UNITED STATES AIR FORCE
AIRCRAFT ACCIDENT INVESTIGATION
BOARD REPORT

HH60W, TAIL NUMBER 21-4513

33rd RESCUE SQUADRON
18th WING
KADENA AIR BASE

LOCATION: KADENA AIR BASE, OKINAWA, JAPAN

DATE OF ACCIDENT: 22 APRIL 2025

BOARD PRESIDENT: BRIGADIER GENERAL W. ALAN MATNEY

Conducted in accordance with Air Force Instruction 51-307

EXECUTIVE SUMMARY
UNITED STATES AIR FORCE
AIRCRAFT ACCIDENT INVESTIGATION

HH60W, Tail Number 21-4513
Kadena Air Base, Okinawa, Japan
22 April 2025

At approximately 0930 local on 22 April 2025, an HH60W aircraft—tail number 21-4513—approached Kadena Elementary School at Kadena Air Base, Okinawa, Japan, to conduct an aerial demonstration recognizing April as "Month of the Military Child." An aircrew from the Kadena-based 33rd Rescue Squadron, assigned to the 18th Wing, operated the helicopter. When the aircraft approached the designated landing zone at the school, a civilian spectator (and teacher for the Department of Defense Education Activity) fell on a concrete walkway, suffering severe head injuries. The severity of the victim's head injuries put her in a grave medical condition with low prospects for survival. Emergency medical personnel arrived at the school within minutes and immediately transferred the victim to U.S. Naval Hospital Okinawa via ambulance. Despite emergency medical efforts by doctors at the Naval Hospital and nearby Ryukyu University Hospital, the victim died from her head injuries on 27 April 2025. There were no other fatalities or significant injuries resulting from the accident.

Evidence from the accident directly links the victim's fall to rotor wash—air flow generated from a helicopter's rotor blades—from the HH60W. The initial wind flow caught an umbrella hooked on her left arm, causing the victim to struggle with the umbrella before the rotor wash briefly forced it open. The force of the rotor wash in her open umbrella rapidly pulled the victim off balance and down to the concrete walkway, resulting in head injuries much more severe than those typically associated with a routine fall.

The President of the Accident Investigation Board found, by a preponderance of the evidence, that the cause of the mishap was insufficient distance between the HH60W and the victim. The helicopter's proximity to the accident victim exposed her to rotor wash that knocked her to the ground, causing fatal head injuries.

Additionally, the Board President found, by a preponderance of the evidence, that there were three substantially contributing factors to the accident: (1) failures in mission planning and poorly staffed oversight processes (allowing deviation from safe spectator distances specified in the governing Air Force Instruction and the event's concept of operations); (2) the combined impact of the victim's umbrella and age on her ability to withstand rotor wash; and (3) an operational mindset fostering a false confidence of safety.

SUMMARY OF FACTS AND STATEMENT OF OPINION

HH60W, TAIL NUMBER 21-4513
KADENA AIR BASE, OKINAWA, JAPAN
22 APRIL 2025

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS

5 AF	5th Air Force
18 OG	18th Operations Group
18 WG	18th Wing
31 RQS	31st Rescue Squadron
33 RQS	33rd Rescue Squadron
33 HMU	33rd Helicopter Maintenance Unit
AB	Air Base
ACE	Agile Combat Employment
AES	Amelia Earhart School
AF	Air Force
AFI	Air Force Instruction
AFLCMC	Air Force Life Cycle Management Center
AFMAN	Air Force Manual
AIB	Accident Investigation Board
AIE	Alternate Insertion Extraction
AO	Administrative Officer
AOC	Air Operations Center
ATO	Air Tasking Order
AV	Accident Victim
BES	Bechtel Elementary School
BHNT	Bechtel Host Nation Teacher
BR	Bechtel Registrar
CC	Carbon Copy
CDI	Commander Directed Investigation
CE	Civil Engineering
COMPACAF	Commander of the Pacific Air Forces
CONOP	Concept of Operations
CSAR	Combat Search and Rescue
CSARTE	Combat Search and Rescue Training Exercise
CSS	Commander's Support Staff
CT	Computed Tomography
CTS	Combat Training Squadron
KAB	Kadena Air Base
DAF	Department of the Air Force
DAFI	Department of the Air Force Instruction
DAFMAN	Department of the Air Force Manual
DECOM	Deputy Commander
DECOMPACAF	Deputy Commander Pacific Air Forces
DO	Director of Operations
DoD	Department of Defense
DoDEA	Department of Defense Education Activity
DOW	Director of Operations Weapons
DOX	Director of Planning
DUI	Driving Under the Influence
DWCS	Deputy Wing Chief of Safety
EKG	Electrocardiogram
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
eSSS	Electronic Staff Summary Sheet
GC	Ground Controller
GCS	Glasgow Coma Scale
GS	General Schedule
HFACS	Human Factors Analysis and Classification System
HHQ	Higher Headquarters
HLZ	Helicopter Landing Zone
ICS	Integrated Cockpit Sensing
IG	Inspector General
IP	Initial Point
IPR	In-Process Review
ISB	Interim Safety Board
ISIS	Islamic State in Iraq and Syria
JPRC	Joint Pacific Readiness Center
KAO	Kadena Administrative Officer

KAP	Kadena Assistant Principal
KES	Kadena Elementary School
KFP	Kadena Former Principal
KHNT	Kadena Host Nation Teacher
LASIK	Laser-Assisted in Situ Keratomileusis
LZ	Landing Zone
LZL	Landing Zone Lead
MAJCOM	Major Command
MCP	Mishap Copilot
MLC	Master Labor Contract
MP	Mishap Pilot
MSG	Mission Support Group
MUNS	Munitions
NCO	Non-commissioned Officer
NCOIC	Non-commissioned Officer in Charge
NOTAM	Notice to Airmen
ODB	Okinawa Defense Bureau
OG	Operations Group
OGB	Operations Group
OIC	Officer In Charge
OPB	Officer Performance Brief
OPS	Operations
ORM	Operational Risk Management
OSHA	Occupational Safety and Health Administration
OSI	Office of Special Investigations
OSS	Operations Support Squadron
PA	Public Affairs
PE	Physical Education
PACAF	Pacific Air Forces
PACAF/A3	Pacific Director of Air Operations
PACAFSUP	Pacific Air Forces Supplement
PCS	Permanent Change of Station
PJ	Pararescue
PO	Project Officer
POC	Point of Contact
PRCC	Personnel Recovery Coordination Cell
RA	Resource Advisor
ROTC	Reserve Officers' Training Corps
RQS	Rescue Squadron
SA	Situational Awareness
SAT	Satellite
SEL	Senior Enlisted Leader
SFS	Security Forces Squadron
SIB	Safety Investigation Board
SLO	School Liaison Officer
SME	Subject Matter Expert
SOS	Squadron Officer School
TDY	Temporary Duty
T/N	Tail Number
UCMJ	Uniform Code of Military Justice
URH	University of the Ryukyus Hospital
USNHO	U.S. Naval Hospital Okinawa
UTC	Unit Type Code
VML	Voluntary Military Leverage
VR	Virtual Reality
WETPASTE	Winds, Elevation, Temperature and Pressure Altitude, Power available, Approach, Suitability /size/shape/slopes, Touchdown point, Escape
WG	Wing
WC	Wing Commander
WSO	Wing Safety Office
XP	Plans and Programs Office

SUMMARY OF FACTS

1. AUTHORITY AND PURPOSE

a. Authority

On 27 August 2025, Lieutenant General Laura L. Lenderman, Deputy Commander for Pacific Air Forces (PACAF), as the Convening Authority, appointed Brigadier General W. Alan Matney as Board President of an Accident Investigation Board (AIB) (Tab Y-4 to Y-5). She convened the AIB to investigate a Class A Mishap on 22 April 2025 that resulted in the death of a spectator at an HH60W aerial demonstration at Kadena Elementary School (KES) on Kadena Air Base (KAB), Okinawa, Japan (Tabs Y-3 to Y-5 and EE-7). The Convening Authority also appointed additional board members: a Legal Advisor (Major), a Pilot Member (Major), a Medical Member (Major), and a Recorder (Senior Airman) (Tab Y-7). This investigation was conducted at KAB, Okinawa, Japan, from 18 September 2025 through 17 October 2025.

b. Purpose

In accordance with Air Force Instruction (AFI) 51-307, *Aerospace and Ground Accident Investigations*, this AIB conducted a legal investigation to inquire into all facts and circumstances surrounding this Air Force aerospace accident, prepare a publicly releasable report, and obtain and preserve all available evidence for use in litigation, claims, disciplinary action, and adverse administrative action.

2. ACCIDENT SUMMARY

At approximately 0930 Japan Standard Time on 22 April 2025, an HH60W, tail number (T/N) 21-4513, was involved in an accident that occurred during an aerial demonstration at KES to recognize the "Month of the Military Child" (Tabs A-3, V-8.2, V-8.6, Z-3 to Z-6, Z-11, EE-7, and EE-49). The Mishap Pilot (MP), Mishap Copilot (MCP), and Mishap Aircraft were assigned to the 33rd Rescue Squadron (33 RQS), 18th Wing (18 WG), KAB, Okinawa, Japan (Tab AA-7). During the aerial demonstration, the wind generated by the HH60W caused a 60-year-old Japanese civilian and Department of Defense Education Activity (DoDEA) employee (referred to in this report as the Accident Victim [AV]) to fall on a concrete walkway and sustain severe head injuries that proved fatal (Tabs Z-7 to Z-11, Z-17, CC-13 to CC-14, EE-49, and GG-3 to GG-4). Bystanders immediately called Emergency Medical Services (EMS) personnel, who responded within minutes (Tabs C-36 to C-38, Z-17, CC-13, and GG-3). EMS personnel transported the AV to U.S. Naval Hospital Okinawa (USNHO), where she underwent evaluation and stabilization prior to being transferred to the University of the Ryukyus Hospital (URH) (Tabs GG-3 to GG-4). She died on 27 April 2025 at URH (Tabs EE-50 and GG-4). There were no other fatalities or significant injuries resulting from the accident (Tab P-3).

3. BACKGROUND

a. PACAF

PACAF's primary mission is to deliver rapid and precise air, space, and cyberspace capabilities to protect and defend the United States, its territories, and our allies and partners; provide integrated air and missile warning and defense; promote interoperability throughout the Pacific area of responsibility; maintain strategic access and freedom of movement across all domains; and posture to respond across the full spectrum of military contingencies in order to restore regional security (Tab BB-173). The command's vision is to provide combat-ready American Airmen who are the foundation of Pacific stability and security (Tab BB-173). PACAF's area of responsibility is home to 60 percent of the world's population in 38 nations spread across 52 percent of the Earth's surface and 16 time zones, with more than 1,000 languages spoken (Tab BB-173). The unique location of the strategic triangle (Hawaii-Guam-Alaska) gives the United States persistent presence and options to project U.S. airpower from sovereign territory (Tab BB-173).

b. 5th Air Force (5 AF)

Headquartered at Yokota Air Base, Japan, 5 AF's mission is to support the defense of Japan, advance U.S. interests, and promote broader Indo-Pacific security and stability by advancing bilateral air, space, and cyberspace capability and interoperability, and ensuring USAF forces are ready to respond rapidly to a crisis or contingency (Tabs BB-179 and BB-449).

c. 18th Wing (18 WG)

Located at KAB, Okinawa, Japan, the mission of the 18 WG is to project decisive airpower to ensure regional stability and security, deter regional aggression, and defend Japan and the first island chain in coordination with allies and partners (Tabs BB-177 and BB-449).

d. 18th Operations Group (18 OG)

The 18 OG manages the flight activities of KAB, bringing American airpower to the farthest reaches of the globe with operations that include search and rescue, air refueling, aeromedical evacuation, airborne air control, and intelligence, surveillance, and reconnaissance (Tab BB-185). The 18 OG is responsible for operating F-15C, KC-135, RC-135, HH-60, E-3, and MQ-9 aircraft (Tab BB-185). Additionally, the 18 OG has administrative control and tactical control over rotational forces comprised of F-35, F-22, F-16, and F-15E aircraft to ensure uninterrupted air superiority in the Pacific during the F-15C divestiture (Tab BB-185).

e. 31st Rescue Squadron (31 RQS)

The 31 RQS trains, equips, and employs combat-ready rescue forces worldwide in support of U.S. national security interests, providing survivor training, contact, support, recovery, and reintegration during rescue operations (Tab BB-41). The 31 RQS uses various fixed-wing and rotary-wing insertion and extraction methods, employing by any means necessary to conduct combat, civil, and humanitarian missions at any time and under any condition (Tab BB-41).

f. 33rd Rescue Squadron (33 RQS)

The 33 RQS is a combat-ready HH60W squadron providing search, rescue, and recovery services in support of U.S. national interests (Tab BB-42). The squadron maintains readiness for short-notice mobilization, deployment, and employment of helicopters and rescue forces supporting U.S. Indo-Pacific Command operational plans and higher headquarters directed contingency operations (Tab BB-42). It also deploys throughout the world supporting theater commanders and demonstrating U.S. Air Force interoperability and engagement strategy with allies and joint partners (Tab BB-42).

g. HH60W Combat Rescue Helicopter

The HH60W Jolly Green II replaces the HH60G Pave Hawk as a dedicated combat rescue helicopter with a mission to recover isolated personnel from hostile or denied territory, day or night, in adverse weather, and in a variety of threat environments—from terrorist to chemical, biological, radiological, and nuclear—with a secondary mission to conduct humanitarian missions, civil search and rescue, disaster relief, medical evacuation, and non-combatant evacuations (Tab BB-213). The HH60W gained operational capability in 2022 (Tab BB-214). Its dimensions and characteristics include: rotor diameter of 53.6 feet; 64.7 feet long; 16.7 feet high; operating weight of 22,500 pounds; airspeed of 176 miles per hour at sea level; range of 690 miles with air refueling capabilities; ceiling of 20,000 feet; and armament of two 7.62 mm miniguns or two .50-caliber machine guns (Tab BB-214).

4. SEQUENCE OF EVENTS

a. Mission

In February 2025, DoDEA officials requested that the 33 RQS perform aerial demonstrations at four schools on KAB to recognize April as "Month of the Military Child," allowing students the opportunity to observe military aircraft in operation and talk to crews (Tabs EE-3 to EE-5 and FF-3 to FF-5). The aerial demonstrations involved several helicopter movements (Tab EE-13). One HH60W planned to fly to Kadena High School, perform a pararescue team insertion, land, shut down, and provide a static display for the students (Tab EE-3). A second HH60W planned to perform the same maneuvers at KES (Tab EE-5). After completion of the static displays, both aircraft planned to depart and repeat the same events at other schools (Tab EE-5). The first

HH60W was scheduled to land at Bob Hope Elementary School and the second at Amelia Earhart Elementary School (Tab EE-5). After completion of the static displays, both aircraft were scheduled to depart their respective schools and conduct a training sortie (Tab EE-5).

b. Planning

i. 2025 Planning Informed by Previous Years' Events

Military Planning for the aerial demonstrations in 2025 at schools on KAB relied heavily on past planning for similar events in 2023 and 2024 (Tabs R-19, R-23, V-10.5, V-11.4, and V-13.12). Several witnesses stated that plans for the event in 2025 did not need significant changes because the previous years' events were executed without incident and were well received by the base community (Tabs R-19, V-3.6, V-10.5, and V-13.12).

The school demonstrations in 2023 and 2024 included nearly the same landing zones (LZ) as the demonstrations in 2025, with the event in 2025 adding only one new LZ at KES (Tabs EE-11 to EE-22 and FF-113 to FF-118). The events in 2023 and 2024 were summarized on a slide presentation called a concept of operations (CONOP) (Tabs FF-86 to FF-91 and FF-113 to FF-118). The CONOPs for 2023 and 2024 were near mirror-images of each other and outlined planning details for the events (Tabs FF-86 to FF-91 and FF-113 to FF-118). Both CONOPs stated that more than one squadron ground controller would be at each LZ to ensure safe crowd distances prior to any helicopter landing (Tabs FF-86 to FF-91 and FF-113 to FF-118). Each CONOP included images depicting helicopter LZs at schools and a written constraint stating that spectators would be at least 600 feet from the LZs (Tabs FF-86 to FF-91 and FF-113 to FF-118). Neither CONOP specifically described where spectator areas would be in relation to the LZs (either graphically or in writing) (Tabs V2.9, FF-86 to FF-91, and FF-113 to FF-118).

Planners for the school demonstrations in 2023 consulted the Wing Safety Office (WSO) and received an event risk assessment from the WSO as part of their planning (Tabs V-7.5 and FF-111 to FF-121). Planners for the event in 2024 did not consult the WSO but did receive approval to participate in the event from the PACAF Director of Air Operations (PACAF/A3) (Tabs V-7.6 and FF-123 to FF-126). Two participants who attended the school demonstrations in 2023 and 2024 estimated helicopters landed within 100 to 200 feet of spectators (Tabs V-2.13 and V-11.8).

ii. 2025 Event Planning for the LZ at KES—Specifying Spectator Areas

On 17 March 2025, the Project Officer (PO) and the LZ site survey lead (LZL) from the 33 RQS visited KES to conduct an LZ survey and meet with the Kadena Administrative Officer (KAO) (Tabs V-9.2, V-14.3, and V-15.8). During this meeting, the PO and LZL identified three spectator areas they assessed as safe for the HH60W demonstration at KES and then verbally informed the KAO about each area (Tabs R-23 to R-24, V-9.2 to V-9.3, V-15.15, and Z-4). The first two spectator areas were a basketball court and an amphitheater on the south side of the LZ (Tabs R-23 to R-24 and CC-3). The approximate distances from the first two identified spectator areas to the estimated flight path of the HH60W were 130 feet to the basketball court and 160 feet to the amphitheater (Tabs GG-5, V-9.11, V-9.12, and Z-5). The third identified spectator area was on the north side of the LZ along a road—regularly used for bus loading and unloading—that runs from east-southeast to west-northwest (Tabs V-1.3, V-15.11, V-15.24, and Z-5). Spectator

distances from this area to the estimated flight path depended on a spectator's placement relative to the road; 80 to 90 feet for the covered walkway on the south side of the road and 130 to 150 feet for the north side of the road (Tabs Z-5, Z-6, Z-11, Z-19, and GG-5).

The PO and LZL intended for spectators along the bus-loading road to be positioned on the *north* side of the road, roughly 45 feet back from the fence and covered walkway along the road's *south* side (Tabs V-15.11 and Z-5). The KAO stated that, during the site visit on 17 March 2025, he walked with the PO and LZL along a fence adjacent to the covered walkway (Tabs V-9.2 and V-9.3). Of note, the only fence along this road is at the edge of the grass on the road's south side, but the PO incorrectly recalled a fence on the north side (Tabs V-15.10, V-15.11, and Z-6). The KAO did not recall any conversation about the specific side of the road on which students and faculty members should stand (Tab V-9.3). Other than the PO and LZL, no other military members or school administrators recalled any guidance about the side of the road on which the spectators should be located (Tabs V-1.4, V-1.5, V-2.9, V-3.6, V-9.10, V-14.16, V-16.4, V-16.5, CC-3, and CC-5).

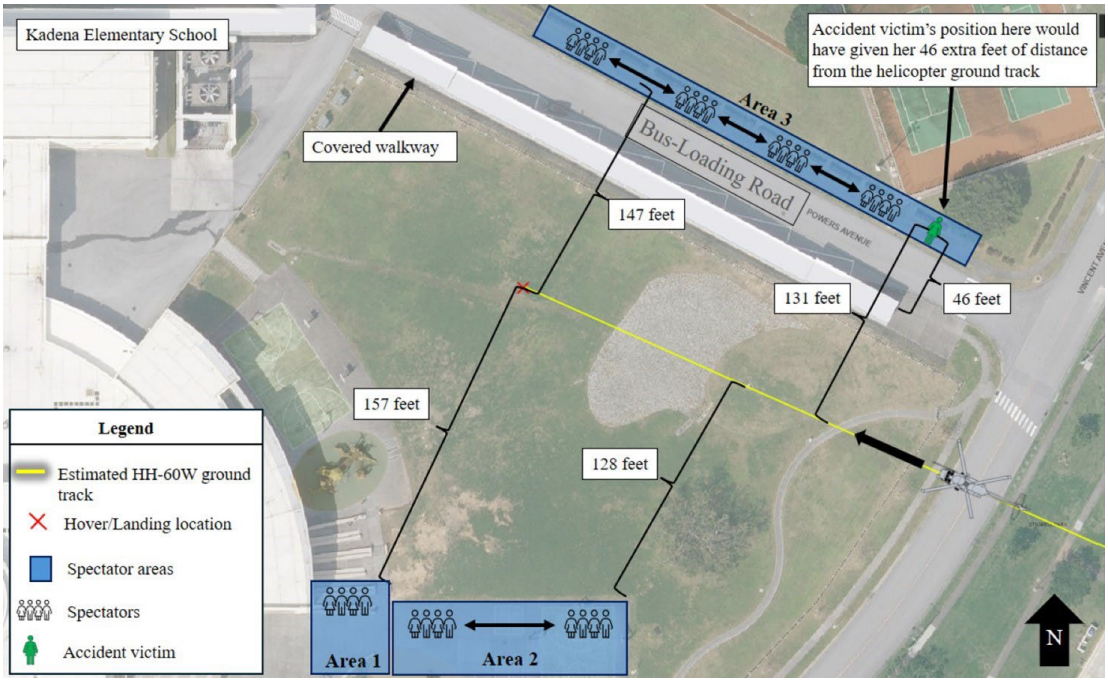

Figure 1. (Tab Z-5) Spectator Placement *Intended* by PO and LZL (*north* side of bus-loading road)

The PO and LZL did not document in writing the details of the spectator areas they selected, relying instead on verbal communication (Tabs V-14.12 and V-14.16). After verbally receiving details from the PO and LZL, the KAO verbally shared the details of the spectator areas with KES administrators, who in turn shared them with administrators from BES (Tabs V-3.5, V-8.2 to V-8.3, V-14.12, and V-14.16). The lack of written or documented instructions from military planners eventually led administrators from both KES and BES to create their own seating charts for the event, with both charts placing spectators from KES on a basketball court and amphitheater and spectators from BES along the bus-loading road (Tabs V-1.4, V-1.5, V-8.3, CC-

3, and CC-5). The chart for BES specifically placed the spectators from BES on the covered walkway on the south side of the road (Tab CC-3).

iii. 2025 Event Planning for the LZ at KES—Specifying Safe Distances

The aerial demonstration at KES in 2025 was governed by DAFI 11-209, *Participation in Aerial Events*, which provides guidance on the planning, approval, and execution of aerial demonstrations (Tabs BB-249 to BB-286). DAFI 11-209 requires that units planning aerial demonstrations identify an event organizer to be responsible for clearly designating spectator areas that maintain safe distances from the demonstration (Tab BB-264). The DAFI also requires a 500-feet distance between spectators and helicopter demonstrations (Tab BB-264).

The PO and the LZL determined spectator locations without applying the DAFI 11-209 standards for aerial demonstrations (Tabs V-14.10, V-15.13, and V-15.14). When discussing how they calculated safe distances during the LZ survey, both referenced the Department of the Air Force Manual (DAFMAN) 13-217 (*Drop Zone, Landing Zone, and Helicopter Landing Zone Operations*), the governing regulation for conducting LZ site surveys (Tabs V-14.10 and BB 289). One of the main purposes for LZL's visit to KES on 17 March 2025 was to conduct an LZ survey, since the event on 22 April was the first planned use of the LZ at KES (Tabs V-14.11 and V-15.8). Reviewers of the LZL's site survey work from 17 March 2025 decided not to complete the formal LZ survey, choosing instead to perform an in-flight survey called a high-low reconnaissance, which is permitted by Air Force Manual (AFMAN) 11-2HH-60W Vol 3 (Tabs V-11.4, V-11.5, V-14.3, and V-14.4). Both types of surveys are commonly used, and witnesses testified that the decision to use a high-low reconnaissance had no impact on safety (Tabs V-11.5 and V-14.17). Reviewers decided a high-low reconnaissance was most appropriate because the LZ at KES was intended to be a one-time LZ (Tab V-11.5)

DAFMAN 13-217 does not specify safe spectator distances, but the PO and LZL testified that they discussed safe distances regarding helicopter obstacle clearance and spectator areas during the LZ survey (Tabs V-14.10 to V-14.12, V-15.9, and V-15.10). The PO stated that his safe distance recommendations for KES were based primarily on previous years' LZs (Tabs V-15.12 to V-15.14). For example, he considered the distance from the center of a previous LZ at the Kadena High School football field to the bleachers, which he assessed to be approximately 50 yards (Tab V-15.13). Using that as a guide, he then estimated similar distances for spectator areas at KES (Tab V-15.14).

In considering safe distances for spectators, assessments by the PO and LZL also were informed by their experience in normal HH60W helicopter operations (Tabs R-23, R-24, and V-14.5). The LZL testified that he believes a safe spectator distance for non-trained aircrew would be at least one rotor disc, or 50 feet, away from a landing helicopter, as opposed to normal LZ operations, in which HH60W pilots can land within 25 feet of trained military aircrew and often as close as one foot away (Tabs V-11.8, V-11.9, V-14.9, V-15.10, and V-15.23). The LZL testified that he deferred the final decision regarding safe spectator distances to the PO (Tab V-14.13).

The PO testified to being uncertain about who had responsibility for determining safe spectator distances at KES (Tab V-15.20). The PO and LZL also testified they were unaware of the 500-feet distance required by DAFI 11-209 or the 600-feet distance specified in the event's CONOP

until after the accident on 22 April 2025 (Tab V-14.9, V-14.10, V-15.15, and V-15.16). No school administrators or staff were informed of the 500-feet or 600-feet requirements (Tab V-9.5).

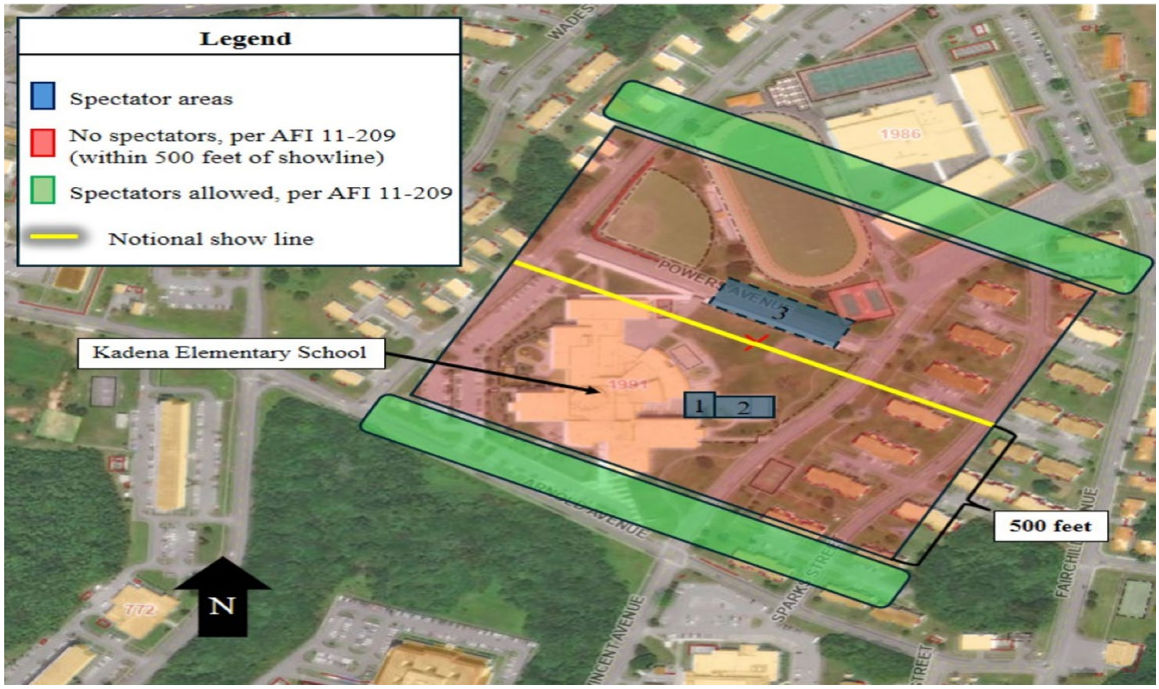

Figure 2. (Tab Z-4) Spectator Areas Relative to Required Safe Distance, per AFI 11-209 (500 feet)

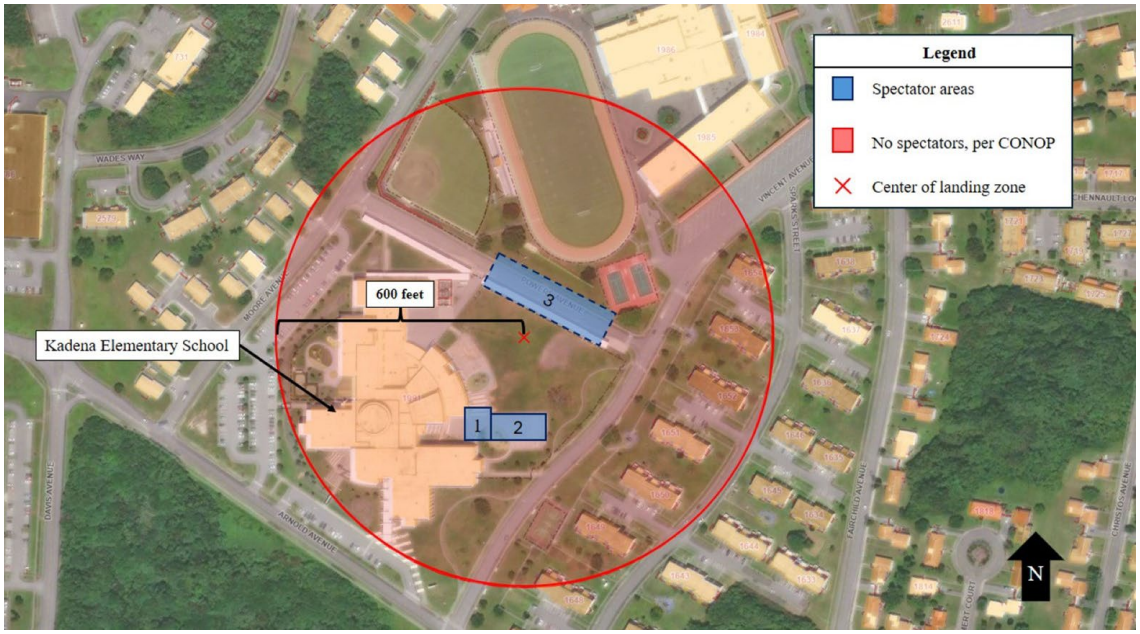

Figure 3. (Tab Z-5) Spectator Areas Relative to Required Safe Distance, per CONOP (600 feet)

iv. 2025 Event Planning for the LZ at KES—Final Mission Planning

In the days before the event on 22 April 2025, members of the 33 RQS completed several final planning steps for the event, including identifying aircrew and ground controllers (Tabs V-11.3, V-11.4, V-15.18, and V-16.3). The PO returned from an exercise in South Korea four days prior to the event, and the MP asked the MCP to join the aircrew two days before the event (Tabs R-26, R-27, V-11.3, V-11.21, V-11.22, and V-15.8).

The afternoon before the aerial demonstration at KES, the PO discovered that a previously scheduled volunteer ground controller could not attend the event, so he asked a new member of the squadron to be the replacement (Tabs V-15.18 and V-16.3). The newly assigned Ground Controller (GC) agreed to help and testified that the PO explained that her responsibilities were to ensure the LZ was clear of debris and to ensure no students ran out into the field during the helicopter landing (Tabs V-16.3 and V-16.4). Outside of receiving these basic instructions, the GC had no additional training or experience related to the GC role (Tabs V-16.2 to V-16.4).

v. Staffing Confusion During Event Planning and Review for 2025

The staffing for the demonstrations in 2025 created confusion partly because military planners submitted two separate approval packages for the same event (Tabs R-22, V-2.7, V-11.15, and V-15.5 to V-15.8). First, the 33 RQS commander initiated an approval package using the same material as the approved event for 2024 (Tabs FF-39 to FF-67). Later, the PO initiated a second package with updated information for the event in 2025, including updated plans to fly into a new LZ at KES (Tab V-15.6). Both packages incorrectly provided assurances that all spectators would remain 600 feet from helicopter LZs (Tabs EE-19 and FF-89). The final approval of the school demonstrations was based on the former package, which did not identify KES as a new LZ for the event (Tab EE-7).

On 21 February 2025, a School Liaison Officer (SLO)—a Department of the Air Force civilian—initiated the first drafts of an approval package for the aerial demonstrations at KAB in 2025, sending an email to the 33 RQS Commander (Tabs FF-3 to FF-5). The SLO's email included attachments from the event in 2024 and a draft electronic staff summary sheet (eSSS) from 2024 that the SLO partially updated with information for the event in 2025 (Tabs FF-3 to FF-5).

Shortly thereafter, the 33 RQS commander designated a PO for the event, and on 24 February, he sent the PO all the documents provided by the SLO (Tab FF-3). The PO stated that he received minimal guidance on responsibilities or expectations beyond receiving planning documents for similar events in 2023 and 2024 (Tabs V-15.6 and V-15.7). The PO had no prior experience planning an aerial demonstration and appeared to have no dedicated planning support in the form of assistants or training (Tabs V-15.4 and V-15.5). He also was not aware of safe spectator distances required by DAFI 11-209 (Tabs V-15.15 and V-15.16).

1. Routing of Approval Package with Information from 2024

On 26 February 2025, the 33 RQS commander signed the eSSS initiated by the SLO and routed it, along with the approval package from 2024, for coordination and approval to the 18 WG commander (Tab FF-82). The approval package included the CONOP for the school

demonstrations in 2024, a legal review for the 2024 event, and references to DAFI 11-209, including an excerpt of DAFI 11-209 acknowledging its applicability to the school demonstrations (Tabs FF-77 to FF-110). The 18 WG commander approved the package on 13 March 2025 after coordination through his staff (Tab EE-7). This approval package was routed to the PACAF Public Affairs office for *event* approval (allowing a publicly planned event to occur) but, unlike 2024, it was not routed for *participation* approval to the PACAF/A3 (allowing aircraft participation in the event), a deviation from the PACAF supplement to AFI 11-209 (Tabs BB-281 to BB-282, EE-7, and FF-123 to FF-126).

2. **Later Initiation of an Updated Approval Package that was not Routed**

Later on the same day that the 33 RQS commander initiated an eSSS approval package, the SLO emailed the PO asking him to add KES as a location for one of the HH60W demonstrations—the only LZ not included in the event in 2024 (Tab FF-26). On 28 February 2025, the PO produced an updated eSSS and CONOP for the event in 2025 to reflect the new LZ at KES (Tab FF-25). He provided the updated CONOP to the SLO and at some point prior to departing for an exercise in South Korea (occurring 7 to 18 April 2025), the PO tried to initiate an approval package with the updated eSSS and CONOP (Tab V-15.8). Due to his inexperience with staffing, the PO asked for support from the squadron commander's support staff (CSS) in routing the package (Tab V-15.6). Our investigation found no evidence that his updated eSSS and CONOP were routed for approval. The PO did not learn of the discrepancy between the approved event package (based on information in 2024) and his updated version until after the aerial demonstration occurred on 22 April 2025 (Tabs R-23 and V-15.5). He testified that he received no questions or feedback from any level of review of the event's coordination package as it was routed for approval (Tab V-15.8).

vi. America Fest Planning and Execution

A few weeks prior to the accident, personnel at KAB, including those from the 33 RQS, planned and executed HH60W demonstrations for civilian spectators at an event called "America Fest" on 22 and 23 March 2025 (Tabs V15.17 and EE-37 to EE-40). The America Fest event involved mission planning that complied with the distance requirements of DAFI 11-209 (Tab V-7.4). This planning took place over a three-month period, with multiple meetings of event stakeholders—including mission planners, staff from the WSO, and personnel from the Security Forces Squadron (SFS)—to review safety requirements from DAFI 11-209, provide shared understanding of the CONOP for the event, and conduct rehearsals to ensure multiple ground controllers from the WSO and SFS maintained DAFI-required spectator distances (Tabs V-7.4 and V-12.2 to V-12.6). WSO personnel were involved in the planning process and were aware of requirements to ensure proper distances for spectator safety and to ensure ground safety observers maintained these distances (Tab V-7.4).

The level of planning for America Fest substantially exceeded the level of planning for the school demonstrations (Tabs V-7.4, V-10.6 to V-10.7, and V-12.13). Two military planners of the event at KES stated that they believed the aerial demonstrations at America Fest and the aerial demonstrations at schools on KAB a month later were not subject to the same distance requirements (Tabs V-11.14, V-14.7, and V-15.17). The same safe spectator distances actually applied to demonstrations at America Fest and the schools (Tabs BB-258 and BB-261).

c. Summary of Accident

i. The Ground Controller's Mission Preparation

On the day of the event, the GC had a radio and a satellite map from the PO that showed the KES LZ and hand-drawn markings the PO added to describe spectator locations (Tabs R-15, V-15.19, V-16.4, V-16.6, and V-16.14). The GC did not recall any specific details about the hand-drawn spectator locations other than their general placement near the basketball court, amphitheater, and a road used for bus loading and unloading (Tab V-16.14). The GC did not participate in the pre-flight mission brief because she was not part of the aircrew (Tabs V-11.6 and V-16.5 to V-16.6). The GC arrived at KES about 30 minutes in advance of the scheduled demonstration time (Tabs V-15.18 to V-15.19). She walked through the LZ looking for debris and contacted school administrators (Tabs V-16.4 and V-16.6 to V-16.7). A member of the KES staff showed the GC a seating chart that school administrators created to illustrate safe spectator areas (reflecting the areas that military mission planners verbally communicated to the KAO during an LZ survey on 17 March) (Tabs R-7, V-16.4, and CC-5). The GC described this school-provided chart—which had generalized depictions of the spectator areas—as her main reference for understanding seating locations (Tabs R7, V-16.4, and CC-5).

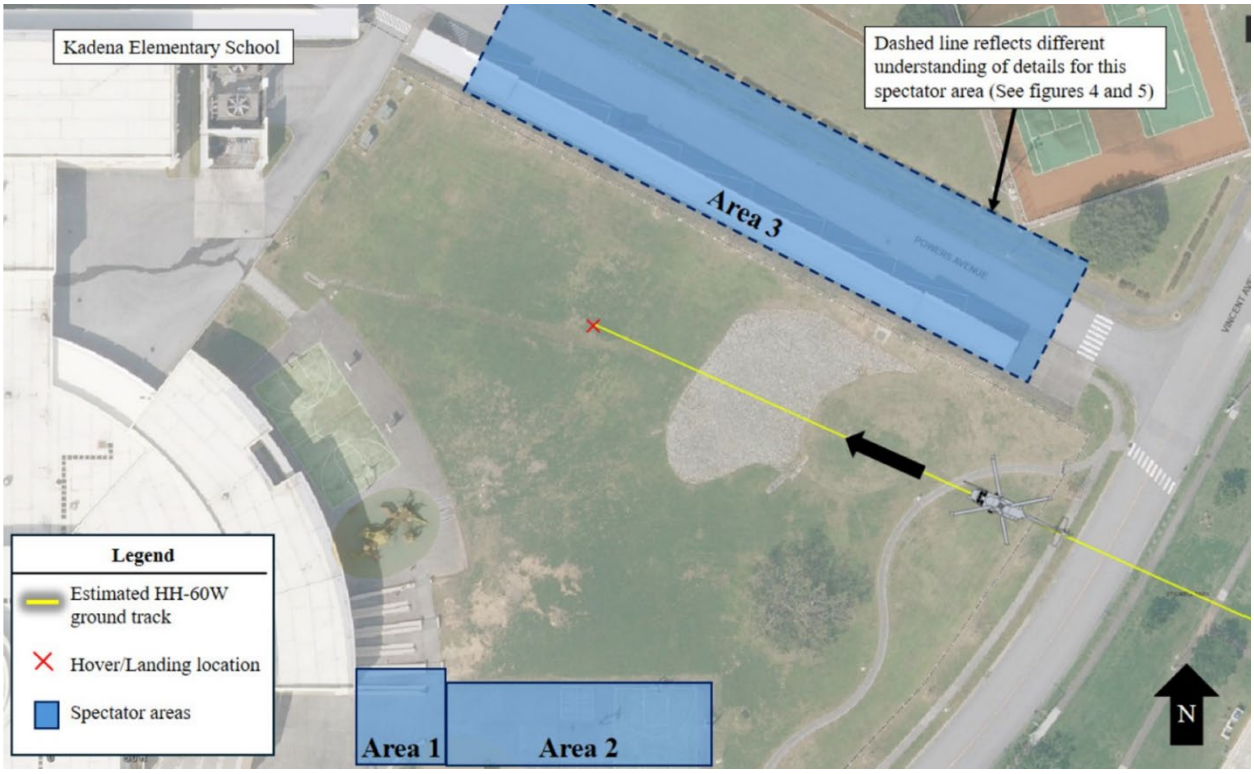

Figure 4. (Tab Z-4) Location of Designated Spectator Area at KES

The GC worked with administrators from KES to ensure spectators were in the areas described on the charts created by school officials (Tabs V-1.4 to V-1.5, V-8.3, and CC-5). On the south side of the LZ, students and staff stood or sat on a basketball court and seats for an amphitheater, approximately 130 to 160 feet from approaching helicopter's estimated flight path (Tabs V-1.4,

V-8.3, Z-5, and Z-11). On the north side of the LZ, students and staff (including the AV) stood on or near a covered walkway along the south side of the bus-loading road, approximately 80 to 90 feet from the estimated flight path (Tabs V-8.3, Z-6, Z-11, Z-15, and Z-17).

The GC testified that she was unaware of the required distances between spectators and the LZ and was unsure whether she was informed that spectators should be on the north side of the bus-loading road, as the PO and LZL intended (Tabs R-24, V-16.8 to V-16.9, V-14.16, and V-15.11). The PO testified that he did not recall if his hand-drawn notes on the LZ map he gave to the GC specified distances for the spectator areas or whether spectators should be positioned north or south of the road (Tabs V-15.19, V-15.22, and V-15.24).

After determining that the LZ was clear and that students were in their assigned positions, the GC sent a message via the Signal communication app to the aircrew that the LZ was clear and safe for landing (Tabs V-16.6 and V-16.7). Prior to the aircraft's arrival, the GC stood in a position from which she could observe the students and ensure they did not depart the spectator areas as the HH60W approached the LZ (Tab V-16.9).

ii. Pre-Flight Mission Brief and Approach to KES LZ

During the pre-flight mission brief on the day of the event, the MP and MCP focused primarily on planning the flight path the aircraft would use to approach the LZ (Tabs V-11.6 to V-11.7 and V-13.5 to V-13.7). They did not focus significantly on spectator locations because they relied on the planning and ground support of the PO, the school administrators, and the GC to ensure spectators would be in safe locations (Tabs V-11.9 and V-13.5 to V-13.9). The MP and MCP did not recall seeing charts or maps depicting specific spectator distances or locations, and the PO did not recall providing any charts with this spectator information to the pilots (Tab V-11.8 and V-13.5 to V-13.6). Before taking off, the MP remembered receiving a message from the GC at KES that the spectators were in position and the LZ was clear and safe (Tab V-13.9).

After receiving the GC's message, the MP and MCP began flying the HH60W aircraft toward KES and arrived just before 0930 (Tabs V-13.9, Z-19, and CC-13). The HH60W executed two high-level passes around the school as part of its high-low reconnaissance of the LZ (Tabs V-11.7 to V-11.10, Z-19, and AA-15). Both the MP and MCP testified that they focused on safely piloting the helicopter and were relying on the GC to ensure spectators' safety and to communicate via radio if the LZ was no longer safe for landing (Tabs V-11.10 and V-13.6 to V-13.8). The MP and MCP also testified that the covered walkway blocked the aircrew's view of spectators on the south side of the bus-loading road during the initial high-level overflight of the area (Tabs V-11.9 and V-13.7 to V-13.8).

iii. Final Approach and Accident

At the completion of the high-low reconnaissance, the HH60W made its final approach to the LZ along an east-southeast to west-northwest heading (Tabs V-11.6 to V-11.10, Z-19, and AA-15). The MCP—who was flying the helicopter from the left seat of the aircraft—first learned of the spectators on the covered walkway after beginning the final approach to the LZ (Tabs V-11.9 and V-11.18). The MCP said the MP—who was sitting in the right seat—noticed that there were spectators on the covered walkway to the aircraft's right-hand side and directed the MCP to

"slide left" away from them (Tabs V-11.9 and V-11.18). The MCP testified that he would have directed the GC to move spectators from the south side of the road to the north side of the road had they been visible during the high-level overflight (Tabs V-11.8 to V-11.9 and V-11.18).

As the HH60W approached the LZ, the AV—a DoDEA teacher at BES—was approximately 85 feet from the helicopter's flight path (Tabs Z-5, Z-6, Z-19, and GG-5). The AV's location placed her as close or closer to the helicopter than almost any other spectator at the event (Tabs Z-5, Z-6, Z-11, and GG-5). During the aircraft's final approach to KES, at approximately 0930, the helicopter produced a strong gust of downward and outward flowing wind (rotor wash) that rapidly approached the AV (Tabs Z-7 and Z-11). The rotor wash, made visible as it dislodged rainwater from two trees near the AV, immediately struck the AV (Tabs V-9.6, Z-7, Z-11, and Z-17).

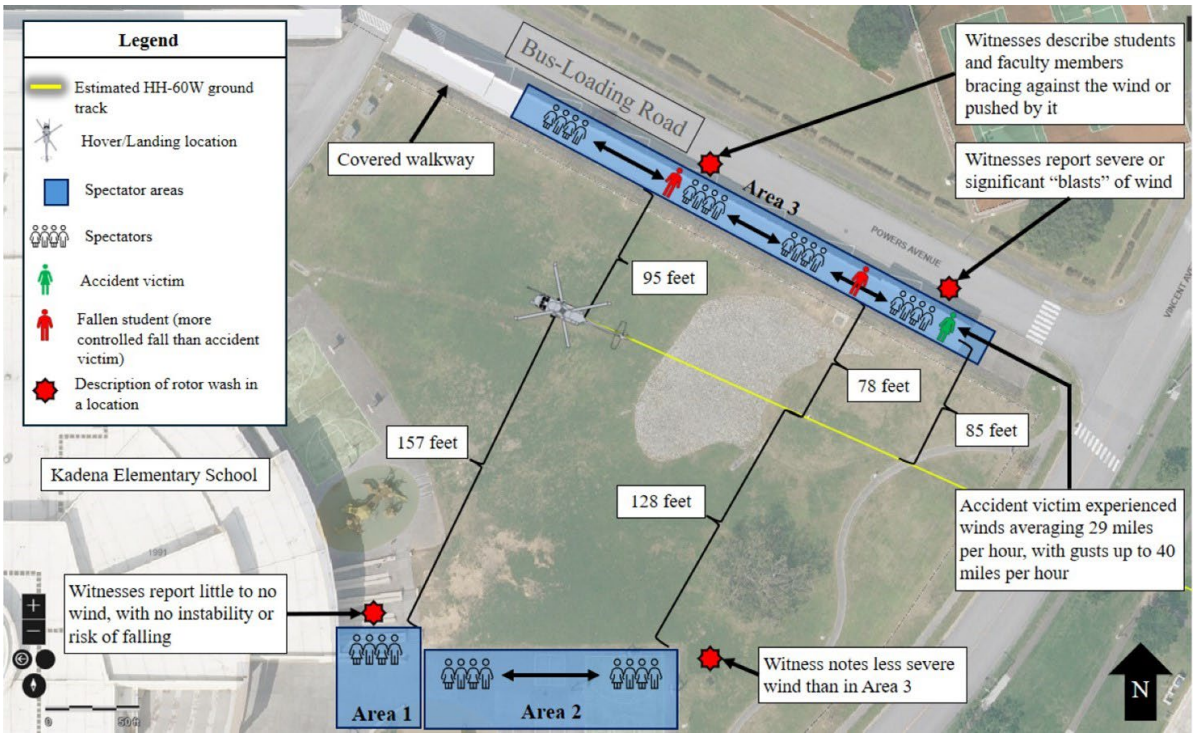

Figure 5 (Tab Z-6) *Actual* Spectator Placement on 22 April 2025 (*south* side of bus-loading road)

The rotor wash caught an umbrella that was hanging on the AV's left arm and briefly forced it open, roughly perpendicular to the AV's body and pointed in the same direction as the wind flow (Tabs Z-7 and Z-11). The wind's impact on the open umbrella knocked the AV off-balance and rapidly pulled her down onto the concrete walkway (falling in the same direction as the rotor wash) (Tabs Z-7, Z-11, and Z-17). Her head struck the concrete at an accelerated speed that caused head injuries much more severe than typically expected from a routine fall (Tabs Z-7, Z-11, Z-17, and GG-3 to GG-4).

DoDEA colleagues immediately assisted the AV and contacted EMS (Tabs C-34, C-37, CC-13, and GG-3). EMS personnel arrived within minutes, found the AV to have an altered level of consciousness, and immediately transferred her to USNHO via ambulance (Tabs CC-13 and GG-

3). Medical personnel at USNHO reported the AV as unconscious but still breathing upon arrival, suffering from a large skull fracture and underlying acute subdural hematoma (commonly termed a "brain bleed"), with significant midline shift of the AV's brain—a grave medical condition with low prospects for survival (Tabs GG-3 to GG-4). Despite emergency medical efforts by doctors at USNHO and nearby URH, the AV died from her head injuries on 27 April 2025 (Tabs EE-50, GG-3, and GG-4).

iv. Impact of Rotor Wash

There were 22 spectators in the immediate vicinity of the AV at the time she experienced the strong gust of rotor wash (19 children and three adults) (Tabs Z-11 and Z-15). All 19 children were involuntarily displaced by the wind gust, and the three adults were either involuntarily displaced or voluntarily moved their body to protect against the rotor wash (Tabs Z-7, Z-11, and Z-15). Witnesses who stood near the AV on the covered walkway described the rotor wash as a severe or significant "blast" (Tabs C-35 and C-36). Other witnesses along the road described being pushed by the wind or needing to brace against it to avoid falling (Tabs V-8.5, Z-15, and Z-19).

The rotor wash caused at least two students to fall or stumble to the ground (neither of whom appeared to be holding an umbrella, and both fell in a more controlled manner than the AV) (Tabs Z-9 and Z-13). According to estimates from the HH60W Chief Engineer at the Air Force Life Cycle Management Center (AFLCMC), the AV experienced rotor wash averaging 29 miles per hour, based on her distance from the helicopter, with gusts up to 40 miles per hour (Tabs GG-7 to GG-8).

v. Aircrew Observations

Aircrew members stated that when they planned and flew the aerial demonstration at KES, they believed they were doing so safely, attested to by the fact that many aircrew members had family members physically present in the spectator areas (Tabs V-2.3, V-11.3, and V-13.8). Several aircrew members testified that—relative to the difficulty of typical HH60W missions—landing at the new LZ at KES was straightforward and not difficult (Tabs V-11.9, V-13.10, V-14.17, and V-15.24). The MCP described the flying pattern of the mission as "routine" and the aircrew involved in the aerial demonstration at KES were confident they were not putting spectators at risk (Tabs V-11.9 and V-11.10).

d. Search and Rescue

Not applicable.

e. Egress and Aircrew Flight Equipment

Not applicable.

f. Recovery of Remains

Not applicable.

5. MAINTENANCE

Not applicable.

6. AIRFRAME SYSTEMS

Information from the AFLCMC and distance measurements indicate the AV experienced rotor wash averaging 29 miles per hour, with gusts up to 40 miles per hour (Tabs GG-7 to GG-8). These wind speeds are described as "very serious" and on the "threshold of danger" by different studies that categorize the strength of helicopter rotor wash (Tabs BB-60 to BB-61).

A report on the impact of rotor wash emphasizes the difference between a military member's ability to withstand wind exposure or overturning force and that of a civilian, specifically noting the important effects that holding an umbrella can have on a civilian's threshold for enduring wind velocity (Tabs BB-64 and BB-66). A study on the response of individuals to a sudden change in wind speed notes that 100 percent of test subjects were displaced by a wind gust of 33 miles per hour (Tab BB-65).

The same report on rotor wash's impact notes the correlation of increased age with decreased ability to withstand wind effects, with the AV's age category (above 50 years of age) putting her at increased risk of losing balance when encountering wind flows as she did at the HH60W demonstration (Tabs BB-61, BB-65, and GG-7 to GG-8). Testing results indicate that wind gusts above 19 miles per hour have a quantifiable effect on stability of people in this age category—the AV experienced gusts of over twice that magnitude (40 miles per hour), according to AFLCMC data (Tabs BB-65 and GG-7 to GG-8).

7. WEATHER

a. Forecast Weather

The weather forecast for KAB predicted winds from 200 degrees at 10 knots, 6000 meters visibility, mist, broken clouds at 1000 feet, and temperature of 25 degrees Celsius (Tab F-3).

b. Observed Weather

At 0935, observed weather at KAB included winds from 200 degrees at 6 knots, unlimited visibility, overcast clouds at 1100 feet, and temperature of 24 degrees Celsius (Tab W-3). Multiple witnesses reported some precipitation earlier in the morning (Tabs V-9.6 and V-15.10).

c. Space Environment

Not applicable.

d. Operations

Not applicable.

8. CREW QUALIFICATIONS

a. Mishap Pilot

The MP was a current and qualified Evaluator Pilot able to conduct the flight (Tabs AA-3 and AA-10).

	Flight Hours	Flight Sorties
Last 7 Days	5.4	unavailable
Last 30 Days	15.5	unavailable
Last 90 Days	31	unavailable

b. Mishap Copilot

The MCP was a current and qualified Evaluator Pilot able to conduct the flight (Tabs T-9 and AA-10).

	Flight Hours	Flight Sorties
Last 30 Days	5.6	2
Last 60 Days	10.6	4
Last 90 Days	20	7

c. EMS personnel

Based on a review of training and other certifications, all three emergency medical technicians of the responding EMS personnel were current in their required training at the time of the mishap (Tabs T-3 to T-8).

9. MEDICAL

a. Qualifications

The MP and MCP were medically qualified for flight at the time of the accident (Tab GG-4).

b. Health

The MP's and MCP's most recent periodic health assessments and flight physical exams were current at the time of the mishap (Tab GG-4). The MP and MCP had no disqualifying conditions, pre-existing medical conditions, or medical concerns that could have affected the outcome of the mishap (Tab GG-4).

After a thorough investigation, the board found no evidence that any preexisting medical conditions contributed to the AV's fall (Tab GG-4).

c. Injuries and Pathology

At approximately 0930, several DoDEA colleagues noticed the AV had fallen and responded immediately to assist her and call EMS (Tabs C-34 to C-38, V-8.6 to V-8.7, and CC-13 to CC-

14). Bystanders noted the AV was in the fetal position and initially unconscious with some wounds to her face and the back of her head (Tabs C-36 and V-8.6 to V-8.7). At 0932, bystanders notified EMS of the accident, with EMS personnel arriving on scene at 0937 (Tabs C-37 and GG-3). Upon evaluation of the AV, EMS personnel determined that the AV had an altered level of consciousness, abrasions to her face and back of her head, a nosebleed, and was experiencing some episodes of vomiting (Tab GG-3). EMS personnel briefly applied suction to her mouth to prevent aspiration, loaded her onto a gurney, and departed at 0941 for the emergency department at USNHO (Tab GG-3).

Upon arrival at USNHO at 0957, the AV was still breathing but was unconscious (Tab GG-3). She required emergent intubation at 1004 (Tab GG-3). Her troponin level (a cardiac enzyme that is elevated when there is damage to the heart [commonly seen with a heart attack]) and electrocardiogram (EKG) were normal, which ruled out the possibility of cardiac causes for a ground level fall (Tab GG-3). Further lab work and imaging found no other obvious medical causes for the AV's fall (Tabs GG-3 and GG-4). A Computed Tomography (CT) scan revealed a large fracture to the AV's skull and two different severe types of brain bleeds, including a significant subdural hematoma (Tab GG-3). Doctors also noted a significant midline shift, which is a poor prognostic indicator (Tab GG-3). Lastly, neurosurgery's evaluation noted the AV had bilateral fixed and dilated pupils, which is an ominous sign of significant neurologic deterioration (Tabs GG-3 and GG-4).

Records from USNHO reflect that no acute neurosurgical intervention was indicated at that time and note the AV's transfer to the URH for continued medical management and better communication with the AV's family (Tab GG-4). Staff at USNHO completed all appropriate medical management prior to transfer to URH (Tab GG-4). Medical records from URH were unavailable for review at the time of the investigation. The AV succumbed to her injuries at URH at 1750 on 27 April 2025 (Tabs EE-50 and GG-4). The autopsy report for the AV concluded that the cause of death was intercranial injury (Tabs EE-51 and GG-4).

d. Toxicology

Toxicology samples were obtained for relevant aircrew personnel approximately 12 hours after the mishap and submitted to the Armed Forces Medical Examiner System, Division of Forensic Toxicology, for analysis, with no relevant findings (Tabs E-3 to E-11).

e. Lifestyle

A review of the non-privileged 72-hour and 7-day histories for relevant aircrew personnel provided no evidence to suggest lifestyle factors contributed to the mishap (Tabs GG-4 and GG-23 to GG-92).

f. Crew Rest and Crew Duty Time

A review of the non-privileged 72-hour reports and 7-day histories for relevant aircrew personnel provided no evidence to suggest crew rest or duty time were factors in this mishap (Tabs GG-4 and GG-23 to GG-92).

10. OPERATIONS AND SUPERVISION

a. Operations

Immediately preceding the mishap, the 33 RQS was involved in multiple flying events, including an airshow and a military exercise named Combat Search and Rescue Training Exercise (CSARTE) in South Korea from 7 to 18 April (Tabs R-26 to R-27, V-10.7, V-13.9 to V-13.10, V-15.8, BB-216, GG-86 to GG-87, and GG-89). The mishap sortie occurred four days after CSARTE ended (Tabs BB-216, GG-86 to GG-87, and GG-89).

b. Supervision

Review of flight training records for the MP, MCP, and other flight members showed that all were current and qualified to participate in the sortie (Tabs AA-9 and AA-10).

11. HUMAN FACTORS

a. Introduction

The Department of Defense (DoD) Human Factors Analysis and Classification System (HFACS) 8.0 (DoD HFACS 8.0) lists potential human factors that contribute to mishaps (Tab BB-219). The AIB considered all human factors as prescribed in the DoD HFACS 8.0, describing the human factors relevant to this mishap below (Tabs BB-217 to BB-248).

b. Applicable Factors

AE201 Inadequate Real-Time Risk Assessment/Action: is when the mishap individual, through inexperience, faulty logic, poor judgment, or insufficient information, selected or proceeded with the wrong course of action based on an ineffective real-time assessment of immediate hazards during execution of a task/mission/activity, which resulted in the near-miss or mishap. Examples include: made an incorrect decision or action regarding immediate hazardous conditions, objects or situation; misjudged speed, distance, degree of angle or time; drove too fast for conditions, misjudged changes in surrounding environment; attempted task without needed or required assistance; omitted use of PPE or safety devices; used PPE or safety devices improperly; pulled or pushed improperly; mounted or dismounted a vehicle, equipment, obstacle or platform improperly, etc. This faulty reasoning or erroneous expectation is the result of any one or a combination of: physical or mental conditions of the individual, environmental conditions, crew/team influence, supervisory influence and/or ineffective training (Tabs BB-227 to BB-228).

PP109 Task/Mission Planning and/or Briefing Inadequate: is when an individual, crew or team failed to complete all preparatory tasks associated with planning the mission and/or effective briefing the tasks, which resulted in a hazardous condition or unsafe act. Planning tasks include information collection and analysis, coordinating activities within the crew or team and with appropriate external agencies, and risk assessment followed by the pre-mission/task safety briefing (Tab BB-237).

SD001 Failure to Enforce Published Rules/Guidance: is when a supervisor/leader failed to ensure that personnel adhered to published rules/policy/guidance/procedure or knowingly allowed an untrained, inexperienced, non-proficient, or non-current individual to perform a task, which resulted in a hazardous conditions or unsafe acts. Examples include: a failure to enforce a policy, standard operating procedures or technical guidance in regard to vehicle/watercraft operation, weapons or explosives handling, use of machines or hand tools, etc.; failure to enforce use of PPE such as restraints, eye, face or head protection, hearing protection devices, etc. (Tab BB-240).

SP006 Ineffective Deliberate Risk Assessment: is when supervision/leadership did not effectively apply DoD risk management procedures (identify hazards, assess hazards, develop controls, implement controls, supervise and evaluate/assess) during pre-mission/activity/event planning or a job hazard analysis, which resulted in hazardous conditions and/or unsafe acts. This includes assessment of all hazards including crew/team composition. Examples include: did not have enough trained, licensed, certified, or qualified personnel to safely operate the amount of vehicles or equipment available, or not enough personnel with specific occupational specialties required for the task or mission (Tab BB-242).

12. GOVERNING DIRECTIVES AND PUBLICATIONS

a. Publicly Available Directives and Publications Relevant to the Mishap

AFI 51-307, Aerospace and Ground Accident Investigations, dated 18 March 2019

DAFI 11-209 PACAF Supplement, Participation in Aerial Events, dated 26 November 2018

DAFI 11-209, Participation in Aerial Events, dated 20 May 2021

AFMAN 11-2HH-60W, Vol. 3, HH60W Operations Procedures, dated 5 January 2022

DAFMAN 13-217, Drop Zone, Landing Zone, and Helicopter Landing Zone Operations, dated 22 April 2021

Department of Defense Human Factors Analysis and Classification System 8.0 (DoD HFACS 8.0), dated 25 May 2022

NOTICE: All directives and publications listed above are available digitally on the Air Force Departmental Publishing Office website at: https://www.e-publishing.af.mil.

b. Other Relevant Directives but not Publicly Available

HH60W Combat Rescue Helicopter (CRH) Performance Substantiation Report for the Standard Aircraft Characteristics (SAC) Charts, dated 15 October 2020

c. **Specific Paragraph References for any Deviations that were a Factor in the Mishap**

DAFI 11-209, Participation in Aerial Events, para 4.2.7.3. was part of a causal factor for the mishap.

MATNEY.WILLIAM.A.1128402655 Digitally signed by MATNEY.WILLIAM.A.1128402655 Date: 2025.12.06 11:33:27 -05'00'

6 December 2025

W. ALAN MATNEY, Brig Gen, USAF
President, Accident Investigation Board

STATEMENT OF OPINION

HH60W, Tail Number 21-4513
Kadena Air Base, Okinawa, Japan
22 April 2025

Under 10 U.S.C. § 2254(d) the opinion of the accident investigator as to the cause of, or the factors contributing to, the accident set forth in the accident investigation report, if any, may not be considered as evidence in any civil or criminal proceeding arising from the accident, nor may such information be considered an admission of liability by the United States or by any person referred to in those conclusions or statements.

At approximately 0930 local on 22 April 2025, an HH60W aircraft—tail number 21-4513—approached Kadena Elementary School (KES) at Kadena Air Base, Okinawa, Japan, to conduct an aerial demonstration recognizing April as "Month of the Military Child." When the aircraft approached the designated landing zone (LZ) at the school, a spectator (and teacher for the Department of Defense Education Activity [DoDEA]) fell on a concrete walkway, suffering severe head injuries. DoDEA colleagues immediately assisted the accident victim (AV) and contacted emergency medical services (EMS). EMS personnel arrived within minutes, found the AV to have an altered level of consciousness, and quickly transferred her to U.S. Naval Hospital Okinawa via ambulance. Medical personnel at the Naval Hospital reported the AV as unconscious but still breathing upon arrival, suffering from a large skull fracture and underlying acute subdural hematoma (commonly termed a "brain bleed"), with significant midline shift of the AV's brain—a grave medical condition with low prospects for survival. Despite emergency medical efforts by doctors at the Naval Hospital and nearby Ryukyu University Hospital, the AV died from her head injuries on 27 April 2025.

A summary of video evidence of the accident directly links the AV's fall to rotor wash—air flow generated from a helicopter's rotor blades—from the HH60W. The schoolground had experienced rainfall earlier in the morning, and as the helicopter arrived at the school, its rotor wash (made visible as it dislodged rainwater from a tree near the AV) rapidly approached the AV. The initial wind flow caught an umbrella hooked on the AV's left arm, causing her to struggle with the umbrella before the rotor wash briefly forced it open. The force of the rotor wash in her open umbrella, which was pointed roughly perpendicular to the AV's body and in the same direction as the wind flow (and in the direction of her fall), rapidly pulled the AV off balance and down to the concrete walkway, resulting in head injuries much more severe than those typically associated with a routine fall.

The rotor wash's strength, described as severe or significant "blasts" by two witnesses standing near the AV, also caused two students to fall to the ground. Multiple witnesses described nearby students and faculty members having to brace against the wind flow or being pushed by it. According to estimates from the HH60W Chief Engineer at the Air Force Life Cycle Management Center (AFLCMC), the AV experienced rotor wash averaging 29 miles per hour, based on her distance from the helicopter, with gusts up to 40 miles per hour. Spectators positioned farther from the arriving helicopter described having no problem withstanding the more moderate rotor wash effects in their locations.

In forming my opinion and to reach an evidence-based causal conclusion, I reviewed a summary of multiple videos of the helicopter's approach and the AV's fall; transcripts of interviews with witnesses of the accident and those familiar with the planning and approval process for the HH60W demonstration; medical records of treatment the AV received from EMS personnel and doctors at U.S. Naval Hospital Okinawa; records on the accident from the Air Force Office of Special Investigation's engagements with Japanese counterparts; estimates of HH60W rotor wash strength from the AFLCMC's Chief Engineer; a report on the impact of rotor wash; and mission planning material (including the demonstration's concept of operations and applicable Air Force Instructions [AFI]).

1. CAUSE

I find, by a preponderance of the evidence, that the cause of the mishap was insufficient distance between the HH60W and the AV. The helicopter's proximity to the AV exposed her to rotor wash that knocked her to the ground, causing fatal head injuries.

2. SUBSTANTIALLY CONTRIBUTING FACTORS

I find, by a preponderance of the evidence, that there were three substantially contributing factors to the mishap: (1) failures in mission planning and poorly staffed oversight processes (allowing deviation from safe spectator distances specified in the governing AFI and the event's concept of operations); (2) the combined impact of the AV's umbrella and age on her ability to withstand rotor wash; and (3) an operational mindset fostering a false confidence of safety.

a. Failures in Mission Planning and Poorly Staffed Oversight Processes

The unsafe distance between the aircraft and victim resulted from a failure in military mission planning to comply with spectator distance requirements from AFI 11-209 and the event's concept of operations (CONOP). For the demonstration at KES, AFI 11-209 mandated 500 feet between spectator areas and a designated show line—defined by the AFI as a prominent reference line—for the demonstration. Military mission planners selected three spectator areas at KES for students and faculty to observe the HH60W demonstration (*Figure 1*). The distance between each of the spectator areas and the helicopter's ground track or LZ was significantly less than 500 feet, meaning no spectators at the demonstration were at the distance required by AFI 11-209 (*Figure 2*). The approved CONOP for the aerial demonstration specified that all students (and implicitly faculty) would be at least 600 feet away from the helicopter's LZ. Each of the three spectator areas that military mission planners designated for KES, however, placed students and faculty members at distances much less than 600 feet from the LZ (*Figure 3*). Our investigation was unable to determine why the CONOP specified a distance 100 feet greater than the AFI. Plans for the demonstration failed to meet either requirement.

The approved CONOP for the HH60W demonstration also specified that more than one squadron Ground Controller (GC) would be on station to assess safety and safe crowd distance prior to the helicopter's landing. For the demonstration at KES, the 33rd Rescue Squadron (RQS) only provided one GC. Due to a conflict for the person originally scheduled, mission planners asked another squadron member to serve as GC at the end of the day on 21 April 2025—the day prior

to the event. The new GC was untrained and inexperienced for the role, uncertain of details for the spectator areas, and unaware of the required distances between spectators and the HH60W.

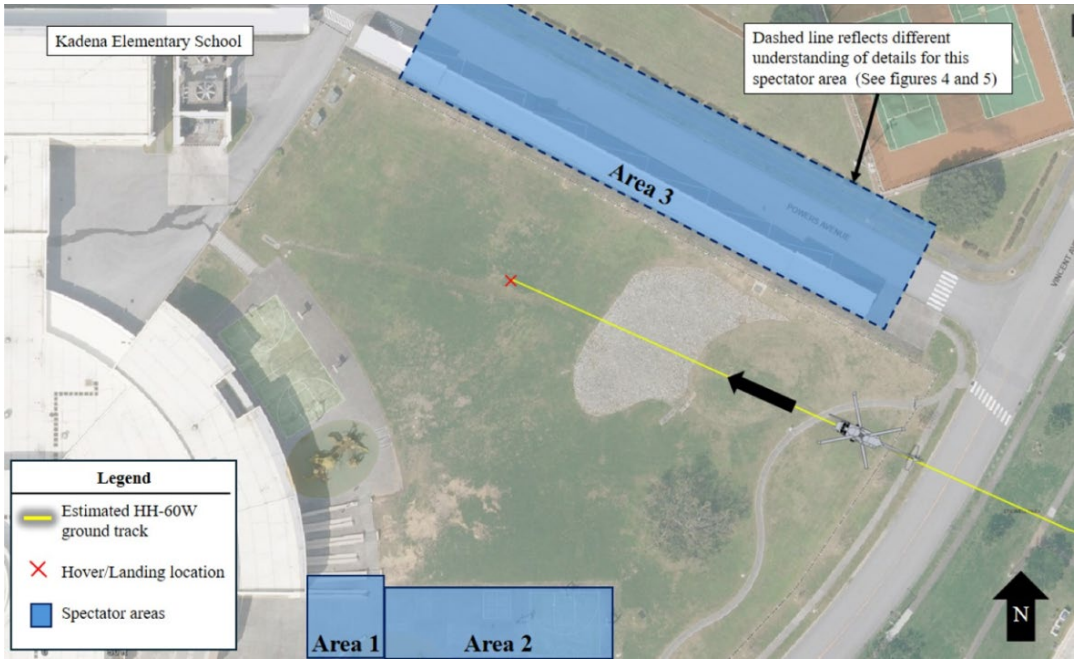

Figure 1. Location of Designated Spectator Areas at KES

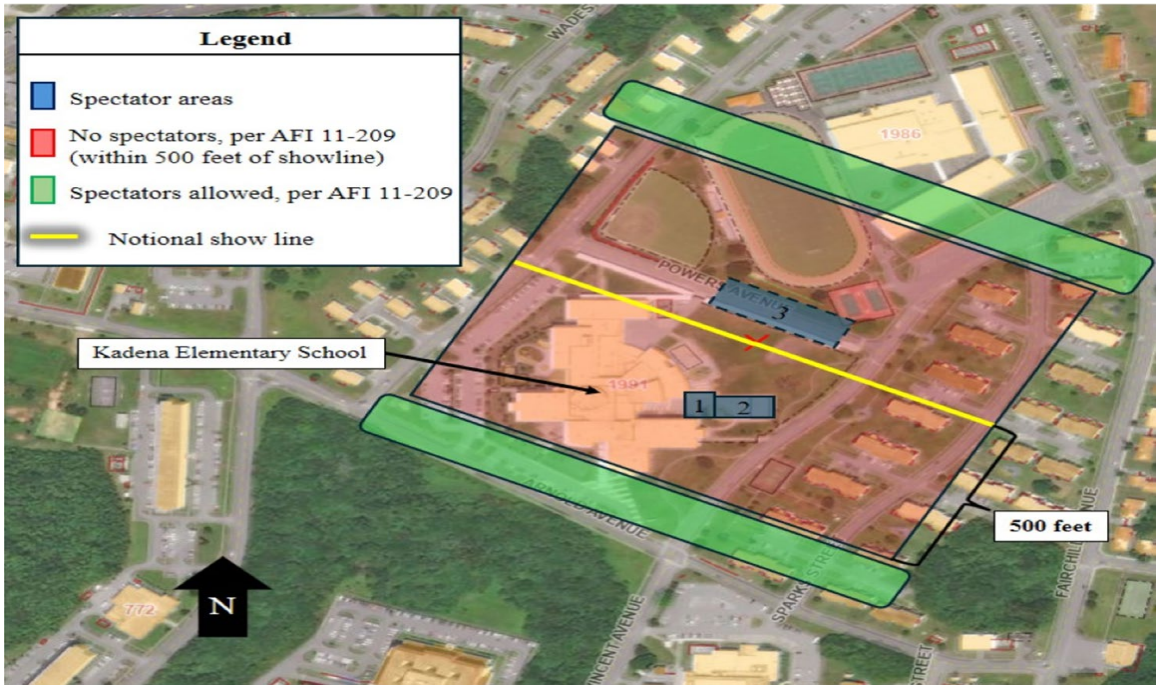

Figure 2. Spectator Areas Relative to Required Safe Distance, per AFI 11-209 (500 feet)

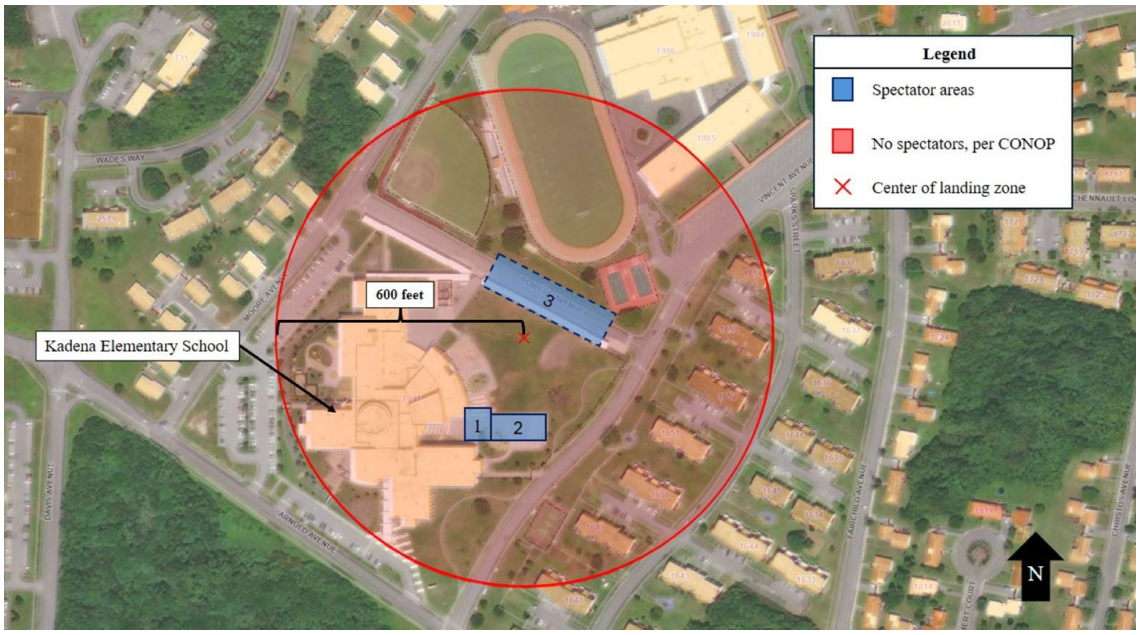

Figure 3. Spectator Areas Relative to Required Safe Distance, per CONOP (600 feet)

The AV's position during the demonstration was approximately 85 feet from the arriving HH60W, based on physical measurements and a summary of video evidence, far short of the 500 feet required by AFI 11-209 and the 600 feet specified in the demonstration's CONOP. This placed the AV among the closest to the helicopter relative to all other spectators at the event.

The AV's location also subjected her to rotor wash that probably was the strongest at the event, based on a summary of video evidence and witness testimony on relative wind strength at different points in the spectator areas (*Figure 5*). Different studies that categorize the strength of helicopter rotor wash describe the wind speeds she encountered—averaging 29 miles per hour, with gusts up to 40 miles per hour—as "very serious" and on the "threshold of danger." One of those studies indicates that wind gusts of 40 miles per hour create great difficulty with balance. A separate study on the response of individuals to a sudden change in wind speed notes that 100 percent of test subjects were displaced by a sudden wind gust of 33 miles per hour—results consistent with witness testimony on rotor wash effects near the AV.

A month prior to the accident, aviators of the 18th Wing—including those in the 33rd RQS—demonstrated an ability to safely plan and execute HH60W demonstrations for civilian spectators. On 22 and 23 March 2025, aircrews safely executed two aerial demonstrations at the America Fest event—demonstrations similar to that planned at KES the following month. These flights complied with distance requirements of AFI 11-209.

Planning for the demonstrations at America Fest reflected coordination over a three-month period, with multiple meetings of event stakeholders to review safety requirements from AFI 11-209, provide shared understanding of the CONOP for the event, and conduct rehearsals to ensure the multiple GCs designated for the event maintained AFI-required spectator distances.

In comparison, planning for the aerial demonstrations a month later at KES (and three other schools on Kadena Air Base [KAB]) was significantly less thorough. For the school demonstrations, planning appears to have entailed copying plans from similar school events the previous two years and conducting an LZ survey at KES—the only new school LZ planned for 2025. Our investigation found no evidence of any significant planning or coordination in the weeks leading up to the school demonstrations. Several witnesses attributed this less rigorous planning approach to a mistaken view that events planned for America Fest and for the schools were different types of demonstrations subject to different distance requirements. The same safe spectator distances actually applied to both.

Multiple witnesses involved in developing, executing, and reviewing plans for the demonstrations at schools on KAB described a widely held perception that plans from similar (and uneventful) school demonstrations in 2023 and 2024 would work in 2025. Our investigation did not include a detailed assessment of plans for HH60W school demonstrations in 2023 and 2024, but a cursory review of CONOPs for those events and testimony from two witnesses indicate school demonstrations the past two years also deviated from spectator distance requirements in AFI 11-209 and the event CONOP. Mission planning that uncritically accepted past plans risked inadvertently repeating mistakes from those plans.

AFI 11-209 specifies several requirements for planning and executing an aerial demonstration such as the HH60W demonstration at KES, including: identifying an event organizer; designating spectator areas; and assuring safe distances for the spectator areas. Our investigation found that military mission planning failed to meet each of these requirements and that a poorly staffed event approval process complicated effective oversight of the errant mission planning.

Identification of an Event Organizer. AFI 11-209 assigns responsibility for determining safe spectator distances at an aerial event to an event organizer, but our investigation found no evidence an event organizer was designated for the HH60W demonstrations in April 2025. In February of 2025, the commander for the 33rd RQS designated a project officer (PO) for the event, but that designation provided minimal guidance on responsibilities or expectations for the role beyond pointing the PO to plans from similar events in 2023 and 2024. The PO—who had no prior experience planning an aerial demonstration and appeared to have no dedicated planning support—was off-station for a 12-day exercise in South Korea until four days before the school demonstrations. He testified to being uncertain about who had responsibility for determining safe spectator distances at KES and reported being unaware of the required distances specified in AFI 11-209 and the CONOP until after the demonstration occurred.

Designation of Spectator Areas. During a site visit to KES on 17 March 2025, the PO and LZ site survey lead (LZL) from the 33rd RQS identified three spectator areas they assessed to be safe for the HH60W demonstration. The spectator area in which the AV was standing was located to the north of the planned LZ, along a road—regularly used for school bus loading and unloading—oriented from east-southeast to west-northwest. In choosing a spectator area along that road, the PO and LZL intended for spectators to be positioned on the *north* side of the road, roughly 45 feet back from a fence and covered walkway along the road's *south* side (*Figure 4*).

On the day of the demonstration, spectators in this area actually stood on the *south* side of the road, under or near a covered walkway roughly 45 feet closer to the arriving helicopter than the PO and LZL deemed safe (*Figure 5*). Had the AV been on the road's north side, the additional distance between the HH60W and the AV still would have placed her far short of distance requirements in AFI 11-209 or the CONOP, but the extra distance would have subjected her to less severe rotor wash due to dissipating strength of rotor wash as it moves laterally.

The PO and LZL did not document in writing details of their approved spectator areas, relying instead on verbal communication of the details. A lack of documented details prevented shared understanding—by school officials, the 33rd RQS's GC assigned to KES, and the flight crew—of a need to keep spectators north of the bus-loading road. Our investigation found that only the PO and LZL knew of the need to keep spectators on the road's north side.

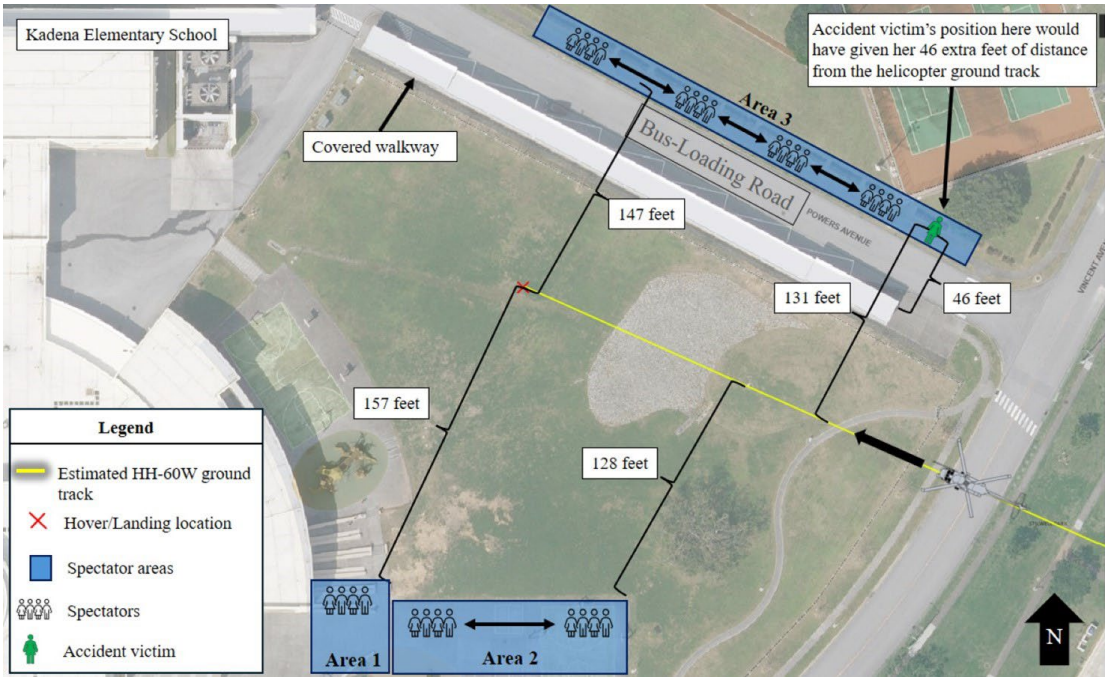

Figure 4. Spectator Placement *Intended* by PO and LZL (*north* side of bus-loading road)

As a result, on the day of the demonstration, school spectator plans allowed students and faculty (including the AV) to stand on the south side of the bus-loading road (under the covered walkway). In addition, the lone GC at KES did not know about the planners' intent to restrict spectators to the road's north side, and aircrew members were unaware spectators were on the road's south side until on final approach to KES, just before the accident. The mission copilot (MCP) testified that the covered walkway blocked the aircrew's view of spectators during the initial high-level overflight of the area. When the mishap pilot first saw spectators on the covered walkway during the approach to KES, he directed the MCP—who was flying the helicopter—to "slide left" away from them. The MCP testified that he would have directed the GC to move spectators back from the road's south side had they been visible during the high-level overflight.

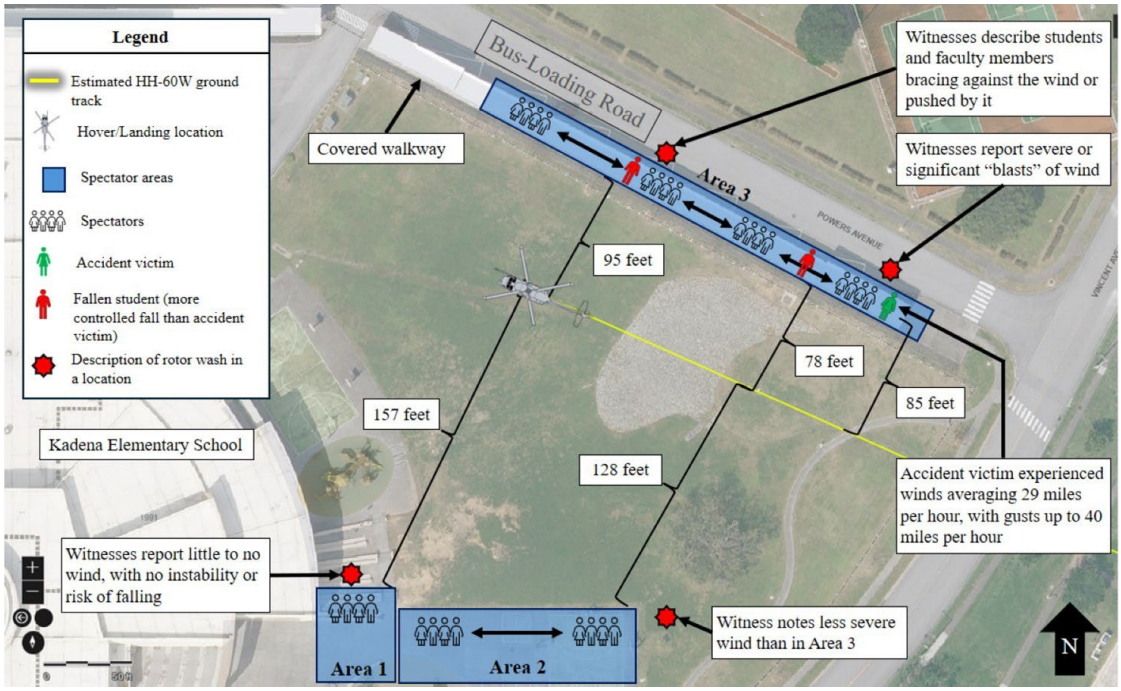

Figure 5. *Actual* Spectator Placement on 22 April 2025 (*south* side of bus-loading road)

Assurance of Safe Distances for Spectator Areas. The only evidence our investigation found of discussions about safe spectator distances at KES occurred during the LZ survey on 17 March 2025, when the PO and LZL designated three spectator areas at the school. For the survey, they followed guidance from Department of the Air Force Manual (DAFMAN) 13-217 (*Drop Zone, Landing Zone, and Helicopter Landing Zone Operations*). Although DAFMAN 13-217 does not specify safe spectator distances, the PO and LZL testified that they discussed safe distances regarding helicopter obstacle clearance and spectator areas while conducting the LZ survey. The PO testified that he determined safe spectator distances at KES by using similar distances chosen for other schools in 2023 and 2024 and by drawing on his experience with helicopter operations. Our investigation found no evidence that anyone involved in planning and executing the HH60W demonstration at KES in April 2025 was aware of or considered the 500-feet distance required by the AFI or the 600-feet distance specified in the event's CONOP.

Poorly Staffed Oversight Processes. The coordination package for approval of the HH60W school demonstrations in April 2025 contained multiple errors. The 18th Wing's staffing processes were not the focus of our investigation, but several of these errors complicated the ability of reviewers and approvers to notice that mission plans for the demonstration at KES did not meet distance requirements in AFI 11-209 or the CONOP. Most importantly, due to staffing errors, the approval for school demonstrations on Kadena Air Base in 2025 was based mistakenly on supporting material for the school demonstrations in 2024, a year that did not have an HH60W demonstration at KES. As a result, reviewers and approvers of the event package in 2025 (based on plans from 2024) would not have known about the demonstration at KES in April 2025 or of the first-time use of an LZ there—potentially missing an opportunity for additional

scrutiny of safety plans associated with the new site. The approval package in 2025 also mistakenly omitted Pacific Air Force's Director of Air Operations (PACAF/A3) as the approval authority for the 18th Wing's *participation* in the school demonstrations (allowing aircraft to participate), deviating from guidance in the PACAF supplement to AFI 11-209. That omission removed an important source of final oversight of mission plans for the event at KES. Of note, routing of the package correctly identified PACAF's Public Affairs office (PACAF/PA) as the approval authority for the *event* (allowing a publicly planned event to occur), but PACAF/A3 had approval authority for participation.

The event's coordination package prompted no questions or feedback from any level of review as it was routed for approval, according to witness testimony, despite pronounced errors in the package. Our investigation was unable to determine the cause of staffing errors in the event approval process—including problems with version control of the package—or the exact impact those errors had on oversight of plans for KES. However, the haphazard coordination and approval process for the demonstration at KES almost certainly complicated effective oversight.

b. Impact of the AV's Umbrella and Age on Her Ability to Withstand Rotor Wash

A summary of video evidence of the accident clearly shows the effects of the helicopter's rotor wash on a closed umbrella hooked on the AV's left arm, with initial wind flow causing her to struggle to control the umbrella. The rotor wash then briefly forced open her umbrella. That fully expanded umbrella—held roughly perpendicular to the AV's body and pointed in the direction of the wind flow (and in the direction of her fall)—appeared to serve as an accelerant in rapidly pulling the AV off balance and down to the concrete walkway. Two students in the AV's spectator area also fell because of the rotor wash, but neither of those students was holding an umbrella and both appear to have been able to fall in a more controlled manner than the AV.

A report on the impact of rotor wash emphasizes the difference between the abilities of military and civilian personnel to withstand wind exposure. The report notes that holding an umbrella can have an important effect on a civilian's threshold for enduring wind velocity. In this accident, a summary of video evidence confirms the umbrella's negative effect, showing the AV's rapid fall to the ground occurring just as the umbrella expanded fully.

The same report on rotor wash impact notes the correlation of increased age with decreased ability to withstand wind effects, suggesting the AV's age category (above 50 years of age) put her at increased risk of losing balance when encountering strong winds. Test results indicate gusts above 19 miles per hour have a quantifiable effect on stability of people in this age category, according to the report. The AV experienced gusts of over twice that speed.

c. Operational Mindset Fostering a False Confidence of Safety

HH60W aircrews at KAB fulfill a critical mission in a region prioritized by U.S. national security strategy. Members of the 31st and 33rd RQSs routinely execute missions that require precise technical expertise to operate the HH60W—expertise that several witnesses testified includes the ability to land a helicopter within a foot of a military member on the ground. Only a small fraction of missions deals with demonstrations for the public, and one witness testified that

an “infinitesimally small” portion of HH60W missions involve public events landing near civilian spectators.

Several witnesses noted that—relative to the difficulty of typical HH60W missions—landing at the new LZ at KES was straightforward and not difficult, with the MCP describing the flying profile of the mission as “routine.” That operational mindset appears to have contributed to a planning approach that did not intentionally disregard distance requirements from AFI 11-209 and the CONOP—it simply did not consider those requirements.

Our investigation found that the aviators involved in the aerial demonstration at KES were confident they were not putting spectators at risk, attested to by the fact that many had family members watching the demonstration from the school’s spectator areas. The mishap at KES—with the tragic loss of a longtime DoDEA teacher and deeply respected community member—regrettably makes clear that their well-meaning confidence was misplaced.

3. CONCLUSION

I find, by a preponderance of the evidence, the cause of the mishap was insufficient distance between the HH60W and the accident victim. The helicopter’s proximity to the victim exposed her to rotor wash that knocked her to the ground, causing fatal head injuries. I also find, by a preponderance of the evidence, the following factors substantially contributed to the mishap: (1) failures in mission planning and poorly staffed oversight processes (allowing deviation from safe spectator distances specified in the governing AFI and the event’s concept of operations); (2) the combined impact of the victim’s umbrella and age on her ability to withstand rotor wash; and (3) an operational mindset fostering a false confidence of safety.

MATNEY.WILLIAM.A.1128402655 Digitally signed by MATNEY.WILLIAM.A.1128402655 Date: 2025.12.06 11:33:00 -05'00'

6 December 2025

W. ALAN MATNEY, Brig Gen, USAF
President, Accident Investigation Board

INDEX OF TABS