
ACCIDENT INVESTIGATION REPORT**

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

**LIMITED USE SAFETY
ACCIDENT INVESTIGATION REPORT**

DA Form 2397-3 (Cont'd) - 201510281147X74M002

(b)(5)

TECHNICAL REPORT OF U.S. ARMY AIRCRAFT ACCIDENT

PART V - SUMMARY OF WITNESS INTERVIEW

For use of this form, see DA Pamphlet 385-40; the proponent agency is OCSA.

REQUIREMENTS CONTROL SYMBOL
CSOCS-309

1. NAME OF WITNESS (LAST, FIRST, MI)

(b)(6)

2. OCCUPATION/TITLE

Flight Director

3. GRADE

SSG/E6

4. DATE OF BIRTH

(b)(6)

5. ADDRESS (Include ZIP Code) (If military, include organization)

(b)(3)

Aberdeen Proving Ground, MD

6. TELEPHONE NUMBER (Duty/Work)

(b)(6)

7. DATE OF INTERVIEW (YYYYMMDD)

20151105

8. EXPERIENCE AND BACKGROUND

TIS 8 yrs; 3 yrs JLENS

9. LOCATION AT TIME OF ACCIDENT

G Field

10. INTERVIEWER (Name and Grade)

MAJ

(b)(6)

11. Promise of confidentiality.

a. Was a promise of confidentiality offered to the witness? ☒ Yes ☐ No (If Yes, read blk 14a to the witness and complete blk 15. If no, read blk 14b to the witness.)

b. Confidentiality was requested by the witness. ☒ Yes ☐ No (If Yes, interviewer sign and date statement below.)

THE WITNESS MADE THIS STATEMENT UNDER A PROMISE OF CONFIDENTIALITY.

(b)(6)

SIGNATURE OF INTERVIEWER

2015/11/05

DATE (YYYYMMDD)

12. SUMMARY OF INTERVIEW

(b)(5)

13. CASE NO.

a. Date (YYYYMMDD)

20151028

b. Time

1147

c. Acft Serial No.

74M002

DA FORM 2397-4, FEB 2009

EPIC-16-02-23 Army FOIA 20170606 Birm Report

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APD LC v1.00

14. GENERAL WITNESS INFORMATION BRIEFING (Interviewer must read appropriate instructions to the witness)

a. Promise of confidentiality offered.

- (1) This accident investigation board has been convened under the provisions of Army Regulation 385-10 for the purpose of conducting a safety investigation.
- (2) This may be just one of a number of investigations being conducted regarding this accident; collateral or legal investigations may be ongoing as well. Those investigations are entirely separate from a safety investigation and are also required to inform you of their purpose and of your legal rights.
- (3) This safety investigation is being conducted for accident prevention purposes only. Within the military, pursuant to AR 385-10, it cannot be used for any other purpose, to include any future disciplinary actions against any individuals. Therefore, the interview you are being asked to provide will be used by the Army in the interest of safety and accident prevention only.
- (4) Nonconfidential witness interviews may be released to the public pursuant to a Freedom of Information Act request. If you wish to protect your interview from public release outside the military, then your interview must be pursuant to a promise of confidentiality. Confidentiality means that your interview will not be released to the public or outside DoD safety channels.
- (5) Whether your interview is confidential or not, the chain of command will review the final accident report, which may include a summary of your interview, but the chain of command may only use the investigation report and the interviews for safety and accident prevention purposes.
- (6) If you ever have knowledge that your witness interview was used by the Army for anything other than accident prevention purposes (for example, disciplinary action against an individual), you should consult with your local Judge Advocate Defense Counsel Office and request that the Command Judge Advocate, U.S. Army Combat Readiness Center, be notified at DSN 558-2924 or commercial (334) 255-2924.
- (7) The promise of confidentiality is available to you if you desire it. Do you desire it?

b. No promise of confidentiality offered.

- (1) This accident investigation board has been convened under the provisions of AR 385-10 for the purpose of conducting a safety investigation.
- (2) This may be just one of a number of investigations being conducted regarding this accident; collateral or legal investigations may be ongoing as well. Those investigations are entirely separate from a safety investigation and are also required to inform you of their purpose and of your legal rights.
- (3) This safety investigation is being conducted for accident prevention purposes only. Within the military, pursuant to AR 385-10, it cannot be used for any other purpose, to include any future disciplinary actions against any individuals. Therefore, the interview you are being asked to provide will be used by the Army in the interest of safety and accident prevention only.
- (4) The chain of command will review the final accident report, which may include a summary of your interview, but the chain of command may only use the investigation report and the interviews for safety and accident prevention purposes. The interview summary may be released to the public pursuant to a Freedom of Information Act request.
- (5) If you ever have knowledge that your witness interview was used by the Army for anything other than accident prevention purposes (for example, disciplinary action against an individual), you should consult with your local Judge Advocate Defense Counsel Office and request that the Command Judge Advocate, U.S. Army Combat Readiness Center, be notified at DSN 558-2924 or commercial (334) 255-2924.

15. AVAILABILITY OF PROMISE OF CONFIDENTIALITY FOR "LIMITED USE" REPORT OF INVESTIGATION

a. Pursuant to AR 385-10, witness interviews may only be used within the military for purposes of accident prevention, and may not be used as evidence in connection with any administrative or disciplinary proceeding. This protection alone does not prevent release of the interview outside of the military (to the public, newspapers, attorneys, etc.) under the Freedom of Information Act. If you wish to protect your interview from release outside of the military, then your interview must be pursuant to a promise of confidentiality.

b. If you do not wish a promise of confidentiality, you may decline such below. In that case, your interview will still be used in the military only for purposes of accident prevention, but it may be released outside of the military in response to a Freedom of Information Act request. Please indicate which option you desire by initialing one of the choices below:

☒ (b)(6) I request a promise of confidentiality. I understand that the results of my interview will be used within the military only for the purposes of accident prevention, and will also be protected from public release outside of the military under the Freedom of Information Act.

☐ I decline a promise of confidentiality. I understand that the results of my interview will be used within the military only for purposes of accident prevention. I also understand that the results may be publicly released outside of the military under the Freedom of Information Act.

(b)(6)

Name of witness (Print Name - do not sign)

DA Form 2397-4 (Cont'd) -- 20151028114774M002

(b)(5)

End of summary

- (b)(6) -

2

LIMITED USE SAFETY
ACCIDENT INVESTIGATION REPORT
EPIC-16-02-23-Army-FOIA-20170606-Blimp-Report

TECHNICAL REPORT OF U.S. ARMY AIRCRAFT ACCIDENT PART V - SUMMARY OF WITNESS INTERVIEW <small>For use of this form, see DA Pamphlet 385-40; the proponent agency is OCSA.</small>		REQUIREMENTS CONTROL SYMBOL CSOCS-309	
1. NAME OF WITNESS (LAST, FIRST, MI) (b)(6)	2. OCCUPATION/TITLE 14A / Platoon Ldr & MD	3. GRADE 1LT/O2	4. DATE OF BIRTH (b)(6)
5. ADDRESS (Include ZIP Code) (If military, include organization) (b)(3) Aberdeen Proving Ground, MD		6. TELEPHONE NUMBER (Duty/Work) (b)(6)	
		7. DATE OF INTERVIEW (YYYYMMDD) 20151105	
8. EXPERIENCE AND BACKGROUND TIS 1 yr	9. LOCATION AT TIME OF ACCIDENT Outside the OCR facing MMS	10. INTERVIEWER (Name and Grade) MAJ (b)(6)	
11. Promise of confidentiality. a. Was a promise of confidentiality offered to the witness? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, read blk 14a to the witness and complete blk 15. If no, read blk 14b to the witness.) b. Confidentiality was requested by the witness. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, interviewer sign and date statement below.) THE WITNESS MADE THIS STATEMENT UNDER A PROMISE OF CONFIDENTIALITY. <div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"> (b)(6) _____ SIGNATURE OF INTERVIEWER </div> <div style="text-align: center;"> 20151105 _____ DATE (YYYYMMDD) </div> </div>			
12. SUMMARY OF INTERVIEW <div style="background-color: black; height: 400px; width: 100%;"></div> <div style="text-align: center; margin-top: 20px;">(b)(5)</div>			
13. CASE NO. a. Date (YYYYMMDD) 20151028 b. Time 1147 c. Act Serial No. 74M002			

14. GENERAL WITNESS INFORMATION BRIEFING (Interviewer must read appropriate instructions to the witness)

a. Promise of confidentiality offered.

- (1) This accident investigation board has been convened under the provisions of Army Regulation 385-10 for the purpose of conducting a safety investigation.
- (2) This may be just one of a number of investigations being conducted regarding this accident; collateral or legal investigations may be ongoing as well. Those investigations are entirely separate from a safety investigation and are also required to inform you of their purpose and of your legal rights.
- (3) This safety investigation is being conducted for accident prevention purposes only. Within the military, pursuant to AR 385-10, it cannot be used for any other purpose, to include any future disciplinary actions against any individuals. Therefore, the interview you are being asked to provide will be used by the Army in the interest of safety and accident prevention only.
- (4) Nonconfidential witness interviews may be released to the public pursuant to a Freedom of Information Act request. If you wish to protect your interview from public release outside the military, then your interview must be pursuant to a promise of confidentiality. Confidentiality means that your interview will not be released to the public or outside DoD safety channels.
- (5) Whether your interview is confidential or not, the chain of command will review the final accident report, which may include a summary of your interview, but the chain of command may only use the investigation report and the interviews for safety and accident prevention purposes.
- (6) If you ever have knowledge that your witness interview was used by the Army for anything other than accident prevention purposes (for example, disciplinary action against an individual), you should consult with your local Judge Advocate Defense Counsel Office and request that the Command Judge Advocate, U.S. Army Combat Readiness Center, be notified at DSN 558-2924 or commercial (334) 255-2924.
- (7) The promise of confidentiality is available to you if you desire it. Do you desire it?

b. No promise of confidentiality offered.

- (1) This accident investigation board has been convened under the provisions of AR 385-10 for the purpose of conducting a safety investigation.
- (2) This may be just one of a number of investigations being conducted regarding this accident; collateral or legal investigations may be ongoing as well. Those investigations are entirely separate from a safety investigation and are also required to inform you of their purpose and of your legal rights.
- (3) This safety investigation is being conducted for accident prevention purposes only. Within the military, pursuant to AR 385-10, it cannot be used for any other purpose, to include any future disciplinary actions against any individuals. Therefore, the interview you are being asked to provide will be used by the Army in the interest of safety and accident prevention only.
- (4) The chain of command will review the final accident report, which may include a summary of your interview, but the chain of command may only use the investigation report and the interviews for safety and accident prevention purposes. The interview summary may be released to the public pursuant to a Freedom of Information Act request.
- (5) If you ever have knowledge that your witness interview was used by the Army for anything other than accident prevention purposes (for example, disciplinary action against an individual), you should consult with your local Judge Advocate Defense Counsel Office and request that the Command Judge Advocate, U.S. Army Combat Readiness Center, be notified at DSN 558-2924 or commercial (334) 255-2924.

15. AVAILABILITY OF PROMISE OF CONFIDENTIALITY FOR "LIMITED USE" REPORT OF INVESTIGATION

a. Pursuant to AR 385-10, witness interviews may only be used within the military for purposes of accident prevention, and may not be used as evidence in connection with any administrative or disciplinary proceeding. This protection alone does not prevent release of the interview outside of the military (to the public, newspapers, attorneys, etc.) under the Freedom of Information Act. If you wish to protect your interview from release outside of the military, then your interview must be pursuant to a promise of confidentiality.

b. If you do not wish a promise of confidentiality, you may decline such below. In that case, your interview will still be used in the military only for purposes of accident prevention, but it may be released outside of the military in response to a Freedom of Information Act request. Please indicate which option you desire by initialing one of the choices below:

☒ (b)(6) I request a promise of confidentiality. I understand that the results of my interview will be used within the military only for the purposes of accident prevention, and will also be protected from public release outside of the military under the Freedom of Information Act.

☐ I decline a promise of confidentiality. I understand that the results of my interview will be used within the military only for purposes of accident prevention. I also understand that the results may be publicly released outside of the military under the Freedom of Information Act.

(b)(6)
Name of witness (Print Name - do not sign)

DA Form 2397-4 (Cont'd) -- 20151028114774M002

(b)(5)

End of summary

(b)(6)

2

**LIMITED USE SAFETY
ACCIDENT INVESTIGATION REPORT**

TECHNICAL REPORT OF U.S. ARMY AIRCRAFT ACCIDENT PART V - SUMMARY OF WITNESS INTERVIEW <small>For use of this form, see DA Pamphlet 385-40; the proponent agency is OCSA.</small>		REQUIREMENTS CONTROL SYMBOL CSOCS-309	
1. NAME OF WITNESS (LAST, FIRST, MI) (b)(6)		2. OCCUPATION/TITLE 14T/T&C Operator	
3. GRADE PFC/E3		4. DATE OF BIRTH (b)(6)	
5. ADDRESS (Include ZIP Code) (If military, include organization) (b)(3) Aberdeen Proving Ground, MD		6. TELEPHONE NUMBER (Duty/Work) (b)(6)	
7. DATE OF INTERVIEW (YYYYMMDD) 20151106		8. INTERVIEWER (Name and Grade) MAJ (b)(6)	
9. EXPERIENCE AND BACKGROUND TIS 1 yr		9. LOCATION AT TIME OF ACCIDENT Outside the OCR walking to Admin	
11. Promise of confidentiality. a. Was a promise of confidentiality offered to the witness? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, read blk 14a to the witness and complete blk 15. If no, read blk 14b to the witness.) b. Confidentiality was requested by the witness. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, interviewer sign and date statement below.) THE WITNESS MADE THIS STATEMENT UNDER A PROMISE OF CONFIDENTIALITY. <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="text-align: center;"> (b)(6) _____ SIGNATURE OF INTERVIEWER </div> <div style="text-align: center;"> 2015/11/06 _____ DATE (YYYYMMDD) </div> </div>			
12. SUMMARY OF INTERVIEW <div style="background-color: #cccccc; height: 400px; width: 100%; display: flex; align-items: center; justify-content: center;"> (b)(5) </div>			
13. CASE NO. a. Date (YYYYMMDD) 20151028 b. Time 1147 c. Acft Serial No. 74M002			

14. GENERAL WITNESS INFORMATION BRIEFING (Interviewer must read appropriate instructions to the witness)

a. Promise of confidentiality offered.

- (1) This accident investigation board has been convened under the provisions of Army Regulation 385-10 for the purpose of conducting a safety investigation.
- (2) This may be just one of a number of investigations being conducted regarding this accident; collateral or legal investigations may be ongoing as well. Those investigations are entirely separate from a safety investigation and are also required to inform you of their purpose and of your legal rights.
- (3) This safety investigation is being conducted for accident prevention purposes only. Within the military, pursuant to AR 385-10, it cannot be used for any other purpose, to include any future disciplinary actions against any individuals. Therefore, the interview you are being asked to provide will be used by the Army in the interest of safety and accident prevention only.
- (4) Nonconfidential witness interviews may be released to the public pursuant to a Freedom of Information Act request. If you wish to protect your interview from public release outside the military, then your interview must be pursuant to a promise of confidentiality. Confidentiality means that your interview will not be released to the public or outside DoD safety channels.
- (5) Whether your interview is confidential or not, the chain of command will review the final accident report, which may include a summary of your interview, but the chain of command may only use the investigation report and the interviews for safety and accident prevention purposes.
- (6) If you ever have knowledge that your witness interview was used by the Army for anything other than accident prevention purposes (for example, disciplinary action against an individual), you should consult with your local Judge Advocate Defense Counsel Office and request that the Command Judge Advocate, U.S. Army Combat Readiness Center, be notified at DSN 558-2924 or commercial (334) 255-2924.
- (7) The promise of confidentiality is available to you if you desire it. Do you desire it?

b. No promise of confidentiality offered.

- (1) This accident investigation board has been convened under the provisions of AR 385-10 for the purpose of conducting a safety investigation.
- (2) This may be just one of a number of investigations being conducted regarding this accident; collateral or legal investigations may be ongoing as well. Those investigations are entirely separate from a safety investigation and are also required to inform you of their purpose and of your legal rights.
- (3) This safety investigation is being conducted for accident prevention purposes only. Within the military, pursuant to AR 385-10, it cannot be used for any other purpose, to include any future disciplinary actions against any individuals. Therefore, the interview you are being asked to provide will be used by the Army in the interest of safety and accident prevention only.
- (4) The chain of command will review the final accident report, which may include a summary of your interview, but the chain of command may only use the investigation report and the interviews for safety and accident prevention purposes. The interview summary may be released to the public pursuant to a Freedom of Information Act request.
- (5) If you ever have knowledge that your witness interview was used by the Army for anything other than accident prevention purposes (for example, disciplinary action against an individual), you should consult with your local Judge Advocate Defense Counsel Office and request that the Command Judge Advocate, U.S. Army Combat Readiness Center, be notified at DSN 558-2924 or commercial (334) 255-2924.

15. AVAILABILITY OF PROMISE OF CONFIDENTIALITY FOR "LIMITED USE" REPORT OF INVESTIGATION

a. Pursuant to AR 385-10, witness interviews may only be used within the military for purposes of accident prevention, and may not be used as evidence in connection with any administrative or disciplinary proceeding. This protection alone does not prevent release of the interview outside of the military (to the public, newspapers, attorneys, etc.) under the Freedom of Information Act. If you wish to protect your interview from release outside of the military, then your interview must be pursuant to a promise of confidentiality.

b. If you do not wish a promise of confidentiality, you may decline such below. In that case, your interview will still be used in the military only for purposes of accident prevention, but it may be released outside of the military in response to a Freedom of Information Act request. Please indicate which option you desire by initialing one of the choices below:

☒ (b)(6) I request a promise of confidentiality. I understand that the results of my interview will be used within the military only for the purposes of accident prevention, and will also be protected from public release outside of the military under the Freedom of Information Act.

☐ I decline a promise of confidentiality. I understand that the results of my interview will be used within the military only for purposes of accident prevention. I also understand that the results may be publicly released outside of the military under the Freedom of Information Act.

(b)(6)

Name of witness (Print Name - do not sign)

DA Form 2397-4 (Cont'd) -- 20151028114774M002

(b)(5)

End of summary

(b)(6)

2

LIMITED USE SAFETY
ACCIDENT INVESTIGATION REPORT
EPIC-16-02-23-Army-FOIA-20170606-Blimp-Report

TECHNICAL REPORT OF U.S. ARMY AIRCRAFT ACCIDENT
PART IV - WRECKAGE DISTRIBUTION

For use of this form, see DA Pamphlet 385-40; the proponent agency is OCSA.

REQUIREMENTS CONTROL SYMBOL
CSOCS-309

1. GRID: SHOW MAJOR GUAGE MARKS, DISTRIBUTION OF WRECKAGE, OBSTACLES, DIRECTION OF NORTH, WIND DIRECTION, WIND VELOCITY, POSITION OF WITNESS, ETC.

Suggested Scale: 1" Equals 50'

Actual Scale: 1" Equals Not to Scale

(b)(5)

2. CASE NO.

a. Date (YYYYMMDD)

20151028

b. Time

1147

c. Acft Serial No.

74M002

3. OTHER ACFT SERIAL NO.

DA FORM 2397-5, FEB 2009

PREVIOUS EDITION IS OBSOLETE.

APD PE v1.00

Fins crash photo



Aerostat in hollow



TECHNICAL REPORT OF U.S. ARMY AIRCRAFT ACCIDENT
PART VII - IN-FLIGHT OR TERRAIN IMPACT AND CRASH DAMAGE DATA
For use of this form, see DA Pamphlet 385-40; the proponent agency is OCSA.

REQUIREMENTS CONTROL SYMBOL
CSOCS-309

1. **IN-FLIGHT COLLISION KINEMATICS AT INSTANT OF IMPACT**

(b)(5)

5. CASE NO.	a. Date (YYYYMMDD) 20151028	b. Time 1547	c. Acft Serial No. 74M002	6. OTHER ACFT SERIAL NO.
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7. FUSELAGE INWARD DEFORMATION OR COLLAPSE AND INJURY RELATIONSHIP (Check appropriate boxes)									
Fuselage Area	Amount or Type of Deformation or Collapse	Specific Area of Deformation or Collapse				Fuselage Deformation Produced/Contributed to Injury			
		Cockpit (1)	Forward Cabin Area (2)	Mid Cabin Area (3)	Rear Cabin Area (4)	Cockpit (5)	Forward Cabin Area (6)	Mid Cabin Area (7)	Rear Cabin Area (8)
a. Roof	Up to 1 Foot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	More Than 1 Foot But Less Than 3 Feet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	More Than 3 Feet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Left Side	Up to 1 Foot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	More Than 1 Foot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Right Side	Up to 1 Foot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	More Than 1 Foot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Nose	Up to 1 Foot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	More Than 1 Foot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Floor	Up to 1 Foot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	More Than 1 Foot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Floor (local deformation under seats)	Vertical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Sideward	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Forward/Rearward	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. LARGE COMPONENT DISPLACEMENT (Check appropriate boxes)				
Component	Displaced (1)	Torn Free (2)	Cockpit Penetrated/Entered (3)	Cabin Penetrated/Entered (4)
a. Transmission (forward or main)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Transmission (rear)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Rotor Blade (forward or main)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Rotor Blade (rear or tail)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Landing Gear (specify location)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Other (specify) Empanage	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. FLUID SPILLAGE						
a. Equipped With Crashworthy Fuel System <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	b. If So Equipped, Did Breakaway Valves Separate as Designed <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	e. Amount and Type Fluid Spilled				
		Gallons	Fuel (Type)	Oil (Type)	Hyd Fluid (Type)	Other (Specify)
c. Flammable Fluid Spillage Occurred <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	d. Auxiliary Fuel Tanks Installed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Internal <input type="checkbox"/> External Crashworthy <input type="checkbox"/> Yes <input type="checkbox"/> No	0 - 1				
		> 1 - 2				
		> 2 - 10				
		> 10 - 20				
		> 20				

10. SPILLAGE SOURCE			
Part	a. Part Name/Nomenclature	b. Part Number	c. National Stock No.
(1) Cell/Tank/Reservoir			
(2) Filter			
(3) Fitting			
(4) Fluid Line			
(5) Valve			
(6) Breakaway Valve			
(7) Other (Specify)			
(8) Other (Specify)			
(9) Other (Specify)			

11. REMARKS
2. Due to loss of communication and limited tracking information actual values concerning speed or angles of the Aerostat were estimated when it contacted the ground.
3. Due to lack of data or witnesses rotation after impact can to be determined.

TECHNICAL REPORT OF U.S. ARMY AIRCRAFT ACCIDENT PART VIII - MAINTENANCE AND MATERIEL DATA <small>For use of this form, see DA Pamphlet 385-40; the proponent agency is OCSA.</small>				REQUIREMENTS CONTROL SYMBOL CSOCS-309			
1. AIRCRAFT HISTORY				2. CAUSATIVE ROLE a. Materiel b. Maintenance c. Design d. Manufacture	D Definite	S Suspected	U Unknown
a. Hours Since New	7,373						
b. Hours Since Last Major Repair							
c. Last Phase Inspection (YYYYMMDD)	N/A						
d. Hours Flown Since Last Phase Inspection							
e. Organization Completing Last Phase Inspection (UIC)	N/A					(b)(5)	
3. FAILED OR MALFUNCTIONED MATERIEL							
Identification	Major Component	Part	Identification	Major Component	Part		
a. Nomenclature	Acrostat	Empennage Port Fin	h. TAMMS Data				
b. Type, Design, Series			(1) No. of Overhauls				
c. Part Number			(2) Date of Last Overhaul (YYYYMMDD)				
d. NSN			(3) Hrs Since Overhaul				
e. MFG Code	0J6J5		(4) Hrs Since New	7,373			
f. Serial Number	X74M002		(5) Hrs Since Last Installed	1,065			
g. TM Data			(6) Date Last Installed (YYYYMMDD)	20150816			
(1) TM Number	JLENS-49956-00000-00		(7) Last Overhaul Facility				
(2) Date (YYYYMMDD)	20130513		(8) Last Special Insp (Type)	TCOM PM			
(3) Functional Group			(9) Hrs Since Last Special Inspection				
(4) Figure Number			(10) Date of Last Spec Inspection (YYYYMMDD)	20151025			
(5) Item Number			i. Type/Mode of Failure/Malfunction	540/947			
			j. Cause of Failure/Malfunction	(b)(5)			
			k. QDR/EIR Number				
4. WARNING SYSTEM AND INDICATION OF FAILURE/MALFUNCTION							
a. Status of Aircraft Warning System for This Part			b. Indications of Failure/Malfunction				
<input checked="" type="checkbox"/> Operative <input type="checkbox"/> Inoperative <input type="checkbox"/> NA			<input type="checkbox"/> Correct <input type="checkbox"/> None <input checked="" type="checkbox"/> Incorrect				
c. Initial Indication of Failure/Malfunction		<input type="checkbox"/> (1) Vibration <input type="checkbox"/> (3) Attitude <input type="checkbox"/> (5) Odor <input type="checkbox"/> (7) Smoke or Fire <input type="checkbox"/> (9) Warning System <input type="checkbox"/> (2) Noise <input type="checkbox"/> (4) Inspection <input type="checkbox"/> (6) Fluid <input type="checkbox"/> (8) Other Personnel <input checked="" type="checkbox"/> (10) None/Other					
5. TEARDOWN ANALYSIS		a. Organization Performing			b. USACRC Control No.		
		NATICK SSC Field Report and CCAD USACRC 16-301					
6. REMARKS (Use additional sheet if required)							
7. CASE NO.	a. Date (YYYYMMDD)	b. Time	c. Acft Serial No.		8. OTHER ACFT SERIAL NO.		
	20151028	1547	74M002				

TECHNICAL REPORT OF U.S. ARMY AIRCRAFT ACCIDENT PART IX - PERSONAL DATA <small>For use of this form, see DA Pamphlet 385-40; the proponent agency is OCSA.</small>						REQUIREMENTS CONTROL SYMBOL CSOCS-309	
1. ROLE OF THIS INDIVIDUAL							
a. Errors That Caused/Contributed to Accident (b)(5) Definitely (b)(5) Suspected (b)(5) None (b)(5) Undetermined				b. On Controls When Accident Occurred <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Undetermined			
2. BACKGROUND DATA							
a. Age	(b)(6)			g. Hours Worked Last 24 Hours	7		
b. Hours Awake Prior to Accident	8			h. Hours Worked Last 48 Hours	19		
c. Hours Duration Last Sleep Period	5			i. Hours Worked Last 72 Hours	19		
d. Hours Slept Last 24 Hours	5			j. Hours Flown Last 24 Hours			
e. Hours Slept Last 48 Hours	9			k. Hours Flown Last 48 Hours			
f. Hours Slept Last 72 Hours	14			l. Hours Flown Last 72 Hours			
3. CREW MEMBER DATA							
a. Primary Acft MTDS				j. NVG Qualified		<input type="checkbox"/> Yes <input type="checkbox"/> No	
b. Alternate Acft MTDS				k. Date Qualified In Acft MTDS (YYYYMMDD)			
c. Additional Acft MTDS				l. ATM Task Number Associated With Initial Indication of Emergency			
d. FAC <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3				Last Performed (YYYYMMDD)			
e. RL In Accident Acft MTDS <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> NA				m. ATM Task Number Involved In Response To Emergency			
f. APART Completed (YYYYMMDD)				Last Performed (YYYYMMDD)			
g. Physical Exam Completed (YYYYMMDD)		20141103		n. Medical Waiver		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
h. Most Recent Evaluation Flight In Accident MTDS Acft (YYYYMMDD)				o. Post-Accident Flight Eval (YYYYMMDD) Result			
i. MTDS Acft Flown In Last 60 Days		(1)		p. Post-Accident Medical Exam/Autopsy (YYYYMMDD)			
		(2)		q. Required Lab Tests Accomplished			
		(3)		<input type="checkbox"/> Yes <input type="checkbox"/> No			
				r. Last redeployment from a combat theater (YYYYMMDD)		20110525	
4. FLIGHT AND CREW DUTY EXPERIENCE (Round off to the nearest hour)							
a. Type Experience And Time	Rotary Wing	Fixed Wing	Total	Imminent Danger	Combat	Acft Aircraft Hrs Design Series	
(1) Military							
(2) Civilian							
(3) Total Hours							
b. Duty Experience							
Duty	CP	PI	PC	UT	IP	IE	SP
Total Hours							
c. Flight Condition Experience							
Condition	D	N	H	W	NG	DG	NS
Total Hours							
d. Monthly Flight Hours Past 3 Months In Accident Acft MTDS				e. Other Crew Duty Experience			
Date	Prev 90	Prev 60	Prev 30	This Mo.	Duty	CE	OR
Hours					Total Hours		
5. MAINTENANCE AND SUPPORT PERSONNEL DATA							
a. PMOS	14E	Title Mission Support			e. Civilian Job Series or Title		
b. SMOS		Title					
c. DMOS		Title			f. Performance Standards Met For This Task		
d. Deficient Task No.				<input type="checkbox"/> Yes <input type="checkbox"/> No			
6. CASE		a. Date (YYYYMMDD)		b. Time		c. Acft Serial No.	
		20151028		1147		74M002	
						7. OTHER ACFT SERIAL NO.	

8. LABORATORY TESTS							
Type Test	Specimen Tested	Results	Name of Drug		USACRC Code Block		
a. Carbon Monoxide	(b)(6)						
b. Alcohol/Volatiles							
c. Drug Screen							
d. Other							

9. HISTORY OF DISEASES/DEFECTS							
Diagnosis	Method of Discovery				Waivers		USACRC Code Block
	Ani Phy	Sick Call	Autopsy	Other	Auth.	Date (YYYYMMDD)	
(b)(6)							

10. REMARKS
 2h-i. The day of the mishap was the second day of a four-day schedule and the crew was off work two days prior. The Hours Worked Last 72 Hours reflects the same value as Hours Worked Last 48 Hours.

(b)(6)

11. NAME (Last First MI) (b)(6)		12. SSN (b)(6)	13. GRADE SGT	14. GENDER M	15. DUTY MPO	16. SVC A	17. UIC WEZMAA
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TECHNICAL REPORT OF U.S. ARMY AIRCRAFT ACCIDENT PART IX - PERSONAL DATA <small>For use of this form, see DA Pamphlet 385-40; the proponent agency is OCSA.</small>						REQUIREMENTS CONTROL SYMBOL CSOCS-309	
1. ROLE OF THIS INDIVIDUAL							
a. Errors That Caused/Contributed to Accident <input checked="" type="checkbox"/> (b)(5) Definitely <input checked="" type="checkbox"/> (b)(5) Suspected <input checked="" type="checkbox"/> (b)(5) None <input checked="" type="checkbox"/> (b)(5) Undetermined				b. On Controls When Accident Occurred <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Undetermined			
2. BACKGROUND DATA							
a. Age	(b)(6)			g. Hours Worked Last 24 Hours	3		
b. Hours Awake Prior to Accident	5			h. Hours Worked Last 48 Hours	15		
c. Hours Duration Last Sleep Period	7			i. Hours Worked Last 72 Hours	15		
d. Hours Slept Last 24 Hours	7			j. Hours Flown Last 24 Hours			
e. Hours Slept Last 48 Hours	13			k. Hours Flown Last 48 Hours			
f. Hours Slept Last 72 Hours	19			l. Hours Flown Last 72 Hours			
3. CREW MEMBER DATA							
a. Primary Acft MTDS				j. NVG Qualified	<input type="checkbox"/> Yes <input type="checkbox"/> No		
b. Alternate Acft MTDS				k. Date Qualified In Acft MTDS (YYYYMMDD)			
c. Additional Acft MTDS				l. ATM Task Number Associated With Initial Indication of Emergency			
d. FAC <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3				Last Performed (YYYYMMDD)			
e. RL In Accident Acft MTDS <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> NA				m. ATM Task Number Involved In Response To Emergency			
f. APART Completed (YYYYMMDD)				Last Performed (YYYYMMDD)			
g. Physical Exam Completed (YYYYMMDD)	20151022			n. Medical Waiver	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
h. Most Recent Evaluation Flight In Accident MTDS Acft (YYYYMMDD)				o. Post-Accident Flight Eval (YYYYMMDD) Result			
i. MTDS Acft Flown In Last 60 Days	(1)			p. Post-Accident Medical Exam/Autopsy (YYYYMMDD)			
	(2)			q. Required Lab Tests Accomplished	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	(3)			r. Last redeployment from a combat theater (YYYYMMDD)	20110525		
4. FLIGHT AND CREW DUTY EXPERIENCE (Round off to the nearest hour)							
a. Type Experience And Time	Rotary Wing	Fixed Wing	Total	Imminent Danger	Combat	Acft Aircraft Hrs Design Series	
(1) Military							
(2) Civilian							
(3) Total Hours							
b. Duty Experience							
Duty	CP	PI	PC	UT	IP	IE	SP
Total Hours							
c. Flight Condition Experience							
Condition	D	N	H	W	NG	DG	NS
Total Hours							
d. Monthly Flight Hours Past 3 Months In Accident Acft MTDS				e. Other Crew Duty Experience			
Date	Prev 90	Prev 60	Prev 30	This Mo.	Duty	CE	OR
Hours					Total Hours		
5. MAINTENANCE AND SUPPORT PERSONNEL DATA							
a. PMOS	14E	Title Flight Director			e. Civilian Job Series or Title		
b. SMOS		Title					
c. DMOS		Title			f. Performance Standards Met For This Task		
d. Deficient Task No.				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
6. CASE	a. Date (YYYYMMDD)		b. Time		c. Acft Serial No.		7. OTHER ACFT SERIAL NO.
	20151028		1147		74M002		

8. LABORATORY TESTS							
Type Test	Specimen Tested	Results	Name of Drug	USACRC Code Block			
a. Carbon Monoxide	(b)(6)						
b. Alcohol/Volatiles							
c. Drug Screen							
d. Other							

9. HISTORY OF DISEASES/DEFECTS							
Diagnosis	Method of Discovery				Waivers		USACRC Code Block
	Anl Phy	Sick Call	Autopsy	Other	Auth.	Date (YYYYMMDD)	
(b)(6)							

10. REMARKS
 2h-i. The day of the mishap was the second day of a four-day schedule and the crew was off work two days prior. The Hours Worked Last 72 Hours reflects the same value as Hours Worked Last 48 Hours. SSG (b)(6) was a fill-in the day of the mishap and had a partial duty day (he relieved the scheduled Flight Director who had a medical appointment).

(b)(6)

11. NAME (Last First MI)	12. SSN	13. GRADE	14. GENDER	15. DUTY	16. SVC	17. UIC
(b)(6)	(b)(6)	SSG	M	AO	A	WEZMAA

REQUIREMENTS CONTROL SYMBOL
CSOCS-309

CSOCS-309

DA FORM 2397-11, FEB 2009

APD LC v1.00

TECHNICAL REPORT OF U.S. ARMY AIRCRAFT ACCIDENT INDEX A For use of this form, see DA Pamphlet 385-40; the proponent agency is OCSA.				REQUIREMENTS CONTROL SYMBOL CSOCS-309			
1. MISSION, TYPE, DESIGN, AND SERIES		2. CASE NO.	a. Date (YYYYMMDD)	b. Time	c. Acft Serial No.		
JLENS Aerostat			20151028	1147	74M002		
3. TAB	Information	Encl	Not Applic	See Remarks			
1	Copy of Orders Appointing Investigating Board	X					
2	Weather Data	X					
3	Certificate of Damage/ECOD	X				X	
4	Diagrams and/or Photographs	X					
5	Copy of Deficiency Reports			X			
6	Special Technical Reports and Laboratory Analysis	X					X
7	Weight and Balance (DD Form 365-4)	X					
8	Copy of Directives, Regulations, Etc.	X					
9	Medical Data (Autopsy, Toxicology, AFIP, etc.) (In USACRC copy only)			X			
10	Flight Planning Data (Flight Plan, Mission Briefing, PPC, Risk Assessment, etc.)			X			
11	Copy of Army Aviator's Flight Record (DA Form 2408-12)			X			
12	Copy of Aircraft Inspection and Maintenance Record (DA Form 2408-13)	X					
13	Copy of Uncorrected Fault Record (DA Form 2408-14)			X			
14	Copy of Equipment Modification Record (DA Form 2408-5)			X			
15	Other (Specify) Memorandum, Release of Aerostat Site and Materials, dtd 23 Nov 2015	X					
16	Other (Specify)						
17	Other (Specify)						
18	Other (Specify)						
4. REMARKS 3. ECOD for civilian property has a 5 year statute of limitation 6a. CCAD Report (USACRC 16-301) 6b. Natick Lab Field Report 6c. Memorandum, JLENS Failure Review Board Report							



DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY FORCES COMMAND
4700 KNOX STREET
FORT BRAGG, NC 28310-5000

AFPE-SA

05 NOV 2015

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Accident Investigation Board Appointment Orders

1. Under the provisions of AR 385-10, The Army Safety Program, the following individuals are appointed as accident investigation board members for the Class A JLENS FCR AEROSTAT accident that occurred on 28 October 2015 while based at Aberdeen Proving Ground.

a. Board President: (b)(6) MAJ, AV, U. S. Army Combat Readiness Center, Ft Rucker, AL 36362-5363;

b. Board Recorder: (b)(6) CW4, AV, Army Combat Readiness Center, Ft Rucker, AL 36362-5363;

c. Doctor: (b)(6) COL, State Surgeon / EAATS Flight Surgeon, Annville, PA PAARNG;

d. Board SME (Voting): (b)(6) DB-4/GS-15, Chief, Engineer, JLENS Product Office PMO, Cruise Missile Defense Systems PEO-Missiles and Space, Redstone Arsenal, AL;

e. Board SME (Voting): (b)(6) GS-301-13/CP51, DAC, US Army Space and Missile Defense Command/Army Forces Strategic Command, Colorado, Springs, CO;

f. Board SME (Voting): (b)(6) GS-018-12/10, OSOH Specialist, AMSAM-SF-M, US Army Aviation and Missile Command, Redstone Arsenal, AL;

g. Board SME (Advisor): (b)(6) NH-03, MASS Deputy Program Manager, ACC AMIC/PMCU, Newport News, VA 23606;

h. Board Technical Advisor: (b)(6) GS-12, Air Safety Specialist Analytical Investigation Branch, Naval Air Station, Corpus Christi, TX 78419-5260;

i. Board SME (Voting): (b)(6) MAJ, AV, 32d Army Air and Missile Defense Command, Fort Bliss, TX;

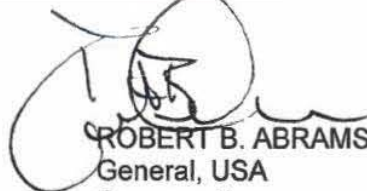
2. The purpose of the board is to gather and evaluate evidence, determine causal and/or contributing factors, and prepare findings and recommendations to prevent future

AFPE-SA

SUBJECT: Accident Investigation Board Appointment Orders

accidents. Individuals will be released from all other duties for full-time participation in the subject investigation.

3. These appointment orders are subject to subsequent amendment/ augmentation to include additional subject matter experts.
4. In accordance with the Health Insurance Portability and Accountability Act (HIPAA) (Public Law 104-191 enacted by Congress on August 21, 1996), I delegate my authority as a military commander to members of the board to access protected health information about individuals who are Armed Forces personnel when it is deemed necessary by the board president to assure the proper investigation of this accident.
5. The POC for this action is Mr. (b)(6) G1. Aviation Safety Program Manager (b)(6)



ROBERT B. ABRAMS
General, USA
Commanding

DISTRIBUTION:

- 1 - CDR (b)(6)
- 2 - CDR, CECOM
- 3 - CDR, CRC
- 4 - 1 ea - Board Member



DEPARTMENT OF THE AIR FORCE
15TH OPERATIONAL WEATHER SQUADRON
SCOTT AIR FORCE BASE ILLINOIS

9 November 2015

MEMORANDUM FOR RECORD

FROM: 15 OWS/DO

SUBJECT: KAPG JLENS Mishap

1. A mishap occurred at/near Aberdeen Proving Grounds on 28 October 2015 at 1547Z. The following information is provided:

Aircraft type: JLENS

Unit of Assignment: (b)(3)

Weather Flimsy provided by: 15 OWS

Flight route: Static over KAPG

Individual reporting aircraft mishap and requesting a weather data save was (b)(6)

Maj (b)(3) DSN: (b)(6)

2. Surface weather conditions at location of incident:

Nearest Reporting station(s): (KAPG) Aberdeen Proving Grounds, MD

Past hour observations:

KAPG 281652Z 11012G22KT 1 1/2SM -RA BR OVC006 18/17 A2993 RMK PRESFR

KAPG 281551Z 11010G20KT 1 1/2SM -RA BR OVC006 18/17 A3000 RMK PRESFR

KAPG 281455Z 11010G20KT 4SM -RA BR OVC008 17/16 A3006

KAPG 281356Z 11010G20KT 2SM -RA BR OVC008 16/15 A3010

KAPG 281154Z 09010KT 4SM -RA BR OVC005 14/13 A3016

KAPG 281055Z 07012KT 3SM -RA BR OVC006 13/12 A3017

Nearest TAF: (KMTN) Martin State Airport, MD

TAF KMTN 281146Z 2812/2912 05010KT 3SM -RA BKN005 OVC009 WS020/14035KT

FM281800 14013KT 3SM -RA OVC008 WS020/14040KT

FM282100 15011KT 3SM -SHRA OVC008

FM290400 19013KT 3SM -SHRA OVC008

FM290600 21010KT P6SM OVC015

FM290800 25008KT P6SM SCT020

3. There were no active weather warnings at time of event. Weather warnings are for conditions at the surface and winds at the surface were well below the 35 knot warning threshold.

4. Winds Aloft: LMX Radar (Sterling VA) is most representative for winds from surface to 15kft. LMX Radar indicated the following winds:



Time:	1542Z	1548Z	1554Z	1559Z
Height (kft)	Wind speed (knots)	Wind speed (knots)	Wind speed (knots)	Wind speed (knots)
1,000	20	25	25	20
2,000	35	35	35	35
3,000	45	45	45	45
4,000	50	50	50	50
5,000	55	55	50	50
6,000	55	55	50	50
7,000	55	55	55	50
8,000	50	55	55	55
9,000	50	50	55	50
10,000	50	55	50	45
11,000	50	45	45	45
12,000	50	45	50	40
13,000	60	45	45	30
14,000	40	45	40	35
15,000	45	45	40	30

5. Event Description: Upon receiving information via broadcast media at 1810Z that a JLENS aircraft had broken away from its moorings at Aberdeen Proving Grounds the on duty Senior Duty Officer (SDO) initiated an aircraft mishap data save. The SDO then notified the 15 OWS Commander, Operations Officer and Operations Superintendent of the incident. Shortly thereafter Major (b)(6) the (b)(3), (b)(6) Contacted the DO requesting a link to our data save information.

6. All data is saved at: https://15ows.us.af.mil/wxdata/Data/mishap/20151028_KAPG_data.zip

7. If you have any questions, please contact Major (b)(6) at DSN (b)(6)

//Signed/kn/9 Nov 15//
(b)(6) Maj, USAF
Operations Officer

ABERDEEN PROVING GROUND (KAPG) WEATHER FLIMSY									
THIS FORECAST IS FOR THE JLENS AREOSTAT ONLY									
Contact the 15th OWS for Any Questions									
Forecaster	CAPT	(b)(6)	Valid Time	11Z-00Z	October 2015				
Telephone		(b)(6), (b)(3)	Date	28-Oct-15	28/11Z (07L) - 29/00Z (20L)				
	Sunrise	0728L		Moonrise	1823L	Moon Illum	99%	Fzg Level	124
	Sunset	1808L		Moonset	0734L				
THREAT OF THE DAY									
NONE									
Flight Level Wind/Temperature (AGL)/(C)									
500 FT	15027/20	2000 FT	16040/17	3500 FT	17044/14	5000 FT	18044/12	8000 FT	19042/07
1000 FT	15035/19	2500 FT	16042/16	4000 FT	17044/13	6000 FT	18044/10	9000 FT	19040/05
1500 FT	16038/18	3000 FT	16043/15	4500 FT	18044/13	7000 FT	18043/09	10000 FT	19038/04
Comments:	NONE								
JLENS ABERDEEN PROVING GROUND SURFACE DATA									
VALID TIME		Altimeter Setting IN HG	Pressure Altitude FT	Density Altitude FT	RH %	Temp F	Temp C	Wind Direction Deg	Wind Speed Kt
LOCAL (EDT)	UTC								
0700	1100	30.13	-153	-379	99%	56	13	070	12
0900	1300	30.06	-88	-194	99%	57	14	080	13
1100	1500	30.00	-18	-4	100%	59	15	090	11
1300	1700	29.93	52	305	101%	63	17	110	11
1500	1900	29.86	116	489	102%	65	18	120	10G18
1700	2100	29.80	174	667	99%	66	19	130	09G16
1900	2300	29.72	261	635	102%	65	18	120	10G18
Contact 15 OWS for current Weather Watches and Warnings									
Site/Flight Area Forecasts									
	KMTN		G-Field		Grace's Quarters				
CLOUDS (AGL)	SCT020		SCT020		SCT020				
VIS/WX	10SM/NSW		10SM/NSW		10SM/NSW				
WINDS	04010KT		04010KT		04010KT				
TURB (MSL)	N/A		N/A		N/A				
ICING (MSL)	N/A		N/A		N/A				
Additional Comments:	NONE								
WX Briefed Time (Z)	1000Z								



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DEPARTMENT OF THE ARMY
PROGRAM EXECUTIVE OFFICE, MISSILES AND SPACE
5250 MARTIN ROAD
REDSTONE ARSENAL, AL 35898-8000

REPLY TO
ATTENTION OF

13 Nov 2015

SFAE-MSL-CMJ

MEMORANDUM FOR RECORD

SUBJECT: Estimated Cost of Damage for Joint Land Attack Cruise Missile Defense
Elevated Netted Sensor System (JLENS) Fire Control System (FCS)

Referred to PEO, Missiles & Space, Redstone

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SFAE-MSL-CMJ

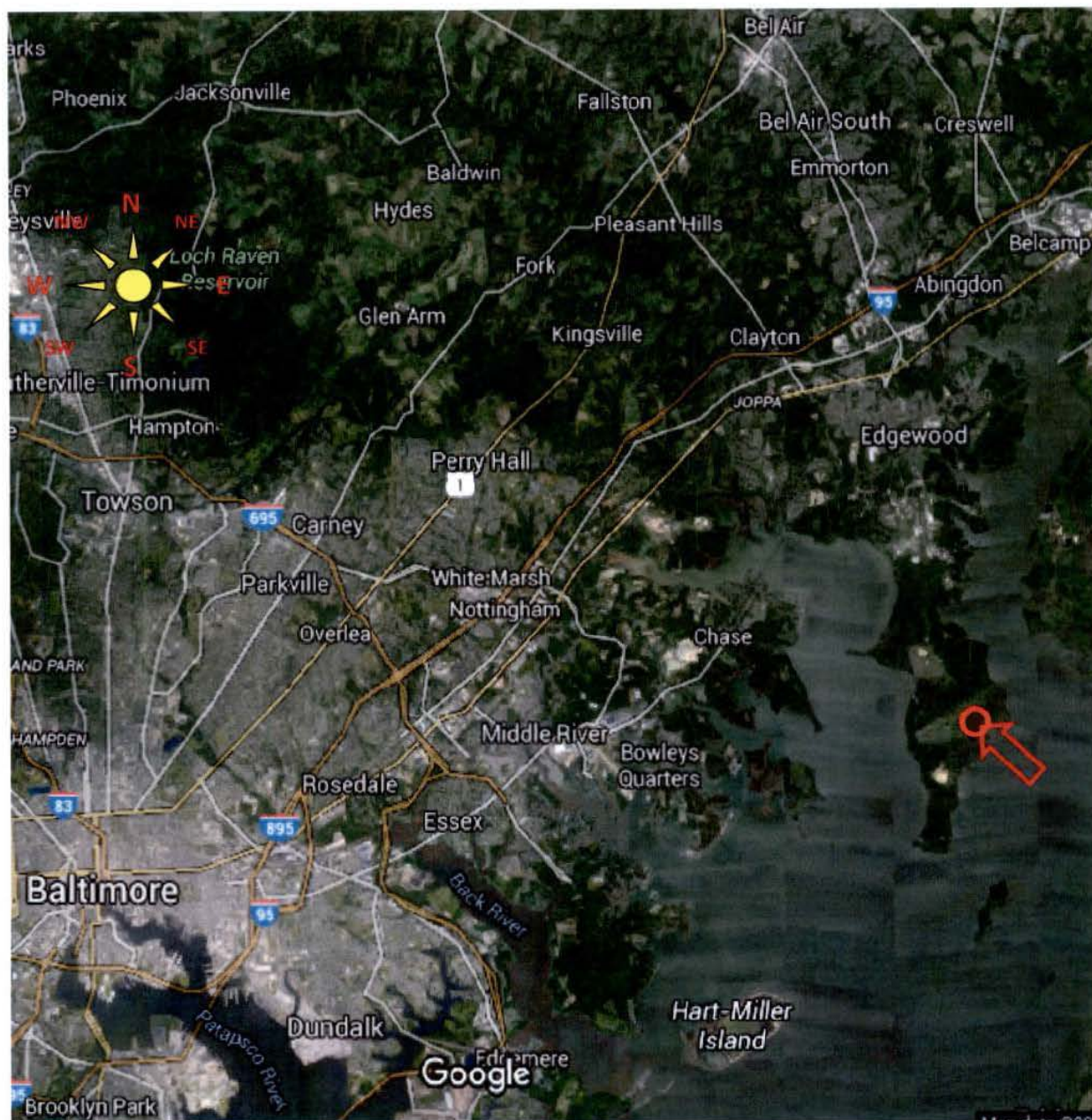
**SUBJECT: Estimated Cost of Damage for Joint Land Attack Cruise Missile Defense
Elevated Netted Sensor System (JLENS) Fire Control System (FCS)**

Referred to PEO, Missiles & Space, Redstone

(b)(6)

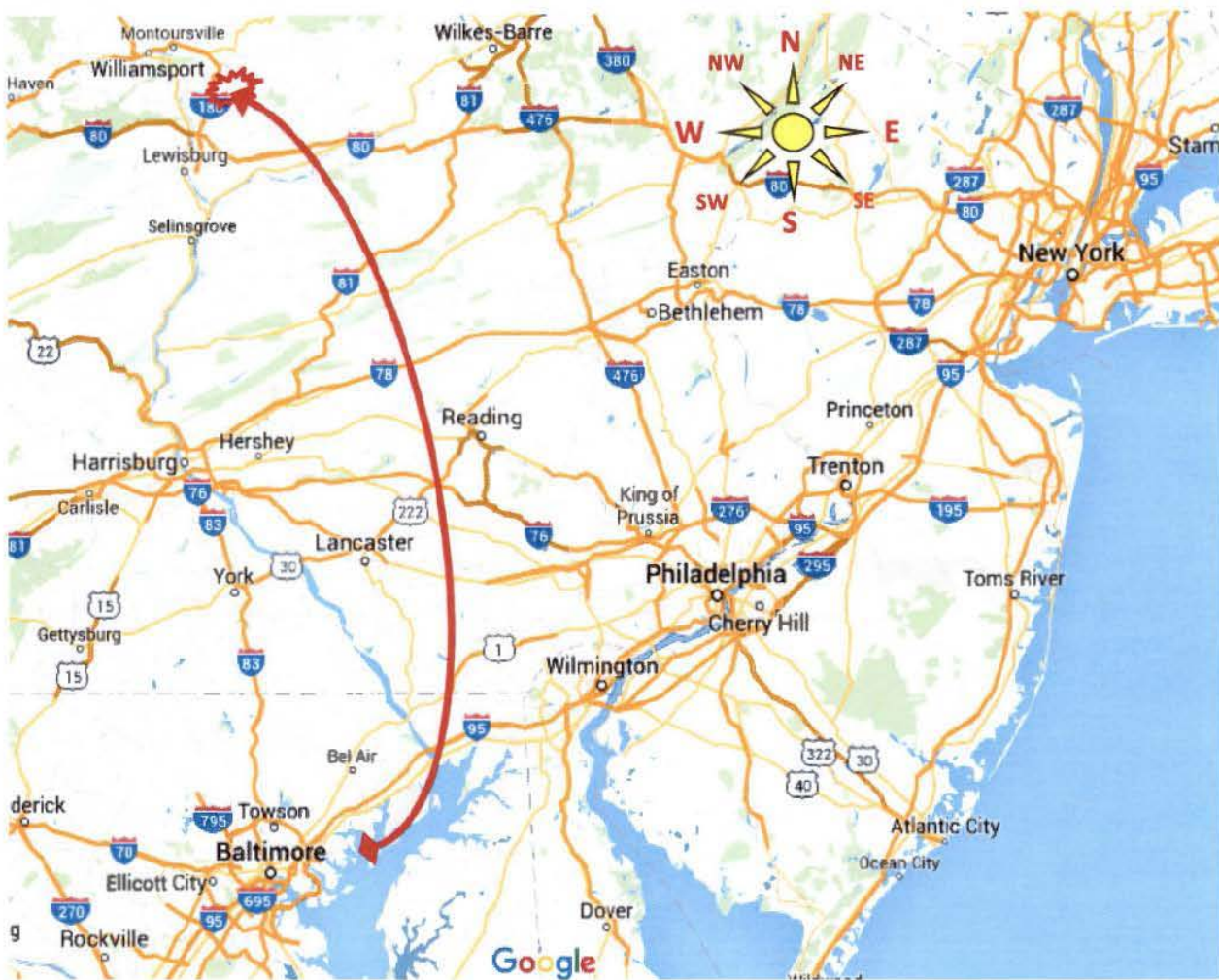
**Deputy Product Director
JLENS Product Office**

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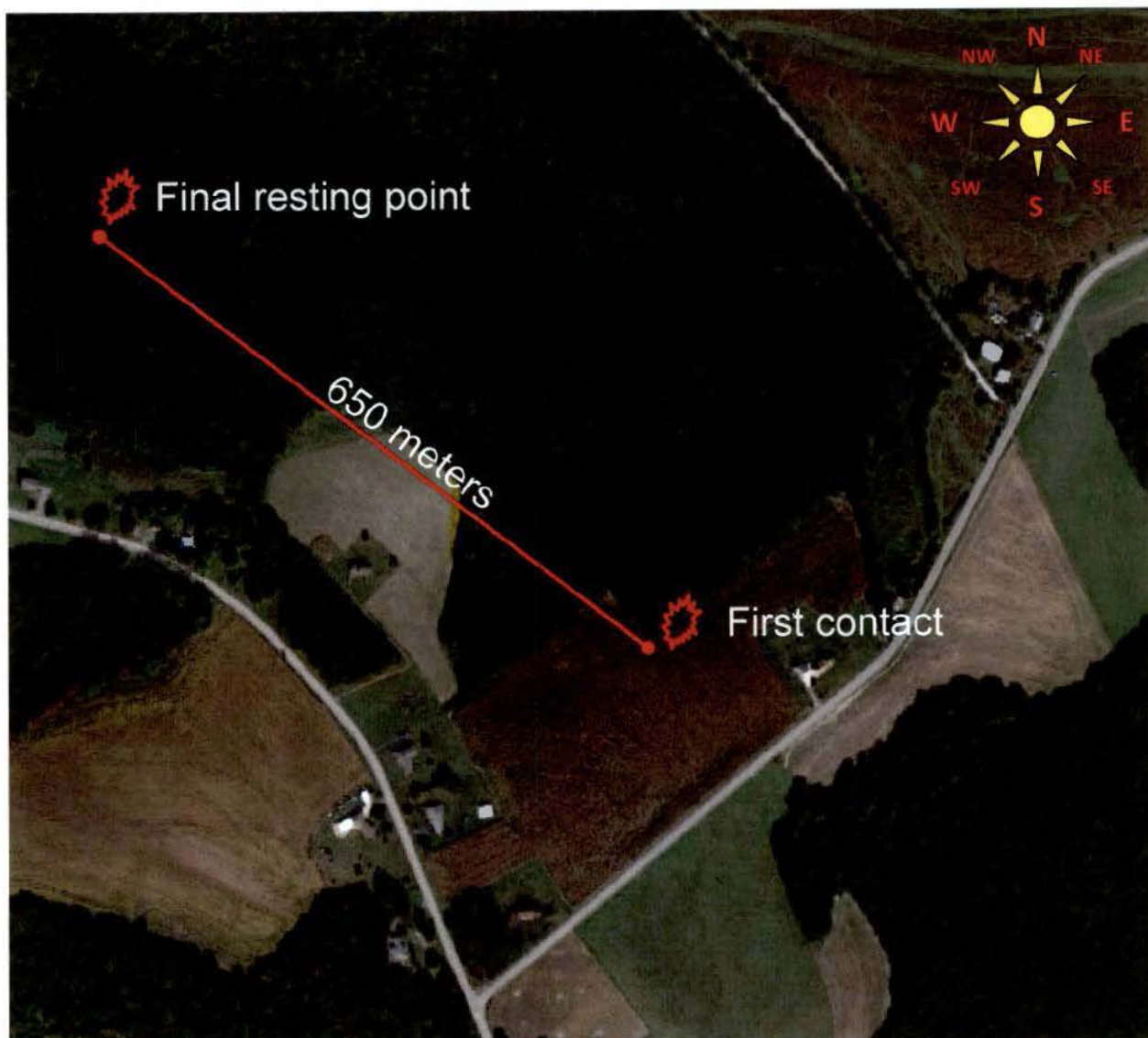
Map #1 -- 74 Meter Aerostat, 74M002, Edgewood, MD, 28 October 2015

Location of Mobile Mooring Station near Edgewood of Aberdeen Proving Grounds.



Map #2 -- 74 Meter Aerostat, 74M002, Edgewood, MD, 28 October, 2015

Location of Mobile Mooring Station near Baltimore, final landing area near Williamsport.



Arial View -- 74 Meter Aerostat, 74M002, Edgewood, MD, 28 October 2015

Shows the direction the aerostat was drifting.

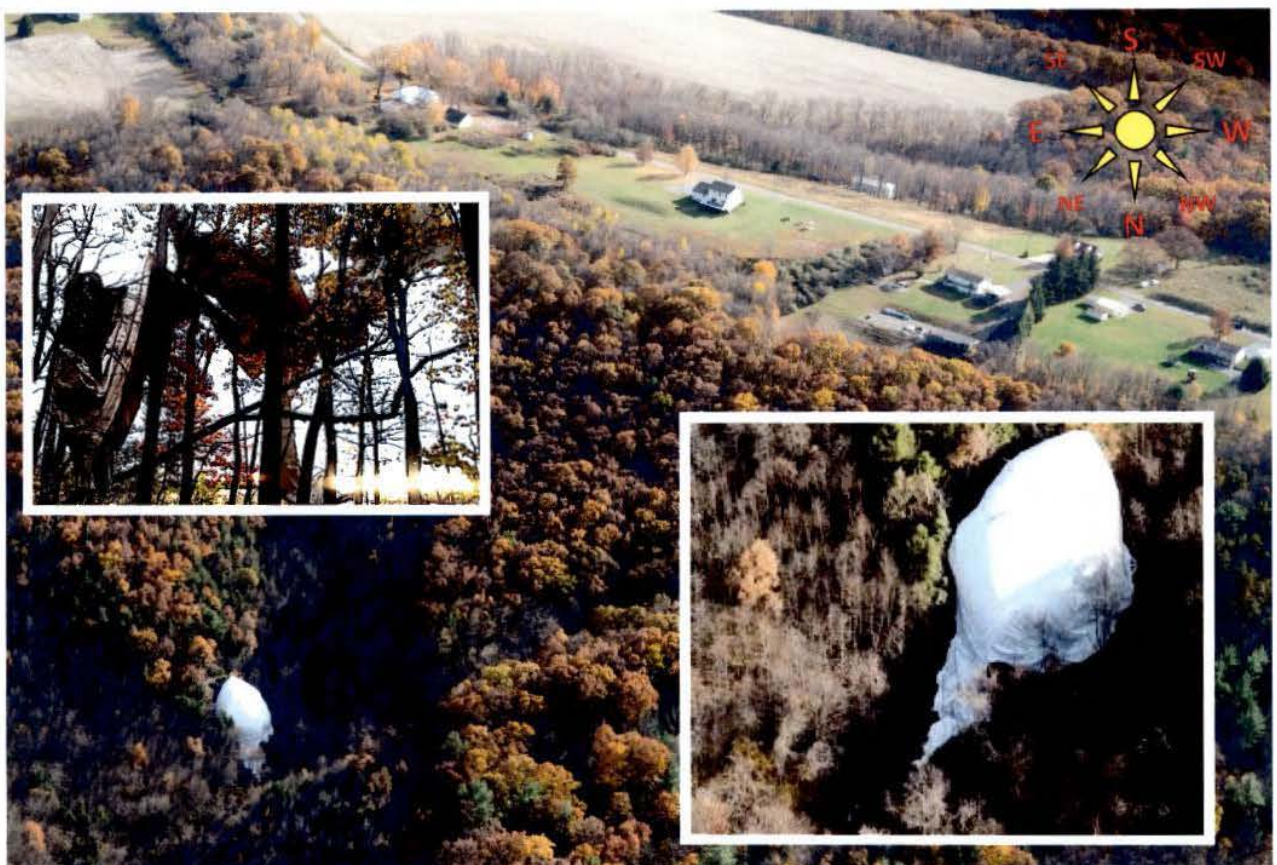


Photo -- 74 Meter Aerostat, 74M002, Edgewood, MD, 28 October 2015

Final resting place of aerostat pieces.

AMCC-QAE-C

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USACRC 16-301

CORPUS CHRISTI ARMY DEPOT
ANALYTICAL INVESTIGATION BRANCH
AMCC-QAE-C
308 CRECY STREET
CORPUS CHRISTI, TX 78419-5260

OPERATING ACTIVITY:
COMMANDER
UNITED STATES ARMY COMBAT READINESS CENTER:
ACCIDENT BOARD PRESIDENT
ATTN: MAJ (b)(6)
BLDG 4905, 5TH AVENUE
FORT RUCKER, AL 36362-5363

INVESTIGATORS:

(b)(6)
(b)(6) Air Safety Investigator, DSN (b)(6) 20 January 2016
Date

APPROVAL:

(b)(6)
(b)(6) Senior Air Safety Investigator, DSN (b)(6) 20 January 2016
Date

FOR THE COMMANDER:

(b)(6)
(b)(6) Chief, Analytical Investigation Branch, DSN (b)(6) 20 January 2016
Date

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END ITEM (AIRCRAFT TYPE): JLENS
END ITEM SERIAL NUMBER: 74M002

EXHIBIT:

NOMENCLATURE: Aerostat
NATIONAL STOCK NUMBER (NSN): None
SERIAL NUMBER (S/N): 74M002
PART NUMBER (P/N): 3D16667
REMOVAL CODE: 675
REMOVAL DATE: 28 October 2015
REASON FOR REMOVAL: Crash Damage
PRIOR REPAIR (REFURB): 1
USAGE SINCE NEW (HOURS): 7373.6
USAGE SINCE REPAIR (RESET): Not Applicable (NA)
DATE LAST REPAIR: 19 December 2014
LAST OVERHAUL/REPAIR ACTIVITY: TCOM
DA2410 CONTROL NUMBER: NA

PRIMARY FAILED PART(S):

NOMENCLATURE: Fin Tip Pole Joint 2
PART NUMBER: 4D00368H05
SERIAL NUMBER: NA
MANUFACTURER'S CODE: 0J6J5
FAILURE CODE: 021 (Over loaded)

NOMENCLATURE: Coupling (X2)
PART NUMBER: 4D00253G01
SERIAL NUMBER: NA
MANUFACTURER'S CODE: 0J6J5
FAILURE CODE: 021

BACKGROUND/REQUEST:

1. The accident aerostat was a Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS), S/N 74M002, assigned to (b)(3) at Aberdeen Proving Ground (APG), Maryland (MD). On October 28, 2015, the base station at G-Field on APG lost telemetry with the prototype JLENS Fire Control Radar System (FCS) aerostat at 15:47:36 Coordinated Universal Time (UTC) due to a disconnect with the tether cable. The aerostat flight log reported in the 15:30 entry that 6602 feet of tether was deployed when it broke free from its mooring station. The majority of the tether remained attached as the aerostat drifted north by northwest. At approximately 20:00 UTC, the JLENS FCS aerostat grounded in a rugged, wooded area in northeast Pennsylvania.

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2. The aerostat hull was secured, recovered, and transported from the accident site to the TCOM LP Manufacturing and Flight Testing Facility (MFTF) at Elizabeth City, North Carolina (NC). The mission equipment and associated hardware/racks was secured at the G-Field storage facility.

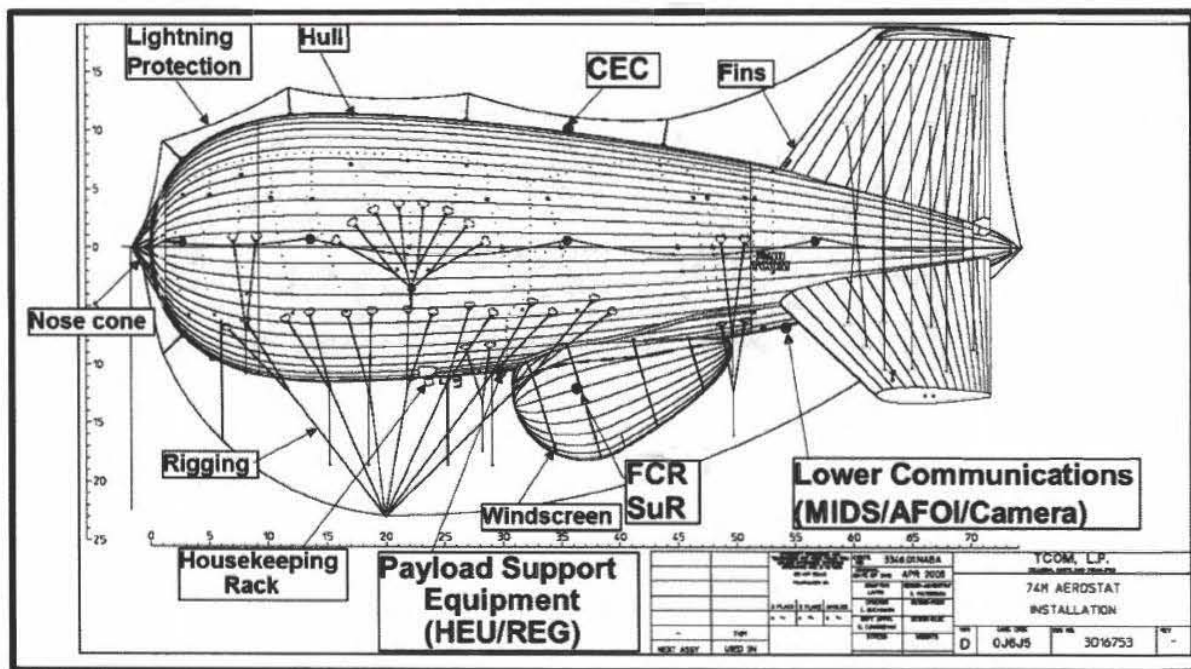
3. There was not a post-crash fire. The Corpus Christi Army Depot (CCAD), Analytical Investigation Branch (AIB), was requested to assist in the materiel factors portion of the investigation in support of the United States Army Combat Readiness Center (USACRC).

CONCLUSIONS:

1. (b)(5)

2. (b)(5)

Background:



JLENS 74M Aerostat

1. Post-recovery observations and assessment of the aerostat hull wreckage was accomplished at the TCOM MFTF location at Elizabeth City, N.C.

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2. Review of the TCOM, L.P. records indicate the forty foot Environmental Control Unit (ECU) International Organization for Standardization (ISO) and 74 meter Aerostat Cart and Assembly, TCOM part number (P/N) 4D01177G01, was accepted by Raytheon Integrated Defense Systems (IDS) and entered into service 18 August 2010. It was delivered to Dugway Proving Ground (DPG), Utah Test and Training Range (UTTR). The aerostat returned to TCOM, L.P. on 30 June 2014 to inspect, repair, as necessary (IRAN) and was completed 19 December 2014. Raytheon IDC accepted the Aerostat Cart and Assembly on 10 February 2015. The Aerostat Cart and Assembly was transferred to Aberdeen Proving Grounds (APG) on 12 February 2015.

3. TCOM, L.P. records indicate the mobile mooring station (MMS), TCOM P/N 4D00002G01, S/N 74M001, entered service on 14 June 2010 (Photo 1). The MMS transferred directly from DPG UTTR to APG.

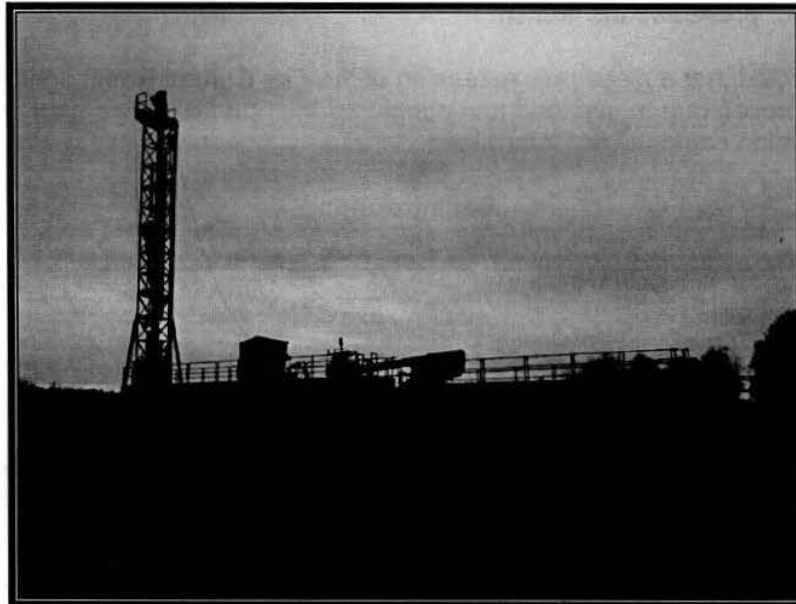


Photo 1, Mobile Mooring Station, S/N 74M001

4. TCOM, L.P. records indicate the tether, TCOM P/N 3D16935H01, S/N 010, completed the acceptance tests and checks on 14 March 2014. The tether was shipped to APG on 04 December 2014. The tether returned to MFTF for a rework on 17 March 2015, then returned to APG on 14 July 2015.

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ON SITE OBSERVATIONS:

Aerostat Hull

1. Aerostat fabric was analyzed by Natick Labs, Raytheon, and TCOM. Fabric was analyzed against the strain and stress numbers of the original fabric verses a fabric which has been in the operational environment. Testing was performed at Elizabeth City.
2. The aerostat hull was laid out in sections and the damage was mapped on engineering drawings. The damage will be referred to as location numbers (LN) found on the drawings. This information was extracted from the information compiled by Natick Labs and TCOM, LP.
3. The port fin was observed at the landing location deflated with a long portion of the trailing edge severed (Photo 2). The tear began at the leading edge and terminated at 13.8 (LN 1). There were two punctures (LN 3, 7), one that penetrated the air inflated spar. Two other spars were ripped and torn (LN 4, 6).¹

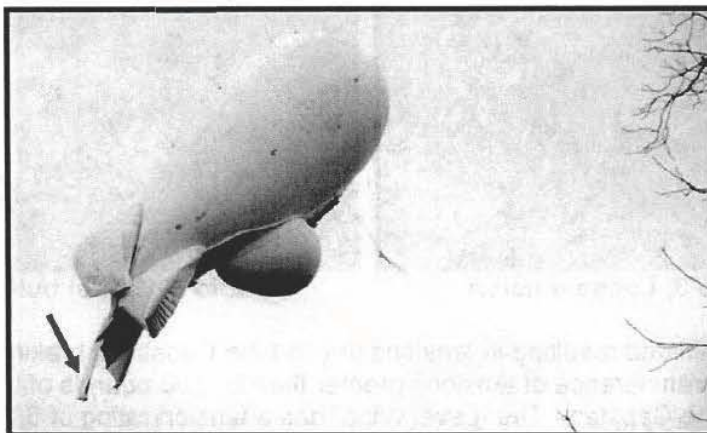


Photo 2, Port fin tear

4. The starboard fin displayed two small punctures. Load patches #F10 and #F12 failed in the peel (LN 6, 7). (b)(5) Upper spars were torn out (LN 2). Spar 3 was torn out (LN 9).²
5. The vertical fin displayed a failure at load patch #3 that followed the gore seal through the leading edge (LN 1). Load patch 7 failed along the hinge line then followed the outer webbing along the gore seal to the leading edge (LN 2). A puncture intersected and a tear proceeded 41" toward the trailing edge and 48" toward the tip (LN 3). (b)(5)

¹ TCOM drawing, 74M.002, Port Fin Assembly, Final (Preliminary) Inspection (Encl 1)

² TCOM drawing, 74M.002, Starboard Fin Assembly, Final (Preliminary) Inspection (Encl 2)

³ TCOM drawing, 74M.002, Vertical Fin Assembly, Final (Preliminary) Inspection (Encl 3)

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6. All three Fin Root Bulkheads (FRB) were torn through between 7.1 meter mark (MM) and 7.4MM with the starboard having a 65" tear.⁴

7. The diaphragm displayed a tear at the T-Tape bead 8.5" from port FRB to 9" past the starboard FRB.⁵

8. The aft hull assembly (cap) displayed an outer tear around 67.8MM.⁶ The aft hull assembly cap was discovered a distance from the main hull at the landing location.

Mobile Mooring Station

1. Visual inspection revealed the tie down straps were loose (Photo 3) and movement of the outriggers (Photo 4). This was typical at all four outriggers.



Photo 3, Loose tension



Photo 4, Gravel buildup

2. The port fin deflated resulting in tensions beyond the Capstan's braking capability and allowed the transference of tensions greater than 64,300 pounds of tension to propagate past the Capstan. The "Level Wind" has a tension rating of 5,000 pounds, and an estimated tension of up to 100,000 pounds of tension reached the capstan, translating 40,000 pounds of tension to the level wind resulting in an explosive detachment of the "Level Wind" sheave (Photo 5) from its mounts (Photo 6) that catapulted it into the ceiling of the MMS denting the ½" thick steel support beams in two places forward of its original position. This resulted in the tether being crimped in the tunnel entrance into the capstan module from the Level Wind. The tether continued to out spooled at 18 RPMs and allowed the damaged tether to transit the capstan to the outfeed where it failed.

⁴ TCOM drawing (Encl 4)

⁵ TCOM drawing, 74M Diaphragm (Encl 5)

⁶ TCOM drawing, 74.002 Aft Hull Assembly Final (Preliminary) Inspection (Encl 6)

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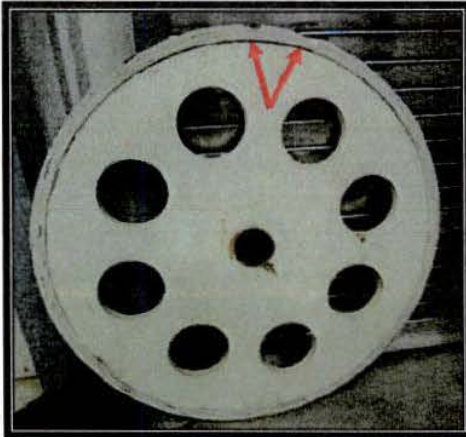


Photo 5, Damaged level wind sheave

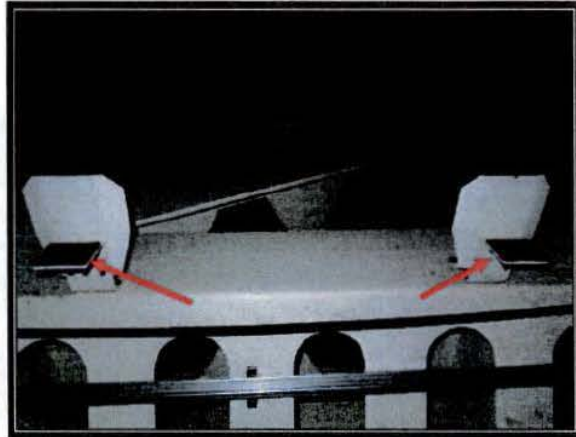


Photo 6, Sheave mounts

Tether

The tether has been sectioned and stored at the G-Field storage facility. The location of the separation measurement is pending. Tether is being analyzed by CID, Raytheon, and TCOM. Tether is being pull tested for tensile strength verses claimed. Tests are being conducted at TCOM Elizabeth City. Test are being conducted 11/13/15. CID testing is unknown.

Hardware

1. All thirteen standoff poles were recovered (Photo 7).



Photo 7, Thirteen standoff poles.

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2. The "wishbone" was visually inspected with one section missing (Photo 8). The Fin Tip Pole Assembly was visually inspected.

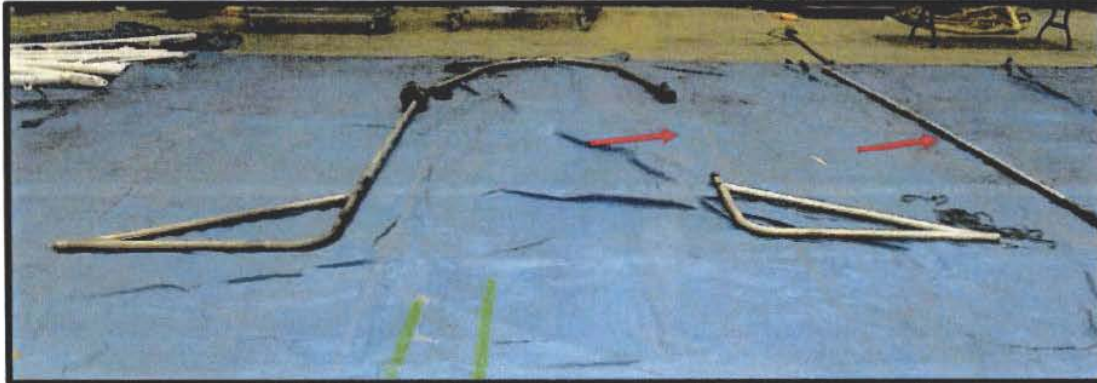


Photo 8, Wishbone missing section, Fin Tip Pole Assembly

DETAILS/FINDINGS:

1. The Fin Tip Pole Assembly was transported to the CCAD AIB for failure analysis.⁷ Fin tip pole 3 (4D00368H04) was found to be installed inverted to its normal position. Note 5 from the engineering drawing states that fins 2, 3, 4, 5 and 6 should be installed with matching letters to insure proper assembly of the fin tip pole. (b)(5)

2. Fin tip pole joint 2, and the couplings between fin tip pole 1 and fin tip pole 2 and fin tip pole 4 and fin tip pole 5, fractured due to overload. Tensile and shear features were seen throughout the fracture surfaces of all the components. It could not be determined what failed first, whether any of the fractures occurred in flight, or if they all failed on impact. Dirt deposits were present on the inner diameter of both couplings. There were no signs of corrosion around the area of fracture on either coupling.

3. Fin tip pole joint 2, and the couplings between fin tip pole 1 and fin tip pole 2 and fin tip pole 4 and fin tip pole 5, met material and hardness requirements, as per the engineering drawings.

⁷ CCAD Materials Engineering Branch, Laboratory report # 201601929, dated 19 January, 2016

RECOMMENDATIONS:

None

DISPOSITION:

After the USACRC investigation was completed, the aircraft was released to the owning unit.

DISTRIBUTION:

COMMANDER

United States Army Combat Readiness Center, Accident Board President, ATTN: Major

(b)(6)

Bldg. 4905, 5th Avenue, Fort Rucker, AL

(b)(6)

(b)(5)



(b)(5)

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(b) (5)

	<p>Department of the Army Corpus Christi Army Depot Corpus Christi, Texas 78419-5260 AMCC-QAE-B</p> <p>MATERIALS ENGINEERING BRANCH</p> <p>LABORATORY REPORT 201601929</p>	
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FOR: USACR 16-301

REQUESTER: (b)(6)

PREPARED BY:	(b)(6)	14 Jan 2016
	For (b)(6) Materials Engineering	Date
REVIEWED BY:	(b)(6)	15 Jan 2016
	(b)(6) Materials Engineer	Date
RELEASED BY:	(b)(6)	19 Jan 2016
	(b)(6) Ch, MEB	Date

SUBJECT

Part Fin Tip Pole Assembly, Part Number (P/N) 4D00368, Serial Number (S/N) Unknown, CAGE 0J6J5

Tech Data TCOM, L.P., DWG 4D00368, Fin Tip Pole Assembly
(Sht #s 1 of 3, 2 of 3 & 3 of 3)
TCOM, L.P., DWG 4D00253, Coupling (Sht #s 1 of 2 & 2 of 2)

Aircraft JLENS Aerostat

Major Assembly Fin Tip Pole Assembly

Material 6061-T6 (fin tip poles and couplings)

Keywords Failure Analysis

OBJECTIVES

1. To determine the failure mode of the fractured sections of the fin tip pole assembly.
2. To determine if the pin tip pole assembly meet material specifications.

CONCLUSIONS/RECOMMENDATIONS

1. Fin tip pole 3 (4D00368H04) was found to be installed inverted to its normal position. Note 5 from the engineering drawing states that fins 2, 3, 4, 5 and 6 should be installed with matching letters to insure proper assembly of the fin tip pole. (b)(5)

2. Fin tip pole joint 2, and the couplings between fin tip pole 1 and fin tip pole 2 and fin tip pole 4 and fin tip pole 5, fractured due to overload. Tensile and shear features were seen throughout the fracture surfaces of all the components. It could not be determined what failed first, whether any of the fractures occurred in flight, or if they all failed on impact.

3. Fin tip pole joint 2, and the couplings between fin tip pole 1 and fin tip pole 2 and fin tip pole 4 and fin tip pole 5, met material and hardness requirements, as per the engineering drawings.

4. Recommend all weldments on TCOM, L.P., DWGs 4D00368, Fin Tip Pole Assembly and 4D00253, Coupling be specified as AWS 17.1 Class C Weldments.

DETAILS OF ANALYSIS

Visual/Microscopic Observations- Sectioned portions, containing the fractured areas of the fin tip pole assembly, were submitted to the materials laboratory to determine failure mode and possible causes. Visual and binocular examinations revealed the following:

1. Fin tip pole 3 (4D00368H04) was installed inverted to its normal position. The letters marked on fin tip pole joint 1 (4D00368H03) and fin tip pole 3 (4D00368H04) were mismatched (A to B). The letters marked on fin tip pole 3 (4D00368H04) and fin tip joint 2 (4D00368H05) were also mismatched (Figure 1).

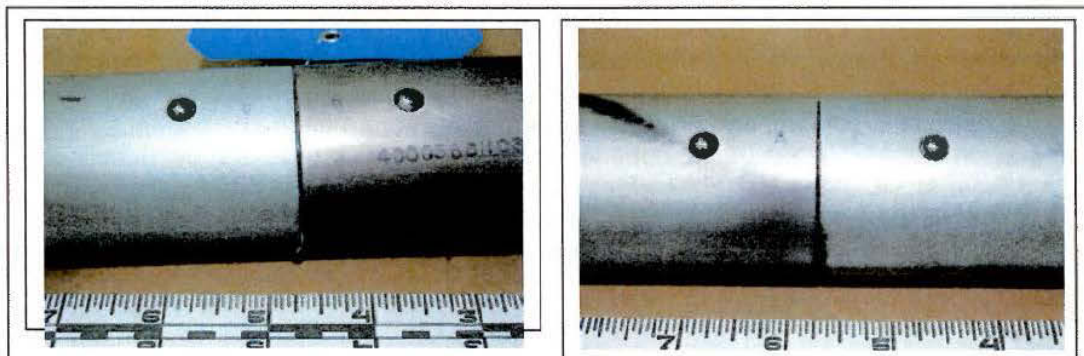


Figure 1 – Views showing the mismatched lettering on fin tip pole joint 1 and fin tip pole 3 (top left, shown at ~0.8X). The letters marked on fin tip pole 3 and fin tip joint 2 were also mismatched (top right, shown at ~1X).

2. A fracture occurred at the right hand bushing of fin tip pole joint 2 (4D00368H05). The fracture surface exhibited features associated with overload failures. Areas of shear lips were present around the entire circumference of the fracture. Areas of rubbing and smearing were also noted on the fracture surface. Buckling of the pole occurred at the terminal end of the failure (Figure 2).

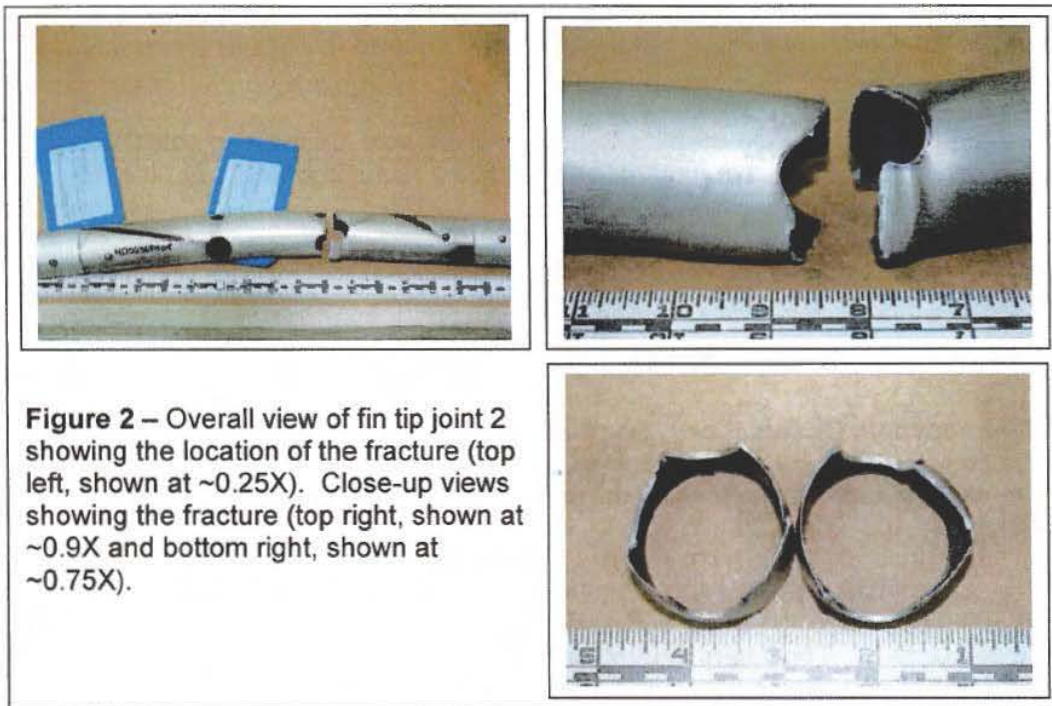
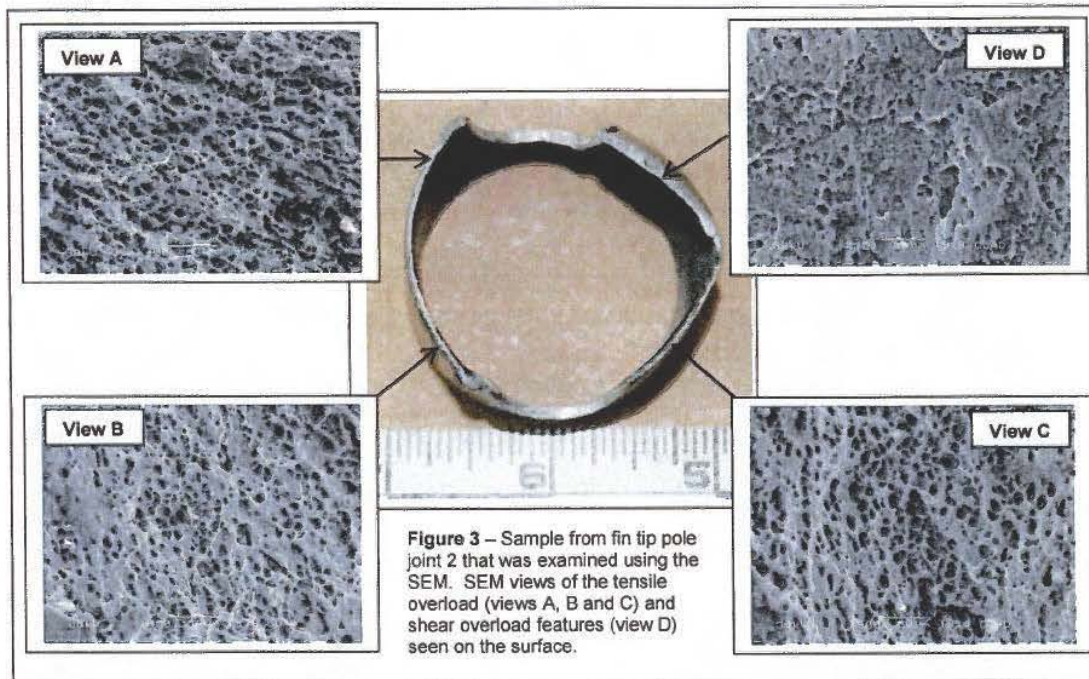


Figure 2 – Overall view of fin tip joint 2 showing the location of the fracture (top left, shown at ~0.25X). Close-up views showing the fracture (top right, shown at ~0.9X and bottom right, shown at ~0.75X).

One of the fracture surfaces from the fin tip pole joint 2 was sectioned and prepared for examination using the Scanning Electron Microscope (SEM). The fracture originated from the right hand bushing and progress around and through the pole. SEM examination revealed areas of cup cone topography, indicative of tensile overload, around the majority of the fracture surface. Where the pole buckled and experienced the terminal failure was found to be more of a shear overload (Figure 3). No other anomalies were noted on the fracture surface which might have contributed to the fracture.



3. A fracture occurred at the coupling (4D00253G01) between fin tip pole 1 (4D00368H01) and fin tip pole 2 (4D00368H02). The fracture surface exhibited shear lips around the entire circumference of the tube (Figure 4). The fracture extended through the weld bead that holds the spring plunger. Discoloration that was present on the fracture surface was determined by Energy Dispersive X-ray (EDX) analysis to be dirt deposits. There were no signs of corrosion around the area of fracture.

