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On the Cover

Don Kelsen, Photographer

An R66 from Robinson Helicopter Co. cruises over the South Bay neighborhoods of Los Angeles, California, on Oct. 29, 2024, with production test pilot Scot Woolums at the controls. Read about the OEM's expansion plans on [p. 28](#).

POWER UP

MAGAZINE

ABOUT
POWER UP

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Powering Up Service

We need your help to achieve our goals for the industry.

By Mark A. Schlaefli

HAVE A BOTTOMLESS SUPPLY OF OPTIMISM

about the value VAI brings to our industry and our members. As an aviation business owner, I have personally experienced our association's positive impact on my operations. As chair of the Board of Directors, I also have visibility into our future, including our strategies to deliver an even better return on our members' investment in us.

Over the past few years, VAI has been working hard to develop and deliver value to our membership through a **solid plan of five strategic initiatives**. Our members were instrumental in developing that plan, and the incomparable VAI staff are working hard to execute those initiatives and power up our industry. But they can't do it alone: we want you to join us in ensuring our strategic initiatives are relentlessly executed, leading to a unified, thriving, sustainable industry. And before you turn the page, let me explain how becoming a VAI volunteer will help your association—and you!

Giving back to the industry is a necessary element of a complete career, one providing you with that all-important paycheck, personal and professional growth, and the satisfaction of accomplishing meaningful work. Looking beyond the immediate, local needs of your inbox or organization will expand your horizons, as will collaborating with other VAI volunteers. Speaking personally, it's been humbling and rewarding to work with professionals from all sectors of this great industry.

The open call for Board of Directors candidates will be out soon (election results will be announced at VERTICON 2025 in Dallas in March), and we're looking to add excellence and expertise to our board. Recruiting members with the right skills, experience, and passion for VAI's mission is essential to building a board that can effectively provide staff with the strategic



MARK A. SCHLAEFLI is the owner and operator of Dakota Rotors, a Part 135/133 operator in the Upper Midwest and Mountain West, who began his one-year term as chair of the VAI Board of Directors on Jul. 1, 2024. Mark holds an ATP rotorcraft certificate as well as instrument, CFI, and CFII ratings.

guidance to address challenges, seize opportunities, and navigate the complex landscape of the vertical aviation industry.

As described in detail elsewhere in this issue (see “VAI Adopts New Bylaws” on p. 19), VAI is changing the composition of our Board of Directors. The new bylaws reserve three seats each for small, medium-sized, and large operations, based on fleet size. We’re also adding two directors to the board and reserving two board seats for representatives from the public-service sector. These changes will ensure the VAI board reflects our diverse industry.

In addition to serving on the Board of Directors, VAI has other opportunities to give back, including participating in our industry advisory councils (IACs), which replaced our working groups. These councils ensure the comms channel between VAI and the members it serves is always open, providing crucial awareness and feedback on the issues we face.

The 14 IACs cover a variety of topics, from

industrywide concerns such as safety and insurance to mission-focused groups. At VAI’s Aerial Work Safety Conference in Boise, Idaho, last month, I spent time with members of the Aerial Firefighting & Natural Resources, Restricted & Experimental Category Aircraft, and Utility Patrol & Construction IACs. These IACs are filled with professionals dedicated to furthering the safety and quality of their respective disciplines. Their passion for progress and being the change they want to see in the industry is impressive.

You can [learn more about the IACs—and apply for IAC membership](#)—on the VAI website.

Let me be the first to thank you for considering serving in either of these capacities, lending your expertise to fuel the growth of vertical aviation. ■

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The Best Way to Honor Our First Responders

Strengthening vertical aviation will improve disaster response.

By James A. Viola

IT HAS BECOME A PATTERN: a region somewhere in the world is hit by disaster. It could be a flood in Brazil, a hurricane in the United States, or a wildfire in Greece. First, our industry goes to work, saving lives. Next, we see reports from journalists on the scene marveling at the life-saving work our industry does.

When disaster strikes, helicopters become lifelines. We fly in them over roads rendered impassable by floods, earthquakes, mudslides, or wildfires, bringing food, shelter, medical supplies, and emergency personnel. We can deliver heavy equipment to repair infrastructure or safely hoist a mother and child from a rooftop. Couple those capabilities with our industry's passion for service, and it is no wonder we are an important part of a community's capacity for disaster response and recovery.

At VAI, we commend all those in our industry who contribute to disaster response and recovery. Some wear military uniforms; others work for civilian law enforcement or local government. Some work for companies specializing in firefighting or power-line repair. Others are volunteers who see a need and decide to help. Anyone who works in disaster response knows it is a team effort—from the mechanic working through the night to get your bird ready for the day's flight to the person figuring out where to get fuel when there is no phone or Internet. You all make me very proud to be in this industry.

As we celebrate your achievements, we must also recognize an important lesson: we need to invest in vertical aviation now



JAMES A. VIOLA is VAI's president and CEO. After a career as a US Army aviator, he joined the FAA, where he served as director of the Office of General Aviation Safety Assurance before joining VAI. James holds ATP ratings in both airplanes and helicopters and is a CFII. Contact him at President@verticalavi.org.

to ensure our effectiveness in future disaster response and recovery.

Recently, VAI weighed in on the FAA's plans for vertiport design, noting the importance of creating infrastructure that does not segregate vertical aviation aircraft. Strengthening aviation infrastructure is essential to enhance our ability to swiftly deploy resources in times of crisis. We urged the development of more integrated, safety-focused guidelines for electric vertical takeoff and landing facilities. We also called for collaboration between FAA divisions and industry stakeholders, emphasizing the need for performance standards that accommodate diverse powered-lift technologies and harmonize with existing regulations. Support for the vertical aviation industry also means investing in workforce development so we have trained personnel at the ready.

Within our industry, owners and operators need to establish relationships with authorities before a disaster. Proactive coordination enables smoother communication,

faster mobilization, and streamlined logistics when time is of the essence. By building trust and understanding roles in advance, rescue teams can integrate seamlessly with emergency response efforts, improving outcomes for those in need. This outreach can occur at the local government level or, as Loreto Moraga describes in this issue, regional agreements can be reached to ensure that bureaucracy will not stand in the way of humanitarian efforts (see "Report from Chile: Working Together for Vertical Aviation" on p. 39).

To all those who took part in recent disaster response and recovery efforts—and to those who execute similar critical missions every day—VAI offers our heartfelt thanks. Let us honor your service by taking the steps necessary to strengthen our industry and ensure vertical aviation continues to be a vital force for good in times of crisis. ■



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2024 in Review

A transformative year for US aviation sets the stage for key priorities in 2025.

By Cade Clark, Theresa Marr, and Katia Veraza

A **AS WE REFLECT ON THE MILESTONES OF** 2024, it's clear this year has been pivotal for aviation. The passage of the FAA reauthorization bill, for example, has set in motion a range of initiatives that will shape the industry for the next five years. This landmark legislation, achieved through bipartisan cooperation, reflects a commitment to modernizing the US aviation landscape and securing its global competitiveness. Indeed, 2024's achievements set the stage for key industry priorities in 2025 and beyond, particularly for the vertical aviation community.

FAA Reauthorization

For the aviation community, reauthorization bills present a unique opportunity to advocate for policies that will shape the industry's future. The FAA Reauthorization Act of 2024, a major achievement for US aviation, is essential legislation that renews the FAA's mandate and supports its mission, ensuring ongoing investment in aviation infrastructure, safety, and workforce development. The legislation provides a forward-looking framework that will affect the entire aviation industry—including the rapidly emerging vertical aviation segment—for years to come.

A key focus of the law is the advancement of safety protocols across all areas of aviation. The act reinforces the country's global leadership in aviation safety by updating regulatory standards, establishing targeted safety programs, and integrating cutting-edge technologies. These measures are especially crucial for the vertical aviation community, which is incorporating new aircraft and operational technologies such as advanced air mobility (AAM).

Infrastructure development plays a significant role as well, with substantial funding allocated to airports across the country. This investment supports both major transportation hubs and smaller regional airports. For vertical aviation, it opens up opportunities to build vertiports and other infrastructure that will support AAM operations and integration into the National Airspace System (NAS).



The FAA Reauthorization Act of 2024, a major achievement for US aviation, is essential legislation that renews the FAA's mandate and supports its mission, ensuring ongoing investment in aviation infrastructure, safety, and workforce development.

Workforce development is another critical component of the FAA Reauthorization Act, addressing the shortage of qualified aviation professionals, including pilots, maintenance technicians, and support staff. With growing demand, particularly in vertical aviation, the law emphasizes programs to recruit and train the next generation of aviation professionals.

VAI thanks the congressional leaders who worked diligently to pass this legislation. Special recognition goes to Reps. Sam Graves (R-Mo.-06) and Rick

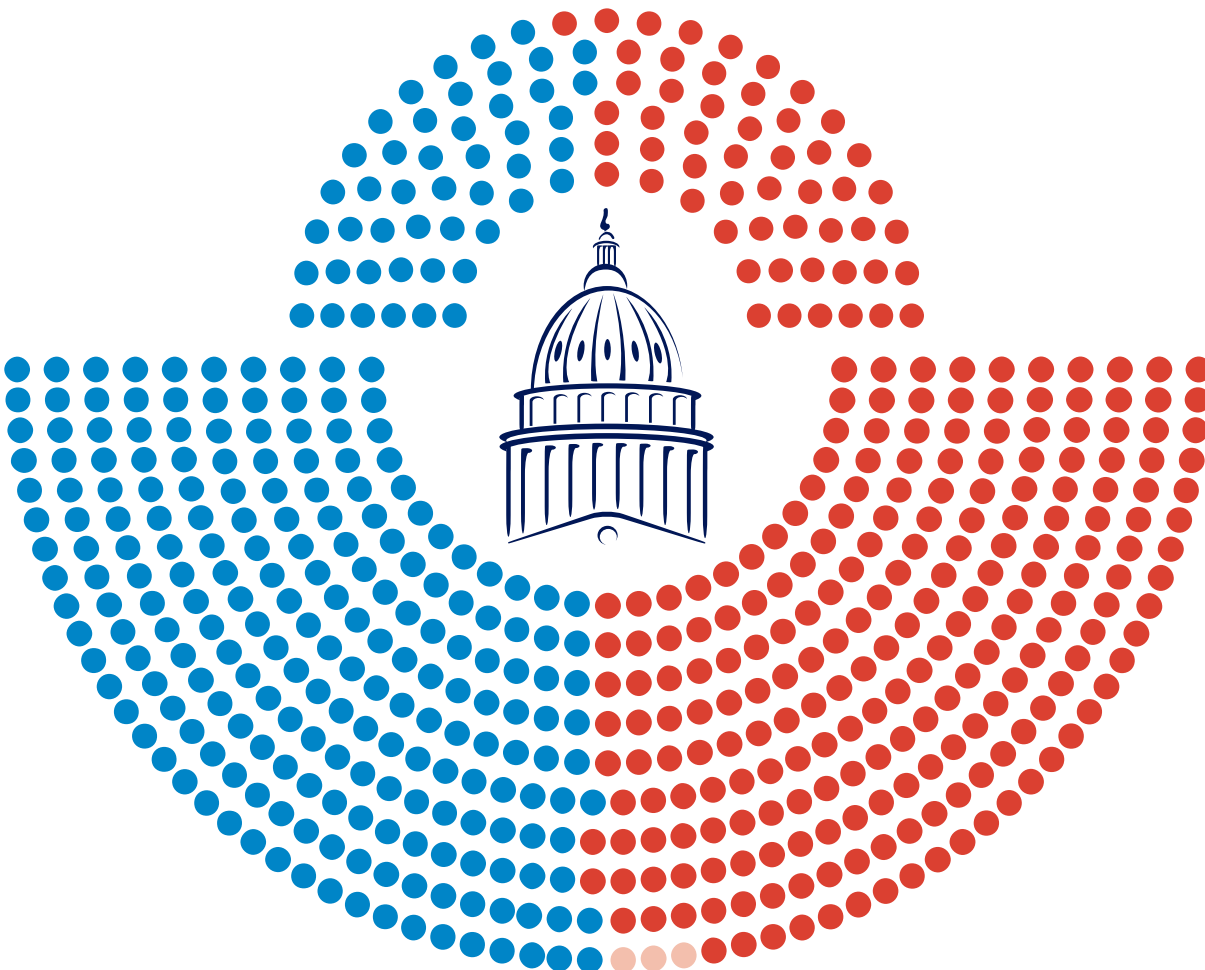
Larsen (D-Wash.-02), chair and ranking member, respectively, of the House Transportation and Infrastructure Committee, and Reps. Garret Graves (R-La.-06) and Steve Cohen (D-Tenn.-09) chair and ranking member, respectively, of the Aviation Subcommittee, for their outstanding bipartisan collaboration. We also thank Senate Commerce Committee members Ted Cruz (R-Tex.) and Maria Cantwell (D-Wash.) for their leadership in guiding the bill through the Senate.

The bill passed with strong bipartisan support, receiving a vote of 387 to 26 in the House of Representatives and 88 to 4 in the Senate, reflecting broad backing of a comprehensive approach to aviation safety, infrastructure, and innovation. For the vertical aviation community, the reauthorization marks a significant step forward in creating a safer, more efficient aviation

ecosystem that will enable the next generation of air mobility technologies to thrive.

Election Year Changes

2024 was also a pivotal federal election year, bringing significant change in Washington, D.C., with Republicans controlling the White House and both chambers of Congress in 2025. As the transition of power progresses, we anticipate changes in the leadership of key congressional committees with which VAI interacts on aviation policy. The chairmanship of the Senate Commerce Committee is likely to move from Sen. Cantwell to Sen. Cruz. In the House, although the chairmanship of the Transportation and Infrastructure Committee will remain in Republican hands, Rep. Graves has reached the six-year term limit in his leadership role on the committee. He is seeking a



The recent US elections awarded Republicans a 53–47 majority over the Democrats in the Senate. In the House of Representatives, the Republicans also hold the majority, with 219 seats versus the Democrats' 213 seats. The three House races that had not yet been called at press time are likely to add to the Republican majority.

waiver to continue serving as chair, however. State elections also brought significant changes, with shifts in state legislatures and leadership positions that will have an impact on policy.

VAI is actively engaging with federal and state legislators to build new relationships and strengthen existing ones. We're also reaching out to leaders in Congress, state governments, and relevant agencies. We encourage our members, as well, to connect with their local officials, to educate them on the vital role the vertical aviation industry plays in serving the public good.

VAI's 2025 Priorities

As we look to 2025, several key priorities will guide VAI's efforts in shaping the future of vertical aviation. These priorities will be critical in ensuring that the momentum from the FAA Reauthorization Act of 2024 continues and that the vertical aviation industry remains positioned for growth and success.

VAI Members

Regulatory, advocacy, and legislative help is just an email away. VAI is here for you. Contact Advocacy@verticalavi.org

■ **Timely implementation of the FAA Reauthorization Act.** One of our top priorities will be advocating for the efficient and timely implementation of the provisions laid out in the FAA Reauthorization Act. The law sets the foundation for major advancements across the aviation industry, including vertical aviation, but its success hinges on swift and effective execution. VAI will work closely with the FAA, Congress, and industry stakeholders to ensure that the regulatory changes, funding allocations, and safety measures outlined in the reauthorization are put into practice in a way that supports the vertical aviation community and its evolving needs.

■ **Infrastructure development for vertical aviation.** Infrastructure development is crucial for the growth of vertical aviation, supporting both emerging technologies and existing aircraft, including helicopters. In 2025, VAI will advocate for policies to support the establishment of vertiports and AAM facilities while ensuring that infrastructure investments meet current vertical aviation needs.

With federal funding from the FAA Reauthorization Act, it's vital that airports and infrastructure systems are adapted for both new and traditional aircraft. Our focus will be on infrastructure that supports both AAM operations and the continued safe operation of helicopters, ensuring access in both rural and urban areas.

■ **Aviation safety promotion.** Safety remains a cornerstone of the aviation industry, and vertical aviation is no exception. As new aircraft and technologies enter the NAS, VAI will advocate for continued improvements in safety. We'll work to promote performance-based regulations and standards that address the unique safety needs of vertical aviation, including the integration of unmanned aircraft systems (UASs) and AAM vehicles.

This effort will include supporting initiatives to develop clear operational safety standards, air traffic management systems, and communication protocols that ensure safe integration with existing air traffic.

■ **Workforce development.** As demand for skilled vertical aviation professionals grows, the industry will need to recruit, train, and retain a new generation of aviation professionals, including pilots, maintenance technicians, engineers, and air traffic controllers. VAI will continue to advocate for policies and programs that address the workforce shortages in aviation, focusing on educational partnerships, training programs, and initiatives to attract more people into the industry. We'll also focus on promoting

diversity and inclusion within the workforce, ensuring that vertical aviation reflects the varied communities it serves.

By addressing these four critical areas—FAA Reauthorization Act implementation, infrastructure development, aviation safety, and workforce development—VAI aims to build a strong foundation for the continued growth and success of vertical aviation in 2025 and beyond. We look forward to working alongside our members, stakeholders, and policymakers to turn these priorities into reality.

As we move forward into a new year, the vertical aviation industry stands at a pivotal moment. With the passage of the FAA Reauthorization Act and the continued development of new technologies, the future looks promising. However, it is equally important to ensure that the existing vertical aircraft community, including helicopters, continues to thrive alongside emerging innovations.

VAI is committed to advocating for the policies and infrastructure necessary to support both new and traditional vertical aviation operations. We'll continue to keep our airways safe and uphold our high safety standards while advancing infrastructure, workforce development, and timely implementation of the FAA reauthorization.

As we work toward these goals, VAI looks forward to continued collaboration with industry stakeholders, lawmakers, and our members to ensure that vertical aviation remains a vital and growing part of the aviation landscape. ■

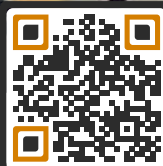
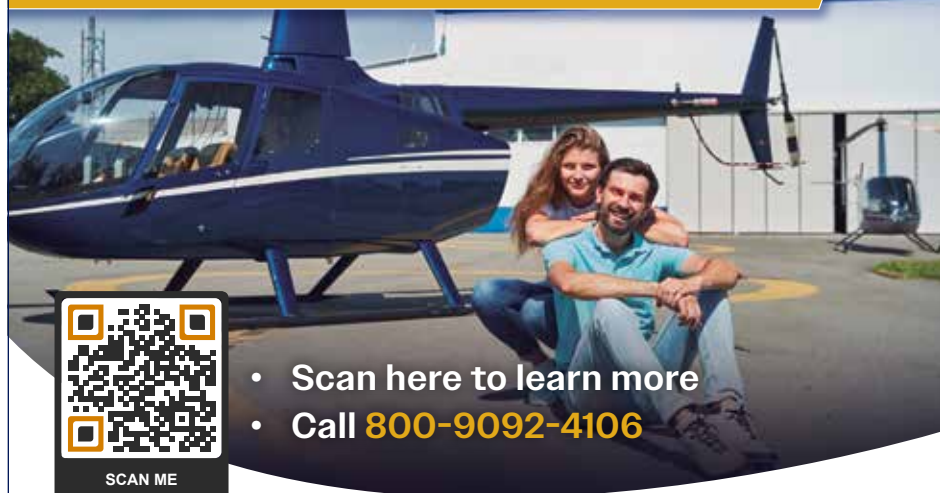
Cade Clark is VAI's chief government affairs officer. **Theresa Marr** is VAI's director of government affairs.

Katia Veraza is VAI's manager of government affairs and regional relations.

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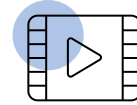
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VAI BRIEFS

VAI Introduces VERTICON

VERTICAL AVIATION INTERNATIONAL (VAI) ENTERS

an exciting new chapter in 2025 as the association formerly known as Helicopter Association International prepares to produce the inaugural VERTICON trade show, which takes place Mar. 10–13 (exhibits open Mar. 11–13). VERTICON 2025, which will be held in Dallas, Texas, at the Kay Bailey Hutchison Convention Center, aims to redefine the vertical flight industry’s premier exhibition and conference, formerly known as HAI HELI-EXPO®. The annual event was rebranded following HAI HELI-EXPO 2024 in February of this year, in concert with the association’s rebranding as VAI. VERTICON will amplify industry messages about aviation innovation, safety, and sustainability.

VAI’s leadership team reinvented the event known since

Don’t Miss These VERTICON Main Stage Events!

Ethics, Bias, & Things That Go Bump in an AI Night

Paul Zikopoulos, VP at IBM Technology, explains the possibilities for AI in business and personal relationships.
Wed., Mar. 12, 9:00 AM – 10:00 AM

Supersonic Survivor with Brian Udell

If you can survive being ejected from an aircraft at 800 mph, what else can you do?
Thu., Mar. 13, 9:00 AM – 10:00 AM

1989 as HAI HELI-EXPO understanding that the vertical flight industry is evolving to increasingly focus on not only helicopters but advanced air mobility technologies and electric vertical take-off and landing aircraft, as well. With VERTICON, the association creates a show that will resonate with both industry veterans and emerging players in the market.

New Programs and Spaces

With the VERTICON rebranding come several new or expanded programs and spaces for the event, including



the VAI Connect area on the show floor, a place for attendees to network and meet with their peers throughout the conference. Connect will also be the site of two programs on alternative fuels, including a presentation on the Piasecki hydrogen-powered helicopter, the PA-890.

VERTICON will also feature “pods” with small turnkey exhibit spaces to make it easier for small businesses and first-time exhibitors to introduce themselves and their products and services. Each pod will be staffed continuously during show hours and will contain a kiosk with seating, a sign with the company’s name, lockable storage, and electricity. Planned sections include Small Business, Emerging Technology, Maintenance, and International Business.

Education Transformation

As always, education will play an important role at VERTICON, but with some new names. [Elevations](#), previously called Professional Education Courses, are in-depth classes taught by industry experts that are designed to support attendees’ career development. [Foundations](#)

VERTICON

FORMERLY HAI HELI-EXPO

Dallas 2025 | POWERED BY VAI

replace the Rotor Safety Challenge (RSC) sessions and go beyond safety to include additional topics. Led by industry-expert volunteers, these one-hour classes are organized by tracks focusing on not only safety but career development, operations, maintenance, small-business success, and other subjects. As with the former RSC sessions, anyone attending six Foundations sessions will receive a certificate recognizing their commitment to lifelong learning. Some sessions may also be eligible for FAA WINGS or FAA AMT credit.

For more information about VERTICON 2025 and to register, [please visit the show website.](#) ■

James Viola, VAI President and CEO, Is 2024 Recipient of Wesley L. McDonald Distinguished Statesmen of Aviation Award

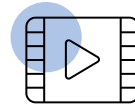
The award, presented annually since 1954 by the National Aeronautic Association (NAA), honors individuals who have significantly contributed to the advancement of US aerospace for at least two decades while demonstrating patriotism, integrity, and moral courage.

Viola’s distinguished career spans several key areas of aviation, including policymaking, safety, education, and US Army special operations. His leadership roles and commitment to safety set him apart as a champion in the aeronautical industry.

NAA President and CEO Amy Spowart commented on the award, saying, “Jim’s achievements are a testament to his steadfast dedication and leadership in aviation. His efforts have not only advanced our industry but have also set a high standard for moral courage and integrity. He truly embodies what it means to be a statesman in the field of aviation.”

“It is an absolute honor to receive this recognition,” says Viola. “This award both acknowledges my past contributions and inspires me to continue advocating for the advancement and safety of the aviation industry.”



**WATCH**

a recap of the 2024
EUROPEAN ROTORS Fly-In

VAI BRIEFS

EUROPEAN ROTORS a Major Success

EUROPEAN ROTORS 2024, HELD

from Nov. 4–7 at the RAI Amsterdam convention center in Amsterdam, the Netherlands, attracted over 4,600 participants from across the globe. This annual event, organized by the European Helicopter Association (EHA) and the European Union Aviation Safety Agency (EASA) and produced by VAI, highlighted advancements in the vertical flight industry, including innovative technologies and regulatory practices.

The theme of the event, “Shaping the Future of Vertical Flight,” underscored the industry’s commitment to eco-friendly technologies. Industry leaders and experts addressed pressing issues such as electric vertical takeoff and landing (eVTOL) aircraft, safety advancements, and digital integration in rotorcraft operations.

Fredrik Kämpfe, chair of EHA, remarked on the event’s success. “The exhibition floor was filled with enthusiastic attendees. We had a robust educational program and a career day that engaged a large number of young participants,” he noted. “One of my [personal] highlights was flying a VR helicopter simulator.”

David Solar, head of EASA’s General Aviation and VTOL Department, echoed these sentiments. “Overall, the feedback was positive, particularly regarding the structure and topics discussed,” Solar said. “We showcased our strengthened ties with the FAA, and the EASA Rotorcraft Safety Zone presented live safety demonstrations.”

Key highlights included the EASA Safety Symposium on the first day of the show, focusing on regulatory



VAI/Dan Sweet Photo

compatibility and safety enhancements and featuring notable panelists including EASA Certification Director Rachel Daeschler. The exhibition hall boasted over 230 booths, displaying cutting-edge technologies and 18 full-sized aircraft.

Workshops provided insights into aircraft safety and efficiency, while EASA conducted training sessions on new rotorcraft technologies, including best practices for escaping vortex ring state. Show Director Frank Liemandt, PhD, highlighted the educational depth of this year’s program, including first-time presentations by helicopter stunt pilot Fred North.

Networking opportunities were abundant, allowing industry leaders and

regulatory bodies to forge meaningful connections. Thierry Couderc, vice chair of EHA, emphasized the value of face-to-face interactions. “In-person communication is significantly more effective than electronic exchanges,” he remarked.

Looking ahead, EUROPEAN ROTORS 2025 will return to its very first venue, Cologne, Germany, from Nov. 17–20. Kämpfe invited participants to provide feedback to enhance future events: “Together, let’s make the 2025 edition the best show yet,” he said at the 2024 event’s close. Solar concurred, promising an improved experience based on participant input.

To learn more about EUROPEAN ROTORS, visit europeanrotors.eu. ■

VAI Debriefs

These brief summaries break down complex FAA regulations.

VAI HAS LAUNCHED VAI DEBRIEFS— a series of concise, easy-to-read guides to keep our members informed about the latest FAA regulations. In each debrief, VAI's advocacy staff will explain sometimes-complex FAA rules in simple terms, helping you understand the key implications for your operations and the vertical aviation industry as a whole. The summaries are written to help you stay up-to-date with clear, actionable insights that matter to your business and your profession.

Visit [our archive of VAI Debriefs](https://verticalavi.org/documents) at verticalavi.org/documents to read about

recent FAA updates, including two on (1) public aircraft operations flight-hour logging and flight training, testing, and checking requirements and (2) flight instructor certificate administrative requirements.

VAI also provides members with additional regulatory, technical, and legislative help via [direct access to VAI's staff of experts](#)—professionals who know the industry and the issues important to your business. Whatever your questions or concerns, VAI is here to help!

Questions? Contact Info@verticalavi.org.



VAI BRIEFS

VAI Finalizes Rebranding with New Website, Publications

VAI HAS COMPLETED THE REBRANDING of the association with the launch of new communication tools, including an updated website, a refreshed daily newsletter, and a redesigned magazine, all tailored to reflect the growth and transformation of the vertical aviation industry. The new website, verticalavi.org, along with the VAI Daily e-newsletter and POWER UP magazine, represents the commitment of the association, formerly known as Helicopter Association International, to expanding its reach.

“We used a deliberate, focused approach to create a brand that represents, advocates for, and promotes all vertical flight aircraft,” says James Viola, president and CEO of VAI. “The launch of our new website, magazine, and

newsletter is the result of years of research, discussion, and collaboration.”

The revamped website introduces several new features, including VAI’s [Resource Hub](#), which provides easy access to events, videos, regulations, articles, and other items. Our [Regulatory Action Center](#) offers guidance on regulations, rulemaking, and standards. An expanded [career development section](#) supports those exploring careers in vertical aviation. Additionally, a dedicated [member benefits page](#) outlines programs and discounts available to VAI members.

POWER UP magazine, previously published as ROTOR magazine since 1988, debuted its new look with the

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VAI ONLINE ACADEMY



We used a deliberate, focused approach to create a brand that represents, advocates for, and promotes all vertical flight aircraft.

September 2024 issue. The quarterly publication features industry news, expert insights, updates on VAI's advocacy efforts, and more. Inspired by VAI's tagline, "Powering Up," the magazine underscores the association's dedication to advancing vertical aviation through communication, advocacy, safety, education, and member support by empowering

the people who come to work every day to make vertical flight happen.

VAI's e-newsletter, VAI Daily, formerly known as ROTOR Daily, reaches more than 38,000 subscribers in 137 countries with both curated and original content, including industry and member news, VAI news, regulatory updates, safety tips, airworthiness directives, and much more. Each edition provides essential information to industry professionals, helping them stay informed about critical aviation developments around the globe.

Subscriptions to both POWER UP and VAI Daily are available at no cost. For more information and to subscribe, visit verticalavi.org/subscribe. Businesses interested in advertising in either publication can find details at verticalavi.org/advertise-with-vai. ■

VAI BRIEFS

VAI Adopts New Bylaws

VAI HAS ADOPTED NEW BYLAWS TO ADDRESS

the vertical flight industry's rapid growth and diversification. These updates enhance VAI's governance structure, ensuring that the association remains an effective industry advocate for years to come.

"As the vertical aviation industry evolves, VAI's governance structure must also adapt," says Mark A. Schlaefli, VAI Board chair and owner of Dakota Rotors. "These bylaw changes strengthen our ability to represent a diverse and growing membership, future-proofing the association to support the vertical aviation community for decades."

The bylaws revisions focus on two main areas: membership categories and the structure of VAI's Board of Directors (BoD).

Updated Membership Categories

VAI's revamped membership categories reflect the growing diversity of the vertical flight industry:

- **Vertical Aircraft Operator Members:** Includes commercial/private operators and government services providers, capturing a broad spectrum of mission types.
- **Honorary Members:** Recognizes individuals who have made significant contributions to the industry, including award winners, past chairs, and former VAI presidents and CEOs.

- **Manufacturer and Supplier Members:** Represents companies involved in building, supplying, or supporting vertical aviation, acknowledging their essential role.
- **Individual Members:** Includes pilots, mechanics/engineers, and other industry professionals, giving individuals a voice in the association.

Restructured Board of Directors

VAI's BoD will expand from 9 to 11 members to better represent all industry segments:

- **Nine operator representatives:** Three seats each for small, medium-sized, and large operators, based on fleet size.
- **Two government services representatives:** Reserved for those from government, military, and public-service sectors.

"These updates ensure that VAI remains a responsive and influential organization," adds Schlaefli.

The new governance model aims to enhance advocacy, communications, education, and networking within the vertical aviation community.

Board elections under the revised bylaws will be announced at VAI's Annual Membership Meeting and Breakfast on Mar. 11, 2025, at **VERTICON**, which will be held Mar. 10-13 (exhibits open Mar. 11-13) in Dallas, Texas. ■

5 DOS AND DON'TS

Integrating Drones into Your Operation

Use these aircraft to supplement your helicopter operations while improving safety and lowering costs.

By Andrew Parker

UNMANNED AIRCRAFT SYSTEMS (UASs), or drones, are making their way into a variety of vertical aviation applications that include teaming with helicopter fleets for public service and utility

operations. Are you considering adding drones to your fleet? Follow the suggestions below to help smooth the process of launching, or expanding, a UAS program.



VAI/Mark Bennett Image

1 DO map out how you plan to use drones. “The first question is, do you want to build [your program] in-house, or do you want to contract it out?” says Craig Stenberg, program manager for remote sensing and unmanned aircraft at Southern California Edison. “If you’re going to contract it out, what’s the size of your operation? Does it make more sense to use helicopters instead? You have to look at the cost-benefit analysis across [the operation].”

2 DON’T overlook in-house resources when searching for UAS operators. Training an existing line worker can be much more cost and time efficient than seeking an external operator. “Take a lineman who already knows their trade very well and spend a fraction of the time training them to be a competent UAS pilot,” notes Stenberg.

3 DO consider safety and risk reduction when exploring UAS applications. Using drones for inspections traditionally done by helicopters, such as overhead electrical system patrols and infrared inspections, helps reduce risk to employees and the public, says Kellen Kirk, manager of UAS and fixed-wing operations at Pacific Gas and Electric. He recommends using drones in areas that can lower costs across an organization and increase safety for pilots, crews, and team members.

4 DON’T leave traffic coordination to the pilots and drone operators. As your operation grows, use a central dispatch for air traffic control services. “Otherwise, you’re going to have too many different people making decisions trying to send aircraft,” says Stenberg.

5 DO communicate with the public. Tell people what your drones are doing in their communities. Let them know that your aircraft are there to inspect the infrastructure, not to spy on residents or workers. ■

Andrew Parker is VAI’s copy editor.

Thanks to Kellen Kirk and Craig Stenberg for the tips above, which are based on their presentations at the Oct. 10, 2024, VAI webinar, “Integrating UAS Aircraft into a Helicopter Operation.” To learn more, watch the recording of the webinar at verticalavi.org/webinar.

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IN THE SPOTLIGHT

Retired US Army Aviator Linda McDonald DuMoulin

Pioneer cracked glass ceiling for women as a US Army pilot.



WHEN LINDA MCDONALD

DuMoulin sets her sights on a goal, she doesn't let obstacles that might stop most people stand in her way. The 80-year-old veteran from Albuquerque, New Mexico, in 1975 was the US Army's first female helicopter maintenance test pilot after earning her wings the year before.

Over 23 years, DuMoulin blazed trails and pushed against barriers, never taking no for an answer. With assignments including Korea and Germany, she left her mark.

POWER UP recently sat down with DuMoulin to learn how it all began and what she witnessed along the way.

POWER UP: *When did you join the army?*

DuMoulin: After earning my master's degree in 1969, I became a recreational director in Korea for three years. Then, in 1972, I decided to join the US Army as a civilian member of the Women's Army Corps (WAC). We hadn't merged serving with the men yet, and they didn't even have trousers for us. We had to run around in skirts, and we were always ironing them, which was a pain.

But then I heard rumblings of the aviation fields opening up to women. So, I thought, well, that would be cool. You know, rather than just sitting

behind a desk. I was a farm kid. I grew up on a ranch, picking pears and apples and shoveling out the barn.

I checked all the services. I didn't want to join the navy, because I get seasick. The Marines weren't doing anything with women yet. The air force saw I had a master's degree in art and told me they wanted someone with engineering training. They didn't realize I had a really high mechanical ability that had been untapped because I was a woman. The army said the same thing, but I asked if there was anything that said I couldn't take the aptitude test. Well, I did take the test, and I did OK on it.

So, I decided to join the army. It was a very simple transition for me. It was the same uniform [as in the WAC], but this time I wore a rank and saluted. There was a lot I didn't know because my dad didn't let me turn a screwdriver, and all of a sudden, I was thrust into this world of repairing helicopters. Well, I learned, and I found out I had an aptitude for mechanics.

So, your first official job as a female officer was helicopter maintenance officer and helicopter maintenance test pilot?

Yes. When I started flight school, I chose the [US Army] Transportation

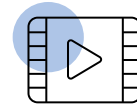
Corps. They were very good to me, and they ran the maintenance test pilot school. They said, "Guess what? You're taking the test pilot course." I said, "Wait a minute. Let me learn how to fly this thing first." They said it was their career path, so if I didn't like it, they didn't have a use for me. So, I went.

It was a natural fit for me. I loved it. I was learning helicopter maintenance and how to fly at the same time. I wasn't good with math, but I was sure good at diagnosing stuff. That's how I became the army's first female helicopter maintenance test pilot. I also became the first female Cobra pilot and OH-58 pilot because I had to fix those aircraft a lot too.

Oh, that Cobra was a piece of work. It was wonderful to fly. You could bank and roll it and do all kinds of stuff. The guys used to call me "chicken neck" because I'd be looking over the top of it as hard as I could, so they'd see my big old helmet and my skinny little neck.

Did you spend your entire army career as a maintenance test pilot?

No. When I finished up in aviation, I was an aviation company commander. I was the first woman since World War II to have an aviation command in any of the services—army, navy, air force, or Marines. Then I went on to do public



LEARN
about the US Army's first
female rotary-wing aviators

affairs for the rest of my military career, because I felt that sometimes aviation issues or vocabulary got misconstrued in the civilian world because they don't "speak" aviation.

Wait, another first!?

Yeah! I was the aviation headquarters company commander in air traffic control in Bavaria. I was responsible for maintaining all the helicopters in the battalion. When I completed my command, I took a public affairs course and was sent to NATO in Belgium, where I was a public affairs officer covering the United States and the United Kingdom. Then, in 1989, I was assigned as a public affairs officer at the Pentagon for the secretary of defense, who was Dick Cheney at the time. After four years there, I ended up retiring as a lieutenant colonel.

What did you do after leaving the service? Did you continue to fly?

No. I didn't fly again. I would have stayed in the army longer, but my health started to bother me. I didn't

know what was wrong; I just knew I was tired all the time. When I retired, I think I slept for two years. I was in my early 50s. It wasn't until much later, after I moved to New Mexico, that they properly diagnosed that I had a serious thyroid problem. It had been misdiagnosed all those years. I know how to take care of it now. I'm actually starting to feel a lot better.

Is there anything special that stands out from your flying career?

I feel like I had angel wings attached to me somewhere, because I had some serious things happen that could have ended my life but didn't. One of them was an engine failure in Germany. I had a full load of 13 people. We sank like a rock, but I put it into an oat field as pretty as you please. A perfect landing.

Another time, I had a transmission failure, and usually you don't live to tell about those. I had just finished a test flight, and I was throttling down when suddenly the blades stopped turning. I told the crew chief to tie them down. He looped the strap over the blade

and was tugging at it. I was getting on him to hurry up when he says, "Ma'am, I'm trying. The blades won't move." I thought, "Oh crap, it's a transmission failure." So, as I said, the angels waited until I was on the ground before they seized it up.

Another incident was when I was helping the [US Army] Pathfinders do some night maneuvers in an OH-58. We were flying with the main lights off, and we were only using what's called "cat eyes," which were very small lights. Out of the corner of my eye, I thought I saw something squirt out of the battery port mounted on the helicopter nose area. I checked it again when we went around the traffic pattern. I made sure to keep an eye on the battery gauge. It was OK. The next time I checked, it was pegged out. It turned out I had a runaway battery fire. We landed and I started yelling, "Get out! Get out! Get out!" I throttled that aircraft down as fast as I could and we got the heck out of there.

Turns out, what I saw out of the corner of my eye was the battery fluid spurting out of the top port up near the windshield. I knew I saw something, but those cat eyes didn't leave enough light to really see it. It could have exploded very easily and blown the nose off. Luckily, we shut it down fast enough that it didn't go and take any of us with it. It was melted about a third of the way down. ■

Jen Boyer is a journalist and marketing communicator specializing in aviation. She holds commercial, instrument, flight instructor, and instrument instructor ratings in helicopters and a private rating in airplanes.

Linda McDonald DuMoulin (far left) and Sally Murphy (far right) look on as Susan Dunwoody Schoeck receives her wings in 1975. The three women were the US Army's first female rotary wing aviators. (Sally Murphy Photo)



VERTICAL AVIATION CALENDAR

Upcoming Events

Jan. 23–24, 2025

2025 Concorde Battery Inspection Authorization Renewal Series, sponsored by VAI

Virtual event

Learn more at concordebattery.com/training/ia-renewal-2025.html

Feb. 4–6

Transformative Vertical Flight 2025

Vertical Flight Society
Phoenix, Arizona, USA

Learn more at vtol.org/tvf2025

Mar. 10–13 (exhibits open Mar. 11–13)

VERTICON

Vertical Aviation International
Dallas, Texas, USA

Learn more at verticon.org

Mar. 18–21

68th Annual AEA International Convention & Trade Show

Aircraft Electronics Association
Phoenix, Arizona, USA

Learn more at aea.net/convention/2025

Mar. 27–29

WAI 2025

Women in Aviation International
Denver, Colorado, USA

Learn more at wai.org/2025-conference

Apr. 1–6

Sun 'n Fun Aerospace Expo

Lakeland, Florida, USA

Learn more at flynf.org

Apr. 7–9

ACSF Safety Symposium 2025

Air Charter Safety Foundation
Daytona Beach, Florida, USA

Learn more at acsf.aero/acsf-safety-symposium

May 19–22

XPONENTIAL 2025

Association for Uncrewed Vehicle Systems International
Houston, Texas, USA

Learn more at xponential.org

May 20–22

VFS 81st Annual Forum & Technology Display

Vertical Flight Society
Virginia Beach, Virginia, USA

Learn more at vtol.org/forum

Jun. 16–22

55th International Paris Air Show

SIAE

Le Bourget, France

Learn more at siae.fr/en

Jul. 14–18

APSCON/APSCON Unmanned 2025

Airborne Public Safety Association
Phoenix, Arizona, USA

Learn more at publicsafetyaviation.org

Jul. 21–27

EAA AirVenture 2025

Experimental Aircraft Association
Oshkosh, Wisconsin, USA

Learn more at eaa.org/airventure

Oct. 14–16

2025 NBAA Business Aviation Convention & Exhibition (NBAA-BACE)

National Business Aviation Association
Las Vegas, Nevada, USA

Learn more at nbaa.org

Nov. 17–20

EUROPEAN ROTORS 2025

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Learn more at europeanrotors.eu



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Photo by Mark Bennett





Robinson's New Era





Under new leadership, the OEM eyes expansion in an evolving market.

By Jen Boyer



FROM THE SALE OF THE FIRST

Robinson R22 in October 1979, Robinson Helicopter Co. was defined by the vision and leadership of founder

Frank Robinson. No new design, manufacturing process, customer service center, or sales procedure was executed without his review and approval. In many ways, his all-encompassing management style helped to make the company a success, with more than 13,000 Robinson aircraft delivered since the company's founding in 1973. After Frank's 2010 retirement, his son, Kurt Robinson, took over as company president and CEO.

In 2023, David Smith joined Robinson as VP of operations, bringing his engineering and

leadership experience from Bell. Smith was named president and CEO in February 2024, the first non-Robinson family member to lead the company. Kurt Robinson transitioned to an advisory role and remains on the company's board of directors.

The transition to Smith as the company's top executive had been planned for some time after the OEM obtained outside investment funds. Smith was handpicked by the investment firm, Kurt Robinson, and the Robinson board of directors based on his vision for Robinson's expansion and ability to compete in an increasingly evolving market. His appointment continued Frank Robinson's vision of ensuring growth by choosing a leader with a strong engineering background.

The Robinson Helicopter Co. is based in the greater Los Angeles area, with its headquarters and manufacturing plant located at Torrance Municipal Airport – Zamperini Field (KTOA), where an R22 prototype took its first flight in August 1975.

(VAI/Don Kelsen Photo)



A Focus on People and Service

Longtime Robinson customers and partners will have noticed immediate changes under Smith, who reorganized the company with the addition of new leadership positions and strategic hires to fill them. Early on in Smith's transition, Robyn Eagles was hired as VP of global marketing and communications to help tell Robinson's story. Randall Schaffer joined as VP of customer success to improve customer service and support, and Will Fulton was brought in as VP of business development to focus on direct sales to government entities and large-fleet opportunities.

Eagles's storytelling campaigns have led to a boost in Robinson's connections with customers, who have shared the videos on social media. The outreach effort is expanding awareness of both the capabilities of Robinson's aircraft and their potential in new markets, Smith explains. Eagles, who previously worked for Skyryse and Honda, also oversees dealer management and support.

Schaffer, a former aftermarket business development manager for Parker Aerospace and MD Helicopters, is taking over the customer-focused functions Kurt Robinson historically managed, including customer service, service centers, and flight training, in addition to developing new programs to improve the overall customer experience.

"We haven't really had anyone in that position since Kurt stepped into the president position, so hiring Randy allows us to better support our by-the-hour agreements and management of more complex service arrangements," Smith says. "We have a great product, but we need to get better at warranty turns for things that fail in the early years of the product. We need to get to the core processes to ensure they are treated quickly

and cash gets back to the customer."

Smith has also charged Schaffer with growth opportunities, including a new option for timed-out aircraft. Robinson is developing a program that would allow customers to trade in timed-out aircraft for credit toward a new aircraft. Instead



of simply overhauling the helicopter for resale, Robinson would use its FAA Part 145 capabilities to upgrade the ship to newer standards as a factory-certified preowned aircraft. These updated aircraft would be less expensive than new helicopters, potentially opening new markets with the lower price point.

"What I don't love about our overhaul process is it can be very long because of all the questions and back and forth on components," Smith says. "It can add weeks to an overhaul. This faster process allows us to buy assets, or take them on trade, then put them back into the fleet as upgraded aircraft down the road.

"It's a great option for people wanting to buy an R66, for example," he says. "They trade in their R44, no questions asked, and the value goes toward a new R66. We then overhaul and upgrade the R44 with new bird-strike windows,

David Smith, the first non-Robinson family member to lead the company, brings decades of aviation engineering and leadership experience to the role. (VAI/Don Kelsen Photo)

cockpit cameras, autopilot, and send it out to our dealer network for sale at prices lower than a new aircraft.”

The program calls for more manufacturing capacity, and Smith is already in the process of hiring and expanding output.

Schaffer is also working to increase Robinson’s training program. The manufacturer recently added a CFI standardization course and is looking to add more offerings, such as advanced R66 transition and advanced maintenance courses with an emphasis on new technologies. The company is also planning to standardize Robinson courses taught around the world with a more Robinson-directed and -resourced approach than has been taken in the past.

“We’re going to become a lot more active on the training side, running it directly, not necessarily through as many intermediaries,” Smith says. “For instance, you’ll book your course through Robinson’s website, regardless of where in the world you take the course.”

Fulton, formerly of Skyryse and Airbus Helicopters, is Robinson’s most recent hire,

joining the team in September 2024. He’s working with governments on aircraft acquisition. (Most government clients are required to work directly with an OEM rather than with a dealer.) Fulton will focus on providing timely responses to inquiries; bidding; executing small- and large-fleet sales, such as military training aircraft; and expanding Robinson’s markets in government and military arenas. Smith sees Fulton as being instrumental in making government sales and passing along maintenance agreements to the local service centers.

Smith has also overseen a culture change within Robinson. Whereas the leadership style under Frank Robinson leaned toward the autocratic, Smith is working to cultivate a more inclusive, trusting culture.

“Kurt did a really good job of building a more collaborative, caring culture, but there were still elements of the old heritage, as he didn’t have time to initiate all the change he envisioned,” Smith notes. “We hired collaboration-focused leaders, and we trust our managers. If someone isn’t doing their job, that’s a performance issue

Robinson is working to enable automotive fuel use in the R44 Raven aircraft, which is currently approved to use only 100LL.
(VAI/Don Kelsen Photo)



and we work to help them improve. We've had a huge hiring wave, and we put all of our leaders through training.

"I encourage people to approach me and other leaders with ideas and concerns, and we listen," Smith continues. "I've also asked people to find those good employees who left Robinson because of that former culture. I want them back. We need their experience and can offer a much more caring environment than they experienced in the past."

New Product Development

While he doesn't offer any insight into a big project he hints about, Smith says Robinson is focused on four types of product improvements.

"We certainly see opportunity in several categories above the R66 where there's a need for a robust, field-supportable aircraft that has Robinson maintenance methodology built in—long periods of low maintenance requirements and deep maintenance at a predictable interval," Smith says. "We think that same methodology is going to make good sense for folks in bigger and bigger markets."

The second product improvement aims to make certain high-performance aircraft more affordable. "We hear from customers that the current options in two different major segments—operations requiring the capabilities of a Bell medium and current single-engine aircraft utility operations—are unaffordable, and they can't pass the cost on to their customers any longer," Smith says. "So we're going to go right after that. Our prime directive is to solve cost while offering the same performance or better. I think what we have so far is compelling on that front."

Other developments underway include alternative powerplants and fuel. Robinson recently partnered with biotechnology company United Therapeutics to develop a fleet of hydrogen-powered R44s, with plans for the R66 to eventually join the program. The company is also developing hybrid powerplants projects that would increase the R66's payload, range, and performance. As far as near-term alternative power options are concerned, Smith says Robinson is working to enable automotive fuel use in the R44 Raven, the

last holdout of the Robinson piston fleet that's currently approved to use only 100LL.

Robinson is also working to improve styling and customer touches in terms of aircraft finishes, Smith says.

"We've been investing in capabilities that will make an owner-operator or an air tourism operator a lot happier with the design coming off the factory line," Smith says. "Without being too specific, there will be some high-quality options."



Some Things Stay the Same

Three key items that have been highlighted by competitors as Robinson limitations aren't going anywhere, at least for now: the cyclic design, aircraft time before overhaul (TBO), and Special Federal Aviation Regulation (SFAR) 73.

The Robinson T-bar cyclic isn't now under redesign. However, Smith admits that as the company looks at designing wider aircraft, the current cyclic design becomes less effective and alternative control designs will most likely be required, based on physics.

The 2,200-hour overhaul requirement for the R22 and R44 and 2,000-hour requirement for the R66 also remain, though the company recently announced that a dozen R66 components have

D David Smith enhanced Robinson's leadership team with hires like Robyn Eagles, who oversees brand strategy, marketing, public relations, global dealer relations, and sales for the company. (VAI/Don Kelsen Photo)

Ascent AeroSystems' Spirit UAS provides operators with a rugged, modular platform manufactured to aviation standards. (Ascent AeroSystems Photo)

received FAA approval to double their life to 4,000 hours.

"I think if we tell the right story, the true financial story, Robinson wins on the economics of the overhaul," Smith says. "When you add all the costs of other aircraft that need constant maintenance, including their much more expensive parts, repairs, and labor, we come out as far more superior with our set TBO, so there's no reason to change that. We need to do a better job of telling



SEE
Ascent AeroSystems' Spirit UAS in flight

that story. And like what we did earlier this year with extending component life on some more expensive parts, we have opportunities to further decrease that overhaul cost."

In the past, Robinson aircraft's tendency to roll in low G, and pilots' instinctive cyclic correction, led to mast bumping and mast separation. The FAA in 1995 responded to the problem with SFAR 73, which required additional training of and placed certain limitations on R22 and R44 pilots to help avoid mast-bumping accidents. The FAA recently approved a new empennage design intended to correct that problem.

Featuring an upgraded horizontal stabilizer that resists roll in low-G situations in all Robinson aircraft, the design makes the potential for mast-bumping accidents arguably the same as for any other helicopter with a two-bladed teetering rotor system. The question then becomes, is the SFAR still relevant, and if not, can it be removed?

"The SFAR was something that separated Robinson from other two-blade helicopter manufacturers, and I think in time with the new empennage we'll prove the risk of mast bumping is similar between our aircraft and other two-bladed helicopters," Smith says. "It's our objective over time to make sure the SFAR is reevaluated for the R44, because it was just added onto the original SFAR for the R22. That said, I think the SFAR has been valuable for the R22. It gets people right when they're coming in and gives them a special focus on safety."

The Future Spotlights Diversity

Smith turned industry heads in April 2024 when Robinson announced it had acquired Ascent AeroSystems, maker of compact coaxial helicopter unmanned aircraft systems (UASs, or drones) designed for industrial, public safety, and defense applications.

Smith saw the partnership as an opportunity to both expand Robinson's aircraft offerings and use its manufacturing facilities to produce aviation-grade, quality drones to support law enforcement, public safety, firefighting, utility, and defense operations.

"In the future, our aircraft offerings will be

more than just helicopters,” Smith says. “We’ll have a thriving, growing business of different size ranges of the Ascent architecture, which can be the Swiss Army knife of the future. So, if you can imagine, a police department has the drones right next to their armory. The modular Ascent drones allow for different payloads to be quickly attached and the drone deployed to survey, film, provide a mobile speaker to make announcements, drop tear gas—whatever [the police] need. They can also be launched directly from the helicopter as a force multiplier.”

Robinson has built its first lot of the drones and is well into the second, with deliveries to customers scheduled to have started in the fourth quarter of 2024. Smith says the plan is to build them in the Robinson factory, promoting the UASs as aviation quality based on the Robinson manufacturing facility’s FAA oversight. Currently, engineering and sales take place at Ascent’s Boston, Massachusetts, location. Eventually, all of

Ascent’s activities will occur at Robinson’s headquarters in Torrance, California, Smith adds.

Smith also led Robinson’s partnership with Rotor Technologies (see “[Rotor Technologies: Tackling the Dull, Dirty & Dangerous](#),” POWER UP magazine, September 2024). Founded by Smith’s fellow MIT alum Hector Xu, Rotor enables Robinson aircraft to be flown remotely for agricultural missions, with the goal of eventually making them fully autonomous.

“We have a collaboration agreement with Rotor that I think is unique in that space,” Smith says. “They’re the only ones we’ve signed an agreement with around development of advanced automation. We are very interested in helping them explore how to market and sell their aircraft.” ■

Jen Boyer is a journalist and marketing communicator specializing in aviation. She holds commercial, instrument, flight instructor, and instrument instructor ratings in helicopters and a private rating in airplanes.

Robinson consistently scores well in customer satisfaction surveys but aims to improve in areas such as streamlining warranty service and providing higher-end finishes for aircraft. (VAI/Don Kelsen Photo)





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A global trend toward stricter regulation underscores the need for collaboration across our industry.

Working Together for Vertical Aviation

By Loreto Moraga

RECENT REGULATORY ACTIONS in Chile and the United States reflect common challenges facing the vertical aviation community worldwide. But two experiences over the past year involving the Chilean Helicopter Association (ACHHEL) illustrate how international cooperation between industry members can thwart threats to aerial operations.

These two cases demonstrate ACHHEL's commitment to shaping national and international aeronautical regulations as we promote effective collaboration between vertical aviation stakeholders, open new markets, and create regulations that align with current operational needs and limitations.

Patagonia Airspace Restrictions

In the first case, ACHHEL earlier this year became aware of a draft management plan for the Kawésqar National Reserve (RNK) that had been under development since 2019. The RNK includes Chilean maritime territory adjacent to Kawésqar National Park, located in the provinces of Última Esperanza and Magallanes, in the Magallanes and Chilean Antarctica Region. This reserve, part of a broader network of protected areas in Patagonia, is crucial for biological and cultural conservation.

After reviewing the draft plan, ACHHEL identified a significant issue concerning aerial operations: the plan eliminated aircraft use for tourism, permitting flights only for scientific, filming, or forestry-related activities. These restrictions applied to all aircraft, including drones.

ACHHEL proposed several key revisions to the plan. First, we recommended updating the technical definitions for both manned and unmanned aircraft. The imprecise wording of the definitions as they are currently written makes the plan misleading, resulting in confusion that could lead to problems for the forestry authority and for communities in the future.

Second, we suggested shifting the focus from regulating the types of aerial activities to regulating the types of aircraft permitted in the reserve. This approach prevents contradictions, such as choosing aircraft with a bigger environmental footprint to perform conservation work. Regulations, we argued, should focus on the environmental impact of the aircraft, not their activities or missions.

Finally, we recommended that aircraft restrictions in protected areas be based on measurable criteria, such as emissions and sound levels. Limits on landings, takeoffs (except for unmanned aircraft systems, or UASs), and operations during bird migration should also be included. We will submit these suggestions to the appropriate authorities and local communities.

Advocating for Open Skies

A second development in the past year highlights the value of cooperation in the vertical aviation industry, where ACHHEL is active in advocating for regulatory improvements both internationally and domestically. For the past 45 years, Chile has pursued an "Open Skies" policy, deregulating air transport to open international markets and reduce

trade barriers. This policy is implemented through air service agreements (ASAs) that allow companies to establish new routes for passenger and cargo transport.

Much of the rest of Latin America, however, lacks this level of openness. In those areas, complex regulations hinder regional air operations. For example, maintenance requirements in countries that are part of the Regional Safety Oversight Cooperation System (SRVSOP), an ICAO organization created to improve operational safety in Latin America, often create bureaucratic delays, especially during emergencies such as natural disasters and wildfires, limiting the region's capacity to respond.

In 2019, ACHHEL initiated discussions with the Latin American Civil Aviation Commission (CLAC). These talks led to the inclusion of a study note on aerial work and the proposal of a memorandum of understanding (MoU) during the 2019 CLAC meeting. This proposal was revived post-pandemic, and in 2023, the MoU was officially presented. It commits signatory countries to streamline aircraft and crew approval processes and to facilitate aerial operations during emergencies.

In December 2023, the MoU was signed by Aruba, Brazil, Chile, Costa Rica, Cuba, the Dominican Republic, Panama, Paraguay, Uruguay, and Venezuela, with other CLAC member states invited to join in the future.



Through ACHHEL's efforts, 10 Latin American countries (see map at right) agreed to reduce bureaucratic delays during regional emergencies by streamlining aircraft and crew approval processes and expediting aerial operations.

Working with VAI on Common Challenges

ACHHEL has been collaborating with VAI for several years now and is a member of VAI's International Partnership Program, which promotes common safety and operational standards and best practices in vertical flight. Both associations strongly believe that the regular exchange of information on policy and regulations benefits both our members and the countries in which we operate. Sharing insights from different nations, as well as learning from the experiences of operators and companies in those regions, helps us navigate common challenges more effectively.

For instance, the draft management plan for the RNK proposed banning air tour flights and other aircraft operations over protected areas, similar to US [air tour management plans](#), which aim to reduce or even eliminate air tour operations over national parks. These efforts in both Chile and the United States, though distinct in their regional focus, reflect a global trend toward stricter regulation of aerial activity in certain areas.

By engaging in ongoing dialogue, we can better understand the rationale behind these regulations and develop coordinated strategies to address similar challenges. Learning from one another's experiences enables us to advocate more effectively for our members. Such collaboration strengthens our ability to protect both our industries and the natural landscapes in which we operate, ensuring sustainable practices in aerial operations worldwide. ■

Loreto Moraga is president of the Chilean Helicopter Association (ACHHEL) and the Chilean Space Association (ACHIDE).



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SOLVING the

BVLOS

**VAI advocates for safe, fair
beyond-visual-line-of-sight rules.**

By Mark Huber

CHALLENGE

BY THE TIME YOU READ THIS, THE FAA may well have issued its notice of proposed rulemaking for the long-awaited Part 108 of the federal aviation regulations governing beyond-visual-line-of-sight (BVLOS) operations of unmanned aircraft systems (UASs) in the National Airspace System (NAS). Enabling UAS operations beyond the sight of their remote pilots will remove a key barrier preventing this sector of aviation from reaching its full potential.

While VAI supports the full integration of UASs into the NAS, the association argues that to be successful, that integration must preserve—if not improve—the current level of safety in the NAS. While not a certainty, the proposed regulations are expected to embrace key recommendations made in the [2022 final report of the UAS BVLOS Aviation Rulemaking Committee \(ARC\)](#). Over the past two years, [VAI has voiced concerns about several of the ARC's recommendations](#), primarily in the areas of airspace segregation, deconfliction, and right-of-way when it comes to manned and unmanned aircraft sharing the same low-altitude airspace.

The Push for BVLOS Operations

The breadth and scope of the ARC's recommendations could outpace practical enabling technology, warns Chris Martino, VAI senior director of operations and international affairs. "Commercial UASs must be operated at a level of technical maturity that enables their safe and efficient integration into the airspace," he says. "There is a push to get these things into the air, but preserving the current level of safety for the manned aircraft that are already in that airspace is essential."

The momentum that Martino refers to is great, in part because BVLOS operations will be a turning point for enabling a dramatic expansion of commercial drone operations. "Success in aviation is closely tied to the operator's ability to pursue economic efficiencies while keeping safety paramount," says James Viola, VAI president and CEO. "Opening up BVLOS operations for UASs will enable more operators to do just that. Some VAI members are already leading the way by fielding mixed fleets containing both helicopters and UASs, with great results."

In a letter to Transportation Secretary Pete Buttigieg

in July 2024, a coalition led by the US Chamber of Commerce that included national energy, transportation, and media organizations urged the FAA to “expeditiously issue and finalize rules to enable routine BVLOS operations to unleash innovation and the numerous benefits stemming from this type of operation.”

A report from Grand View Research estimates that the US commercial UAS market, which was \$4.79 billion in 2022, is expected to grow at a compound annual growth rate of 9.1% from 2023 to 2030. The McKinsey & Co. consulting firm predicts that US commercial UASs will contribute \$31 billion to \$46 billion to the nation’s gross domestic product (GDP) by 2026. While those numbers are estimates, the lower figure is equivalent to the combined annual revenues of helicopter manufacturers Airbus, Bell, Leonardo, and Sikorsky, according to data released by the parent companies of those OEMs.

Safety in a BVLOS-Enabled Airspace

Safely integrating BVLOS operations into the NAS poses enormous challenges. Some proposed solutions would change foundational assumptions

about NAS operations, including each aircraft’s duty to see/sense/detect and avoid other aircraft.

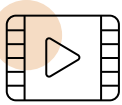
In a 2022 statement, [Viola expressed concerns about the BVLOS ARC report](#), saying, “We are grateful to have been part of the ARC’s efforts but are ultimately unable to support the recommendations of the report, as they will greatly increase risk to current airspace operators.”

VAI’s main objections to the ARC recommendations center around the inability of most UASs to detect and avoid other aircraft. A proposal in the ARC’s final report transfers that right-of-way responsibility solely to manned aircraft, a dramatic departure from current FAA regulations. “Altering the right-of-way hierarchy is not, and never should be, a mitigation for an unmanned system’s inability to detect other aircraft in the airspace,” Viola noted.

VAI’s Martino says the ARC’s recommendations for right-of-way and shielded areas, if implemented, would create safety hazards in the low-altitude airspace. Aircraft working critical missions such as air medical, aerial firefighting, and utility maintenance and patrol would all be placed at unnecessary risk. “The safety of the NAS only

In 2019, NASA conducted successful UAS traffic management test flights in downtown Reno, Nevada, with a suite of technologies expected to enable safe BVLOS operations. (NASA/Dominic Hart Photo)





HEAR
about PG&E's UAS program

Pacific Gas and Electric flies 75 to 90 sUASs daily from its fleet of 200 for infrastructure inspection and wildfire mitigation. (PG&E Photo)

works if all aircraft in the system have the same responsibility to see/sense/detect and avoid all other aircraft,” he says.

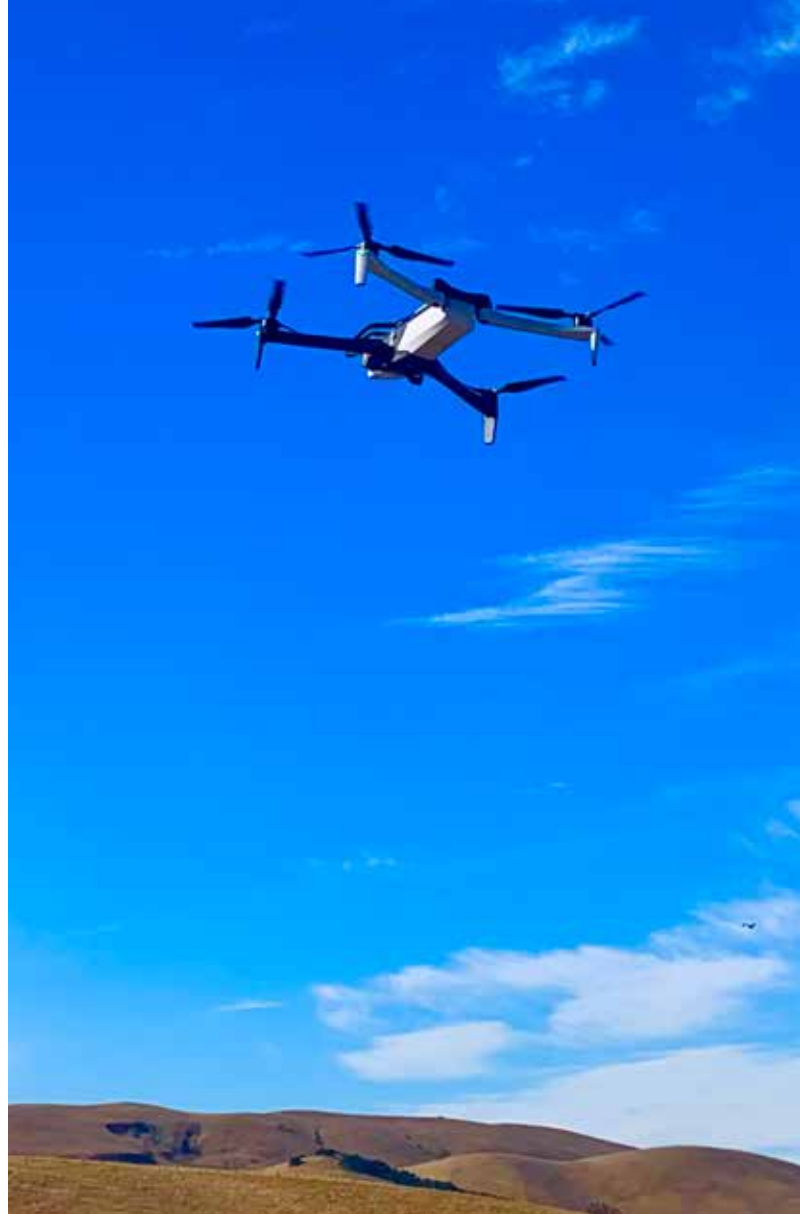
The risk to manned aircraft from UASs operating with a blanket right-of-way could be substantial: some low-altitude, larger commercial UASs can weigh more than 1,400 lb.—about the same as a light sport fixed-wing aircraft—while several models of manned, single-engine helicopters are in the 3,600-lb. range for maximum takeoff weight.

Even a small UAS of the hobbyist variety can cause significant damage when it collides with a helicopter, as documented by accident reports, including a [Robinson R44 that was hit by a drone at 180 ft. over Daytona, Florida, last December](#), a [drone that collided with a helicopter in February 2020 over a California off-road race](#), a [Los Angeles police helicopter that was hit by a drone in September 2020](#), a [drone that struck a news helicopter over Los Angeles in 2019](#), and a [US Army Black Hawk that was struck by a 3-lb. DJI Phantom IV over New York City in 2017](#).

In 2021, the FAA received 2,596 pilot reports (PIREPs) of sightings and near-misses between UASs and manned aircraft—all taking place in a regulatory framework where UASs cannot legally fly beyond the sight of their remote pilots without a waiver. What will the low-altitude airspace look like when more UASs are flying BVLOS? Amazon Prime Air has already obtained FAA permission for BVLOS package-delivery flights on a limited basis. The company says it intends to deliver 500 million packages via UAS every year by 2030.

VAI also strongly objects to establishing shielded areas around obstacles and critical infrastructure as proposed in the ARC’s recommendations because of the dangers created for manned aircraft operating in those areas. Martino says there are places where shielded operations make sense, such as inside powerplant cooling towers or under bridges, because a UAS in those scenarios is flying in unoccupied airspace.

However, Martino points out, shielded areas as proposed by the ARC would establish 100-ft. zones around critical infrastructure in which manned aircraft would be required to give way to UASs, regardless of maneuverability criteria. This, he says, is simply unworkable, in part because “critical infrastructure” is a broad category that includes farm fields, waterways, highways, railroads, power lines, and Internet T-1 lines—16 categories in all as defined by the US Cybersecurity



and Infrastructure Security Agency, part of the Department of Homeland Security.

While stressing that it fully supports integration of UASs into the NAS, including BVLOS operations, [VAI reiterated its objections in a late-September 2024 position statement](#). In addition to the issue of shielded operations, the statement proposes:

- BVLOS rules must consider the needs of current low-altitude airspace users, which include firefighting, aerial application, law enforcement, search-and-rescue, and utility patrol and construction missions. (VAI notes that in 2023 alone, air ambulances conducted 130,000 off-site landings.)
- The right-of-way rules contained in [14 CFR 91.113](#) should not be changed.
- The FAA should create performance-based standards for BVLOS detect-and-avoid requirements.
- All aircraft platforms should maximize their ability to be seen, sensed, or detected by visual, electronic, or other means.

Potential BVLOS Solutions

Erin Roesler, Northern Plains UAS Test Site (NPUASTS) deputy executive director, told POWER UP that fully integrating UAS BVLOS operations into the NAS presents substantial challenges. The NPUASTS is one of seven sites designated by the FAA to support integrating UASs into the NAS, and NASA is also conducting research on BVLOS operations. Roesler points to a variety of BVLOS-enabling technologies, including privately owned ground-based radars, as part of a potential solution set for deconfliction but acknowledges that, ultimately, a “monumental shift” in airspace management infrastructure is needed.

The technical challenges of widespread implementation of BVLOS operations are immense, with Roesler estimating that the effort to resolve them will be “a long game of 10-plus years before we’ll see some meaningful widespread impact.” Thales, the French avionics company that has been working on related technology for years, points out that UASs will spawn “low-altitude airspace usage forecasted to be orders of magnitude greater than existing commercial aviation demand.”

Such potential demand far outstrips current available air traffic control (ATC) resources, so government and industry have been working on technology that enables digital flight, an environment in which automation allows aircraft to self-separate, manage flight paths, and share situational awareness via information sharing, data connectivity, and cooperative behaviors—without using ATC services.

NPUASTS is conducting several research programs, including the testing of radar, optical, acoustic, and radio-frequency methods of UAS detection. Working in cooperation with Thales, NPUASTS has been selected by the FAA to participate in the Radar Data Pathfinder Program, using federal radar data to advance BVLOS. The data is being integrated into Vantis, North Dakota’s system for BVLOS UAS operations, and will be provided to other third-party service suppliers next year. Accessing radar data could enable UAS and air traffic operations and test technologies to advance these services.

Roesler envisions a system that would eventually integrate this data and provide it to end users in graphical form, much the way an electronic flight bag works on manned aircraft presently. Besides government radar, other enabling technologies potentially include cellular LTE, ADS-B, and private low-altitude, limited-range radars, such as those in some wind farms.

Wind-farm radars typically are used to switch on obstruction lights atop wind turbines. The lights are activated only

when aircraft are detected in the area, to minimize ambient light pollution. Panama City, Florida-based DeTect has developed an aircraft detection-lighting system for this purpose with a pair of radars that can detect aircraft up to 24 mi. away. Another company, Observation Without Limits (O.W.L.), has developed a digital radar system that can detect, track, and classify both manned aircraft and drones at ranges varying from 1.5 mi. for drones and 4.4 mi. for light aircraft such as a fixed-wing Cessna 172. The O.W.L. system can be augmented with passive RF sensors, acoustic sensors, and HD and thermal ONVIF cameras.

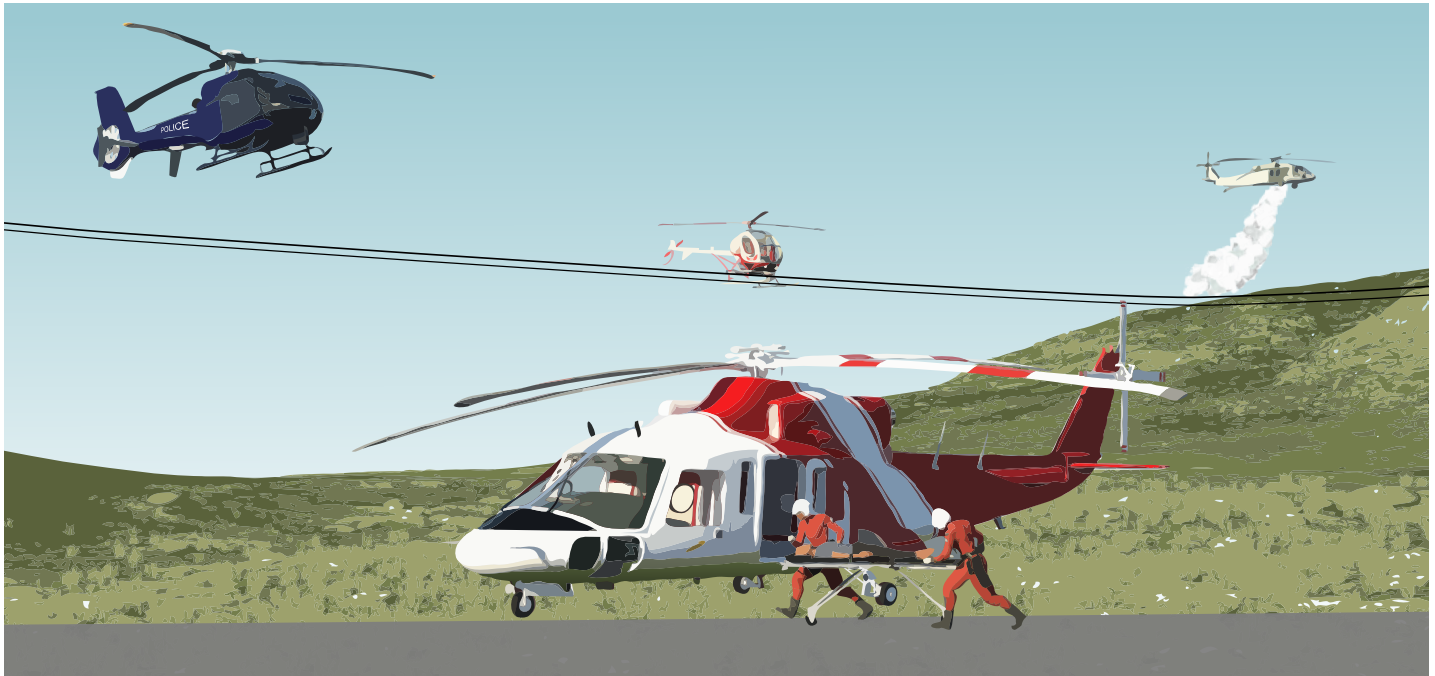
Meanwhile, NASA continues to work on solutions for UAS traffic management (UTM), including focusing on how such a system would work in densely populated urban areas. NASA has developed and tested several related software programs for BVLOS that it is making available to private industry while continuing research into developing a high-performance and intelligent airspace system it calls “Sky for All,” a five-phase approach that runs through 2050, culminating with “scalable, diverse, highly automated operations in integrated airspace.”

NASA’s research efforts on UTM BVLOS include Extensible Traffic Management, which will use digital information exchange, cooperative operating practices, and automation to provide air traffic management for remotely piloted small UAS flights, including drone package delivery and public safety operations. Related UTM tools and services are currently being tested in North Texas.

NASA researcher Jeff Homola told POWER UP that NASA’s related programs are designed to “make sure that this research gets us to the operational standard, the stage where things actually become reality.” Rather than requiring all UASs to carry a suite of sophisticated sensors and other heavy and costly technology packages, Homola sees cloud-based data provided to operators through subscriptions with third-party service providers as one possible solution for deconfliction. “Operators [would use that data to] manage their operations relative to others in their space” and “strategically deconflict from other drone operations in their airspace,” he says.

Current BVLOS Operations

Commercial BVLOS operations are being conducted right now via FAA-approved waiver or exemption to the current Part 107 UAS rules, mainly by organizations engaged in public safety and infrastructure inspection and monitoring. Part 108 is expected to make approval and compliance more streamlined.



Flight executives from two California utilities, both VAI members, that are currently conducting BVLOS operations, Pacific Gas and Electric (PG&E) and Southern California Edison (SCE), recently participated in a VAI webinar, “[Integrating UAS Aircraft into a Helicopter Operation](#).” SCE operates a fleet of 350 small UASs (sUASs, a class of aircraft weighing less than 55 lb.) and has more than 200 remote pilot employees, while PG&E flies 75 to 90 sUASs daily from its fleet of 200.

The utilities use the aircraft for infrastructure inspection and wildfire mitigation. Deconfliction issues that arise between each company’s mixed fleet of UASs and helicopters are handled in-house during preflight briefings or in the field with communication between company personnel. PG&E partnered with Skydio in 2023 for its BVLOS operations. Skydio has developed a line of UASs equipped with technology that allows the aircraft to avoid obstacles as small as a half-inch wire.

Kellen Kirk, PG&E manager for UAS and fixed-wing operations, says his main concern is that other UAS operators will use the utility’s infrastructure, such as rights-of-way, for their own BVLOS operations. “I don’t think we’re at a point yet where they’ve [industry and the FAA]

figured out how to broadcast ADS-B In or Out from drones. There’s a gap that needs to be closed before people are flying drones along our rights-of-way.”

No matter what is contained in Part 108, the future low-altitude airspace is likely to be an even busier place. And once BVLOS operations are fully launched, VAI expects that more of its members will field mixed fleets of manned and unmanned aircraft, taking advantage of the UASs’ lower operating costs and ability to handle the dull, dirty, and dangerous missions. But when it comes to the question of how to solve the BVLOS challenge, VAI is adamant that the rules governing those operations must preserve, not downgrade, the current level of safety in an already immensely busy and highly complex airspace.

“The aviation community must work together to solve the challenges around BVLOS operations and build a future that allows us all to operate safely,” says Viola. “But we can’t create a system that gambles with the lives of pilots, crews, and passengers by placing them at the mercy of unmanned aircraft that have no duty to avoid other aircraft.” ■

Mark Huber is an aviation journalist with more than two decades of experience in the vertical flight industry.

BVLOS rules must consider the needs of current low-altitude airspace users, which include many critical public-service missions, such as law enforcement, utility patrol and construction, search and rescue, and firefighting. (VAI/ Paul Smith Illustration)



VAI EVENT HIGHLIGHTS

Air Tour Safety

Inaugural conference provides operators with practical ways to improve safety.

By Bailey Wood



Previous spread: An AS350 B2 operated by TEMSCO Helicopters tours the mountains outside of Denali National Park and Preserve in Alaska. (Ron Gile/TEMSCO Helicopters Photo)

HONOLULU, HAWAII, PLAYED host to a groundbreaking event in the aviation industry this past September as more than 100 air tour operators, safety experts, and pilots from across the United States gathered for the first Air Tour Safety Conference. Organized by VAI, the event marked a significant milestone in the industry’s pursuit of safety excellence and operational efficiency while demonstrating the association’s commitment to advancing standards and promoting collaborative safety efforts in the vertical aviation tour sector.

Beyond the Basics

The two-day conference, held Sep. 23–24, 2024, at the Hawaii Convention Center, offered a comprehensive platform for operators, regulators, and industry leaders to delve into the most pressing safety challenges facing the air tour sector. The event brought together experts from different facets of aviation to share best practices, emerging technologies, and safety strategies.

Numerous sessions were designed to enhance participants’ understanding of critical safety topics. Chris Hill, VAI’s senior director of safety, opened the event with an emphasis on

cultivating a safety-first culture. “Safety isn’t just about compliance,” Hill said. “It’s about fostering a culture that prioritizes the well-being of every passenger and crew member. This event has empowered operators with the tools and knowledge needed to make feasible changes in their organizations.”

Throughout the conference, the message was clear: creating a safer industry requires not just adherence to regulations but a proactive approach that encourages operators to go beyond the basics. Attendees were shown the value of using safety management systems (SMSs), managing risks effectively, and harnessing new technologies to strengthen safety outcomes.

Key Safety Tools

A major theme of the conference was the role of SMSs in improving safety outcomes. During her remarks, Raquel Girvin, the FAA’s administrator for the Western Pacific Region, updated attendees on upcoming policy changes, including the agency’s new requirement for companies conducting air tours, air ambulance operations, charters, and commuter flights to implement an SMS by May 2027. Girvin’s address underscored the FAA’s commitment to enhancing safety protocols and ensuring that operators are well prepared to meet the new standards.

An SMS implementation session, which featured experts from both the FAA and the industry, was one of the conference’s most important presentations. The panelists shared best practices and strategies for achieving SMS compliance and discussed actionable steps operators can take to integrate these systems into their daily operations, emphasizing the importance of building safety into every level of an organization’s structure. The session concluded with a clear call to action for all operators to start preparing for SMS implementation now, well ahead of the 2027 deadline, as developing a mature SMS takes time.

Another key session focused on the integration of advanced technologies to improve safety. Additional sessions on data integration provided a deep dive into the potential of emerging technologies to enhance aviation decision-making and risk management.

Chris Hill, VAI’s senior director of safety, opens VAI’s inaugural Air Tour Safety Conference. (VAI/Bailey Wood Photo)





Topics such as the use of advanced weather data from a network of airport-based cameras, health and usage monitoring systems (HUMSs), and flight-data monitoring (FDM) were explored in detail. Attendees learned how to leverage these tools to create safer flight environments and improve operational efficiencies. Experts highlighted the potential for real-time data to help operators make more informed decisions, thereby reducing risks during flight operations.

In his presentation, FAA Air Safety Investigator Matt Rigsby shared his extensive experience investigating accidents and outlined steps operators can take to ensure passenger safety. From comprehensive preflight briefings to in-flight procedures to post-flight evaluations, Rigsby emphasized that safety begins long before takeoff and extends through every phase of the flight and provided practical, actionable tips for improving passenger safety.

R Raquel Girvin, FAA administrator for the Western Pacific Region, reminds air tour operator attendees that SMSs are required by May 2027. (VAI/Bailey Wood Photo)



Fostering Collaboration, Building Connections

In addition to the wealth of information provided during its sessions, the Air Tour Safety Conference offered ample networking opportunities for participants, allowing them to converse candidly with their industry peers, safety experts, and regulators.

“We’re thrilled to have brought together such

R From left: Jake Tomlin, Papillon Helicopters; Terry Burchett, Chevron Aviation Safety Assurance; and Jason Quisling, Air Methods, discuss how flight following and follow-up can enhance situational awareness, particularly when flying over challenging terrain. (VAI/Bailey Wood Photo)

a diverse group of operators to focus on one common goal: enhancing the safety and success of air tour operations,” said Mark Schlaefli, VAI’s Board chair and owner of Dakota Rotors. “This conference set a new standard for collaboration and knowledge sharing in our industry, and we are excited to build on its momentum.”

The importance of collaboration was a recurring theme throughout the conference. Operators were encouraged to connect with regulators, technology providers, and one another to share data, best practices, and lessons learned. By working together, the vertical aviation industry can collectively raise the bar on safety standards and

ensure that air tour operations continue to thrive.

Attendees praised the event for its focus on practical solutions and actionable insights. Many commented that the opportunity to engage in open dialogue with both peers and regulators was invaluable, helping to foster a sense of community and shared responsibility for improving safety.

A Commitment to Continued Progress

As the first event of its kind, the Air Tour Safety Conference laid a strong foundation for future discussions and developments in the air tour sector.

VAI has already committed to making the Air Tour Safety Conference an annual event, recognizing the importance of continued dialogue on safety. By providing a forum for operators, regulators, and safety professionals to come together, VAI aims to ensure that the industry remains focused on safety improvements.

“Safety is not a one-time achievement; it’s an ongoing journey,” Hill remarked at the conclusion of the event. “We look forward to continuing these conversations and working together to strengthen the safety record of air tour operations.”

Bailey Wood is VAI’s director of strategic communications.

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Chris Baur

Pilot, aerospace executive, The Woodlands, Texas, USA

Quick Facts

CURRENT JOB

I am president and CEO of Hughes Aerospace Corp. and lead a team of incredible people who create and maintain instrument flight procedures for all types of aircraft worldwide, especially helicopters and electric vertical takeoff and landing aircraft. I am also the industry chair of the US Helicopter Safety Team (USHST). Lastly, I'm a senior captain and line check pilot at United Airlines, enthusiastically connecting people to their helicopter flights all over the globe.

FIRST VERTICAL AVIATION JOB

I was an OH-58A scout pilot in the US Army, an HH-65A search-and-rescue (SAR) pilot in the US Coast Guard, an HH-60G combat SAR pilot in the US Air Force, and a law enforcement pilot with the US Customs Service. My first civilian job was as a Bell 206 charter pilot in New York City. It was the first time I was presented with my own key to a helicopter and flew paying passengers.

FAVORITE HELICOPTER

I've flown 14 helicopters in commercial, military, and government service. The Robinson R66 is the first helicopter I owned, and on a whim I flew my family from Houston to New York City for the holidays—a trip of a lifetime! I set an endurance record during an oceanic rescue in the Sikorsky HH-60G, flying over 16 hours. [I've done] formation and sling loads in the Huey. I flew the HH-65A, performing rescue hoists and night shipboard landings aboard Coast Guard cutters. Night-vision goggles [missions] in the OH-58 on the Korean Demilitarized Zone. They're all my favorites.

How did you decide helicopter aviation was the career for you?

Honestly, helicopters found me. I started flying airplanes in 1979 and didn't have exposure to helicopters until I enlisted in the army. My first helicopter flight was in a UH-1 Huey. That's all it took. Eventually, I earned my helicopter ATP and CFI/II and have enjoyed experiencing much of what can and probably shouldn't be done in a helicopter!

How did you get to your current position?

A friend once told people that when it comes to doing things, there's the easy way, the hard way, and the Baur way, and if you work with me, you don't get to eat, sleep, or go to the bathroom. My career hasn't been a linear projection but a journey of global adventures in aerospace, meeting people, working together to solve problems, pioneering new solutions resulting in safer, more efficient and dependable flying. I've flown continuously throughout my career, often multiple aircraft at the same time. Following the events of 9/11, I volunteered to help change aviation security. That led me in another direction and I became a pioneer in the global performance-based navigation, or PBN, movement. In a 1996 *Newsweek* article, I was coined an "easygoing danger lover," but perhaps I just couldn't hold a job.

What are your career goals?

Volunteer whenever and however I can and inspire others to do so. I lied about my age so I could be a volunteer fireman and medic. I volunteered in aviation security after 9/11. When you give back to others, you get far more in return.

What advice would you give to someone pursuing your path?

Try to find an easier path than I did, unless you like to build your character. But the path with more

character will instill confidence and carry you through the rough patches. If everyone is discouraging you, keep going; you are probably on to something.

Who inspires or has inspired you?

Amelia Earhart is my childhood hero. Everyday people who put themselves in harm's way for others and ask nothing in return.

Tell us about your most memorable helicopter flight.

I've had so many I don't know where to begin. I was out one night in the North Atlantic and the ship wasn't where it was supposed to be; I was low on fuel, and it was very low IFR in heavy seas. Another time, we were plugging the tanker in heavy weather and turbulence, with a bad drogue and no other options. The aircraft was icing up, and I realized I couldn't descend, climb, or stay where I was.

Other memorable moments: MD 500 engine failure on a test flight; losing an engine in IMC; filming the first season of CBS's *Tour of Duty* as a



stunt pilot; browning out in the desert on goggles; following a car back to a stash house with US\$4 million; having a ground wire come loose and wrap around the pitch control link; my first dolly landing in a BK 117 at night in a gusty crosswind. I also had a main-rotor

gearbox fail and yet another catch on fire, both over water. A different time, the tail-rotor gearbox failed and the T-tail broke off in flight. Then there's my first landing at the East 60th Street Heliport in Manhattan when it was full. There are more, but those are just the helicopter ones that just hovered into my head.

What still excites you about helicopter aviation?

It's a unique, select, challenging fraternity. Composed of those who aren't afraid to get wet or dirty, or the faint of heart.

What challenges you about helicopter aviation?

Having a helicopter community without fatal accidents. We need a lot more weather cameras with a sufficient density in every state to assist pilots in decision-making. Hughes worked with the FAA to develop and implement ZK low-altitude airways, but the agency



has been slow to support the connectivity architecture for these and COPTER IFR departures.

I've been working with our team at the USHST to increase the organization's relevance in the helicopter community. We're improving the number and type of touchpoints, creating more opportunities for helicopter safety in our community. We've established the USHST Foundation as a nonprofit and recently announced our [Peer Pilot Mental Health Program](#), the first of its kind to assist helicopter pilots and crews with mental health issues. We've bolstered our partnerships with the FAA and industry, developing safety videos, podcasts, and webinars. Hughes has contributed its app to USHST members as an additional safety tool and, along with other OEMS, provided additional resources to improve helicopter safety.

What's the biggest threat to the helicopter industry?

We need to continue working together on safety, noise, and

accessibility to airspace. Encourage the next generation to have a career in aviation—helicopter aviation in particular.

Complete this sentence: I know I picked the right career when ...

I've never looked at my watch and wanted to be anywhere else. Whenever a helicopter flies overhead, I still stop and look. When we're indoors, we try to guess the type of helicopter overhead based on the sound/pitch and check FlightAware to see who's guessed correctly. Honestly, I've never really worked a day in my life.

Complete this sentence: I love my job, but I'd rather work for a paper company in Scranton when ...

Never. Like most pilots, I loathe paperwork. I cannot overstate my gratitude for the gift of being a pilot or thank all the people who've encouraged and helped me—and all those who didn't; they inspired me to do even more. ■

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Too Many Shades of Gray

Regulatory ambiguity, inadequate oversight lead to preventable tragedy.

By David Jack Kenny

US CIVIL AVIATION IS A HEAVILY REGULATED activity. Some of those regulations have details so intricate as to provide endless fodder for would-be “armchair aviation lawyers” to debate in the comfort of their hangars. But actual inconsistencies between different provisions, or frequent, apparently incompatible revisions, can leave operators without needed guidance on questions that may prove crucial.

The Event

The 7th Annual Huey Reunion was scheduled for Jun. 21–26, 2022, at Logan County Airport (6L4) in Logan, West Virginia. Its sponsor, MARPAT Aviation, offered “all helicopter (especially Huey) enthusiasts ... an opportunity to fly/ride in this historical [sic]



helicopter.” A series of 30-minute flights was offered between 08:30 and 17:30 each day, subject to weather and maintenance constraints.

Participants were offered the opportunity to fly the helicopter from the right seat for a \$250 “donation to pay for fuel” or to ride in the cabin for “a small donation.” Prior aviation experience wasn’t required; the event’s website stressed that “You DO NOT need to be a pilot to make a reservation to fly!” A volunteer “safety pilot” in the left seat would serve as pilot in command (PIC) throughout. Different volunteers served in that role during the event.

One of those volunteers conducted a preflight inspection at about 08:00 on Jun. 22. After the engine was started for the morning’s first flight, it continued to run all day, including during passenger embarkation and disembarkation and while the helicopter was refueled.

The Aircraft

The aircraft, N98F, was a UH-1B manufactured by Bell for the US military in 1962. It was flown in Vietnam from 1962 to 1971 before being sold to a civilian operator. Its two-bladed main-rotor system and two-bladed tail rotor were powered by an Ozark Aeroworks T53-L-11D turboshaft engine rated for 1,100 shaft horsepower. (The engine’s type certificate, originally issued to Honeywell, was subsequently registered in the names of AlliedSignal and then Textron Lycoming before being transferred to Ozark on May 6, 2022.) As of Jun. 22, 2022, the engine had been operated for 5,583 hours since new and 583 hours since overhaul.

The aircraft’s last annual inspection was completed on Mar. 29, 2022, at an aircraft total time of 9,029 hours

and signed off in accordance with the 14 CFR Part 43, Appendix D, annual inspection. It was flown another 14 hours before the 7th Annual Huey Reunion. Both tail-rotor blades had been replaced on Apr. 9, 2013; the replacement components had documented service times of 1,017 and 1,025 hours, respectively. Between the

Table 1. Recent certificate history for accident helicopter

Date	Certificate Type
Nov. 20, 2003	Restricted
May 21, 2010	Experimental
Sep. 24, 2010	Restricted
May 15, 2012	Experimental
Apr. 10, 2013	Restricted
May 17, 2013	Experimental
Oct. 29, 2013	Restricted
Dec. 5, 2014	Experimental

blade replacement and its last annual inspection, the helicopter flew an estimated 237 hours, pushing the components’ service times to 1,254 and 1,262 hours, respectively. The manufacturer’s established life limit for those blades, however, was 1,200 hours.

MARPAT Aviation didn’t own the Huey; in April 2003, the helicopter was acquired by “a friend of the owner of MARPAT ... not affiliated with the operator.” He registered the aircraft under a special airworthiness certificate in the restricted category for agricultural, forest conservation, and external-load operations. MARPAT held a contract with the State of West Virginia to fly N98F as a firefighting aircraft during wildfire season. Beginning in May 2010, its registration was repeatedly

switched between the restricted and experimental exhibition categories, with seven changes in a little over four and a half years (see Table 1). Each registration was accompanied by an FAA statement of special operating limitations acknowledged in writing by the operator. The 2014 registration in the experimental exhibition category remained in effect through June 2022.

The Pilots

The 53-year-old PIC held a private pilot certificate with helicopter, gyroplane, and single-engine airplane ratings. His logbook showed only 493 hours of flight time, but his son-in-law (a flight instructor) said the PIC didn’t log all his flights, so a “big chunk of time” wasn’t shown. His most recent application for a medical certificate, filed just over a year earlier, listed 1,400 hours of flight experience with 20 in the previous six months. He had documented 21 hours in the UH-1B since 2020, though other volunteer pilots suggested he’d been flying it for four to five years. The PIC had no prior UH-1 experience when he began flying N98F. Another pilot suggested that the PIC’s previous helicopter experience had been in a Robinson R22.

Prior to beginning passenger flights, the volunteer pilots made informal refresher flights to “get to know the aircraft again.” The maneuvers practiced included approaches, pedal turns, and hovers; no autorotations, other emergency procedures, or transfers of control from the right-seat passenger were reviewed.

The 69-year-old passenger in the right seat held a commercial certificate issued Feb. 15, 1995, with rotorcraft helicopter and instrument helicopter ratings. His last medical certificate was issued in April 1996. Further details of his piloting experience



The circle at left indicates the area where the NTSB found pieces of plexiglass, the aft cap of the left skid, a tail-rotor blade segment, and green paint transfer onto a rock. (National Transportation Safety Board Photo)

were not provided by the US National Transportation Safety Board (NTSB).

The Flight

The UH-1B lifted off from 6L4 at about 16:30 on Jun. 22, 2022, on the last flight of the second day of the Huey reunion. In addition to the two pilots, four passengers were seated in the cabin. Fifteen minutes later, the aircraft hit power lines 180 ft. above a two-lane road, struck the adjacent rock face, and crashed onto the road, where it hit a guardrail. The impact ignited a fire that consumed the cockpit and canopy. All six on board perished at the scene.

The helicopter wasn't in radio contact with the airport, and the NTSB was unable to find any witnesses to the accident itself. Someone, however, made a 911 emergency call to report the crash just minutes later, at 16:49. The accident site was about 2 miles beyond the easternmost section of the planned tour route. The reason for the diversion was never explained.

The Investigation

The debris path stretched 542 ft. from a group of three power cables, two of which had been severed. Bits of plexiglass, the aft cap of the left skid, and part of one tail-rotor blade were found on a ledge about 40 ft. above the main wreckage. Green paint transfer marks were also found on a rock there. Both main-rotor blades remained installed on the main gearbox, which had separated from the airframe. Examination of them found no evidence that they'd been turning under power at impact, suggesting that a total or at least partial loss of engine power had precipitated the crash.

On-site examination of the engine's power turbine blades as seen through the exhaust diffuser showed that two had fractured near their roots and were missing; an intact blade remained between those two locations. The engine was taken to Ozark Aeroworks' facility for a teardown examination. Engine stoppage before impact was

confirmed by static impact marks that the impeller airfoils' leading edges made on the impeller compressor housing, with no material transfer or significant rub damage. All compressor blades "were present and intact, with no rub, impact, or ingestion damage."

The rollers in the No. 2 bearing, which supported the aft end of the gas turbine's compressor shaft, were flattened, and the outer race "exhibited considerable material transfer." The roller cage remained in good condition. Rub marks left by the power turbine blades indicated contact with the power turbine inner support and outer ring support, and damage to its front shaft was consistent with contact with the rear compressor stub shaft.

Metallurgic analysis of the two fractured blades confirmed that both failed from excess stress. Multiple cracks were found on each inner strut support flange for the exhaust diffuser's outer cone; one inner strut had separated from the bearing housing. Extensive rubbing damage suggested the strut had separated before the accident and had been "operating in that condition for a considerable amount of time."

These findings led investigators to reconstruct the failure sequence as follows: Fatigue cracks in the spot welds attaching the inner cone to the exhaust diffuser's bearing-housing support progressed around the cone's circumference. The preexisting separation in the outer flange of the rear bearing cover reduced load transfer to the inner cone, increasing stresses that led to cracks in the inner and outer flanges of the exhaust diffuser's inner struts.

The diffuser cracks reduced support for the No. 3 and No. 4 bearings, causing misalignment of the power turbine shaft, rubbing on the blade shrouds, and ultimately an imbalance of the power turbine rotor assembly. This in turn caused additional cracking in the exhaust diffuser and rubbing with the rear compressor stub shaft. Frictional heating of the stub shaft caused the failure of the No. 2 bearing, bringing the engine to a stop.

The evidence that damage to the exhaust diffuser likely preceded the accident raised the question of why it hadn't been detected in previous inspections—a key point in the NTSB's exploration of the multiple and potentially ambiguous regulations governing restricted and experimental exhibition category aircraft and the operation of "living history" flights.

The Regulations

The foundational requirements for inspection and maintenance of US-registered civilian aircraft are, of course, contained in Title 14 of the Code of Federal Regulations (CFR). Part 43.15(c)(1) of Title 14 requires that "each person performing an annual or 100-hour inspection shall use a checklist" but allows that "the checklist may be of the person's own design"—necessary in the case of both experimental amateur-built aircraft and orphaned historic models for which no manufacturer's checklists are known to exist. Appendix D to Part 43 outlines a generic inspection checklist, listing types of components to be examined in each "group" of aircraft structures ("cockpit and cabin," "engine and nacelles," etc.).

In the case of the Bell UH-1 series, however, model-specific procedures were indeed published in US Army technical manuals (TMs)—TM

55-1520-219-10, issued in January 1969, and TM 55-1520-219-20, dated Jun. 30, 1972. The operating limitations attached to N98F's initial special airworthiness certificates in both the restricted and experimental exhibition

categories specifically required that the aircraft "must be operated and maintained" in accordance with those references.

Additional army manuals provided checklists for daily, intermediate,

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and periodic preventive maintenance. MARPAT Aviation had copies of these, and the checklist it developed for its annual and 100-hour inspections while the aircraft was registered in the restricted category closely tracked the army manuals. Items 9 and 10 of the engine section of the daily checklist (relaxed to every 10 hours or 14 days in civilian service) mandated inspection of the exhaust diffuser, support cone, and second-stage turbine blades. Post-accident, each of these components

were found to have incurred progressive damage preceding the eventual engine failure.

The operating limitations of the aircraft's last reregistration in the experimental exhibition category in December 2014 required only that it had to be inspected "in accordance with the scope and detail of 14 CFR § 43, Appendix D, and found to be in a condition for safe operation." The NTSB noted that the work orders from the aircraft's two most recent annual inspections referred only to Part

43, Appendix D, and found no evidence that the helicopter had been prepared for long periods of inactivity as stipulated in TM 55-1520-219-20, an oversight that likely contributed to "the extensive corrosion observed within the engine." The operator likewise didn't conduct the inspection of the power turbine blades and exhaust diffuser called for in the army's daily inspection manual and the Interagency Committee for Aviation Policy's *UH-1 Series Inspection Planning Guide* (developed when the government began civilian sales of surplus Hueys).

The NTSB report also goes into considerable detail about a series of revisions in FAA Order 8130.2, which "establishes policies and procedures for issuing airworthiness certificates for aircraft." Version G, issued in August 2010, placed the UH-1B in the category of turbine-powered aircraft with maximum gross takeoff weights less than 12,500 lb. Rotorcraft in this group operated under experimental exhibition certificates were required to follow "a current inspection

program recommended by the manufacturer" or "any other inspection program ... approved by the Administrator." However, a memorandum of deviation issued in December 2011 relaxed this requirement to the standards of Part 43, Appendix D. Operations in the restricted category still required compliance with the standards of the army technical manuals, reflected in the operating limitations of N98F's final registration under that classification.

Version H of Order 8130.2 required former military turbine-powered helicopters operated under experimental exhibition certificates to be maintained "under an inspection program recommended by the helicopter manufacturer or a NATO military service." It was issued on Feb. 4, 2015, two months after N98F's last reregistration. The accident helicopter was therefore not subject to either this or the subsequent Version J, which advised FAA inspectors that Appendix D was "not sufficient to mitigate every safety risk you might encounter with a particular aircraft of operation" and recommended that they "prescribe additional operating limitations ... based on inspections and assessments of potential safety hazards."

FAA Oversight

FAA surveillance of experimental exhibition aircraft follows only the general procedures for all Part 91 operations, which don't involve any formal inspection schedules. Specifically, FAA inspectors aren't required to monitor adherence to the operating limitations of those certificates. The investigation determined that MARPAT Aviation didn't routinely comply with limitation No. 4, which required submission of annual program letters to the responsible Flight Standards District Office (FSDO) listing the "events at which the aircraft will be exhibited." The FAA plans its surveillance on the basis of these program letters. MARPAT's owner suggested that events at the aircraft's base didn't have to be reported, but no such provision appeared in the operating limitations. The Charleston, West Virginia, FSDO's principal maintenance inspector (PMI) confirmed that the FSDO should have been notified of the Huey reunions.

Carriage of passengers for compensation or hire is generally subject to CFR 14 Part 119.



What happens when the regulations themselves are confusing, ambiguous, or repeatedly changed in ways that don't seem to make sense?

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Exceptions are available for charitable events, defined as those raising funds to benefit organizations qualified as “charitable” under US Treasury Department regulations. No such organization was associated with either MARPAT Aviation or the Huey reunion specifically.

In the mid-1990s, the FAA also established the Living History Flight Experience (LHFE) policy “to provide a means for private owners and operators of historically significant ... military aircraft to conduct limited passenger-carrying flights for compensation to generate funds for maintaining and preserving such historically significant aircraft.” Participation requires obtaining an exemption from the FAA; in 2022, 21 owners or operators, including 6 operating UH-1 helicopters, held LHFE exemptions. MARPAT Aviation didn’t, and the operator hadn’t applied for any other exemptions to charge for flights in an experimental exhibition category helicopter.

The Takeaway

Not surprisingly, the NTSB found the probable cause of the accident to be “the operator’s failure to adequately inspect the former military turbine-powered helicopter, which allowed an engine issue to progress and result in a loss of engine power and a subsequent loss of control after the helicopter struck power lines during a forced landing.” Unlike its typical practice of also citing “contributing” factors, the NTSB held that “also **causal** to the accident were the following:

- The FAA’s inadequate inspection and maintenance standards for former military turbine-powered aircraft operating with an experimental exhibition airworthiness certificate
- The operator’s use of those standards instead of more rigorous

standards, which were readily available to the operator and previously used to inspect and maintain the helicopter

- The FAA’s inadequate oversight of the operator, which did not detect the inherent risk associated with the operation.”

It’s a safe bet that no operator wants to risk the destruction of equipment, much less the loss of lives. Knowing the risk of impending engine failure would have been ample reason to cancel the Huey reunion, or at least leave the helicopter on static display. And from the beginning of any aviation career, it’s deeply ingrained that compliance with the Code of Federal Regulations is the first defense against trouble—not just legal, but physical, as well.

But what happens when the regulations themselves are confusing, ambiguous, or repeatedly changed in ways that don’t seem to make sense? Faced with requirements that seemed to shift almost at random, not only from year to year but between different registration categories, the operator had to make decisions. The most conservative approach would have been to maintain the inspection criteria of the army technical manuals, recognizing that they were more specific to the aircraft as well as more rigorous.

The FAA’s willingness to accept the general provisions of Part 43, Appendix D, on the other hand, could be taken as official assurance that those generic standards were good enough, as well as easier and less expensive to implement. The NTSB makes a case that those regulatory gray areas and lack of specific oversight opened enough of a gap for the unfortunate occupants of N98F to fall through. ■

David Jack Kenny is a fixed-wing ATP with commercial privileges for helicopter.

Use a FRAT to Avoid Going SPLAT

A step-by-step process for managing operational risk.

By Dan Deutermann

HOW MUCH RISK SHOULD A VERTICAL aviation operator be willing to take in their daily flight operations? That's a fairly difficult question to answer, given the wide variety of sectors and operations in the industry. But whatever services you provide with an aircraft, it's incumbent on you to seek and understand the particular hazards you face in your work and take the time to analyze the risks they pose.

Managing dynamic helicopter operations, unpredictable weather in remote areas, and flying up close and personal to physical hazards are just some of our routine challenges in vertical aviation—and they all come bearing different levels of risk. This is a principal reason risk management is one of the components



of a safety management system (SMS).

Sometimes the hard part of assessing flight risks is explaining how much risk you'll accept in a meaningful way. One resource that can help you convey risk throughout your operation is a [flight risk assessment tool](#) (FRAT).

If you take the time to customize a FRAT, it can be a powerful discussion aid. FRATs can set the stage for how we treat matters in the air and can highlight where we need to apply some extra effort to stay within our established risk tolerance. This form of risk management is known as operational risk management (ORM). Why "operational?" Because we want to start speaking beyond "tabletop talk" and understand effective methods that will lower the scare factor after we've pulled pitch and are now face-to-face with a known hazard that can kill us!

Risk Management, Step by Step

Identification: The first step in ORM is developing awareness of the hazards you encounter as an operator. This involves initiatives to identify relevant mechanical, environmental, and human hazards as comprehensively as possible. You can do this through brainstorming in safety meetings or trending your hazard reports.

If you're just now exploring an SMS because of the [new FAA regulatory requirements](#), know that hazard reporting is a key function of an SMS that ties directly to your risk-management efforts. A starting point may be to cut and paste a known list of hazards, but for ORM to actually work you need that "buy-in" from operators who can

describe hazards from their perspective.

Take weather, for example. If you're a small tour operator flying in a VMC/VFR-only helicopter and you fly in a place that routinely has crummy weather, then inadvertent entry into

instrument meteorological conditions (IIMC) is a hazard you want on your list.

Assessment: To be clear, maintaining hazard awareness serves only to illuminate the path ahead. The next step in operational risk management

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F A Bell 412, ASW (antisubmarine warfare) variant, during sling-load training. Operations such as these benefit from thorough risk assessment and management. (Tom King/RSG AeroDesign Photo)

is understanding the probability and severity of the identified hazards, assessing how likely it is you'll encounter them, and what the consequences might be if you do. Combine the suspected probability and severity, plus the likelihood of an encounter, and the "face" of risk begins to emerge.

Continuing with the air tour operator and weather example, although the probability of going IIMC may be low because of a company policy mandating VFR-only operations, encountering lousy weather nonetheless will definitely drive the fun meter to zero. Fold in the reality of where you fly, and this identified hazard demands that you address it as a priority, to help mitigate it and lower the risk level associated with it.

Communication: Your assessment must then be shared among all stakeholders, from the front office to the hangar deck to those engaged in actual aviation. Keeping open lines of communication about safety is a critical feature of risk management that encourages everyone to come together and agree on the true operational risks your organization is taking. So, if it's raining and the ceilings appear lower than usual, everyone should know they shouldn't see a tour leaving the airport. That just wouldn't be right, would it?

Mitigation: Once the potential hazards are identified, assessed, and shared with the team, the focus can shift to mitigation. Seek out strategies to reduce risk levels, such as investing in advanced training or new technologies or communicating standard operating procedures (SOPs) designed to deal with the hazard.

Ultimately, it falls to the operator who must deal with hazards in real time to ask, "What can be done to lower the scare factor in flight? How do we take feasible steps to dilute apprehension and let us pull pitch and enjoy the work?"

ORM in the Classroom

- What:** "Operational Risk Management for Helicopter Operations" Elevations course
- When:** 8:00 am to 5:00 pm, Mar. 10, 2025
- Where:** VERTICON 2025, Dallas, Texas
- Content:** The class will teach participants how to develop their own ORM programs using practical exercises and tools that can be tailored for their organizations
- More info:** Visit verticon.org/education

Back to IIMC for the tour operator example. You may elect to establish more-conservative weather minimums and call out conditions in your operation's manual or SOPs that flat out prohibit departure on a revenue flight. When someone asks, why do we limit ourselves like this? The direct answer is, because you studied the hazard; it's a hard reality that affects your operation; everyone understands that where you routinely fly, you can routinely encounter adverse weather conditions; and this is your way to spell it out in neon letters and demonstrate your risk posture.

As alluded to previously, this isn't a one-size-fits-all doctrine. Shift the air tour operation to another outfit working out of the same hangar doing VIP commutes in a multi-engine, dual-pilot IMC/IFR-capable bird. Inadvertent IMC may still be a hazard, but the severity for that operation may not be so bad because, as a mitigation, they elected to have a policy in place to always file IFR for their missions and leverage crew resource management and all the technology on board as SOP.

Acceptance: Once mitigation efforts are massaged to a reasonable level, the final and often overlooked step is acceptance of the risk that remains—call it "residual risk." Starting at the top, the accountable executive must personally evaluate and acknowledge residual risks to establish the

organization's risk posture—a posture that must be aligned with those who conduct the daily operations.

An Ongoing Process

Despite all efforts on the ground, we in aviation will still encounter hazards—it's simply part of the world of our work. But aircrews will be afforded more options to alter or abandon the mission plan if they know they can't accept additional risk beyond what's stated in their company policies.

A FRAT opens up discussion about risk for an upcoming flight. Aircrews can talk about the hazards that may be more relevant today than yesterday, fostering a mindset to potentially help break the accident chain and get the job done. After all, you did all that work to mitigate a hazard, and now, in flight, you can leverage your strategy by expressly avoiding certain things when a hazard presents itself.

Operational risk management is an ongoing process that requires continual effort. Healthy discussion and trend analysis of safety events will enable you to manage both known and newly discovered hazards.

The goal isn't to eliminate risk but to keep it as low as reasonably possible. ■ **Dan Deutermann** has been involved in rotary-wing aviation for 30 years. He has extensive experience in aviation safety and helicopter flight instruction.

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Flying with Magnum Helicopters

Hosting the VAI Air Tour Safety Conference in Hawaii created a perfect opportunity to visit the Honolulu-based member.

By Zac Noble

ON SEP. 23–24, 2024, WE WELCOMED THE first annual VAI Air Tour Safety Conference, held in Hawaii not far from Honolulu International Airport (PHNL) at the Hawaii Convention Center. The two-day event brought together about 100 air tour operators, safety experts, and pilots. (For more on the conference, see “VAI Event Highlights Air Tour Safety,” p. 48.) Many were from

the Hawaiian Islands, but one operator came all the way from Florida. I think that speaks to the overwhelming desire of tour operators to ensure that they pack their kit bags with as much safety content as possible in our rapidly evolving vertical aviation industry.



Bucket-List Experience

While in Hawaii, I took advantage of the opportunity to fly with VAI member Magnum Helicopters. I enjoy working with all our VAI member companies, but I have to admit, I was especially excited to visit this particular operator because of how the company embodies the spirit of the old, 1980s television show *Magnum, P.I.*

The operator reconstructed an MD 500D helicopter to closely resemble the aircraft popularized in the show—even down to the familiar orange, brown, and yellow livery—and makes it available for tours. The folks at Magnum Helicopters even display a Ferrari used by actor Tom Selleck on the original series.

I ponied up for a private charter with the MD 500D so I could get the dual controls installed and fly with a CFI. Although I have over 41 years of helicopter experience and am helicopter current, I've never flown an MD 500 and wanted to clear that from my bucket list. So the team at Magnum obliged by removing the doors and installing the dual controls. We were set for maximum Magnum fun!

Safety Is Top of Mind

After I arrived at the Magnum office at PHNL, the team went to work preparing me with their safety briefing. They presented a nicely done video of what to expect during a typical tour flight and how to prepare for the flight. No hats or caps, no loose jewelry, no handbags, pockets had to be empty, and long hair had to be tied back. Cell phones were allowed but had to be on a lanyard and secured around your neck.

After that portion of the safety briefing, we had to line up and get fitted for the mandatory life preserver. After all, we would be flying around the island just a bit offshore.

Because I was doing a private charter and was up front with the CFI, I received additional flight and safety briefing information from the captain.

I was eager to get on the controls and show my skills. After we picked up and backed out of the helicopter parking spot at Magnum headquarters, we did a three-way transfer of the controls and I was fulfilling my bucket-list item ... I was flying a *Magnum, P.I.*, helicopter in Hawaii!

We flew around Oahu counterclockwise with my captain pointing out all the cool points of interest while I flew the machine and grinned from ear to ear. About halfway around the island, I passed the controls back to the captain so I could spend a few minutes just looking around, and then, with great anticipation, I asked for the controls back. The captain kept me abreast of route and altitude requirements. I asked many questions about flight separation with other tour aircraft, use of available weather cameras, and anything I thought would better prepare me for supporting VAI's Hawaiian operators in the future.

We had a fantastic view of the island and Pearl Harbor. What a wonderful way to see some of the most beautiful scenery our country has to offer. Doing it from a helicopter is an added bonus.

Focused on Our Members

The Air Tour Safety Conference was a success, and many attendees expressed their gratitude to VAI for putting together such a beneficial event. We look forward to continuing the conference year after year.

VAI has changed so much in the past four years; it's remarkable to look back and see the transformation. We're more focused on member engagement than ever before. We're out learning in person what it is our members do and how they do it.

This bucket-list item for me was only one of many ways VAI staff are staying in touch with our members so that we can better serve them in the future.

Many thanks to the team at Magnum Helicopters! The honor was all mine!

Fugae tutum! ■

Zac Noble is VAI's director of flight operations and maintenance.



After we backed out of the helicopter parking spot, we did a three-way transfer of the controls and I was fulfilling my bucket-list item ... I was flying a *Magnum, P.I.* helicopter in Hawaii!

Frank Carson

Founder of Carson Helicopters is remembered as an industry visionary.

FRANKLIN “FRANK” CARSON, FOUNDER and president of Carson Helicopters in Perkasio, Pennsylvania, died Oct. 25, 2024.

Born in 1931, Carson grew up the son of a Philadelphia locksmith. At an early age, he discovered his passion for aviation after visiting The Franklin Institute in Philadelphia with his mother.

After high school, he joined the National Guard and then the US Army, where he learned how to fix and maintain helicopters. In 1958, Carson started his company in a small, unheated barn, modifying Bell 47 and MBB Bo 105 aircraft with his own upgrades and selling them to buyers in the burgeoning industry. Eventually, he entered operations, developing unique ways to use helicopters. From heli-construction, which included ski lifts, to unloading ships in Saudi Arabia during the 1970s to firefighting to logging and airborne gravity surveys, Carson was a constant visionary. He continued his quest to improve the performance of helicopters with STC (supplemental type certificate) modifications and upgrades.

In the last part of his life, Carson turned his attention back to his original passion: dreaming up helicopter upgrades and working to make them a reality. His proudest achievement was designing the Carson S-61 Composite Main Rotor Blade, which significantly increased the performance and safety of the S-61 aircraft. He was especially proud when the product was chosen to replace the main-rotor blades on Marine One, the aircraft



used by the president of the United States.

Carson continued working five days a week, coming up with new ideas and being with everyone at Carson Helicopters. He viewed his employees as family and always appreciated all they did to make his dreams a reality.

Carson is survived by his wife, Terril, who worked with him for 45 years, and his sons, Clayton, Jad, and Jordan. ■

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Priority 1 Air Rescue

US Coast Guard Hoist Operator Training
Priority 1 Air Rescue Headquarters
Mesa, Arizona, USA
VAI Member — Manufacturers & Suppliers

Photo by Mark Bennett

Founded in 1999, Priority 1 Air Rescue (PIAR) provides a range of special mission training for search-and-rescue and air ambulance services, including hoist SAR classroom training that progresses to synthetic training with the use of hoist procedural towers (HPTs) and virtual simulators using relevant role equipment.

In this image, US Coast Guard flight mechanic hoist operator trainees—in flight suits—will experience both sides of a rescue: being pulled up in the rescue basket several times before moving to operate the hoist controls from the doorway of the PIAR MH-60T Jayhawk training HPT “airframe.”

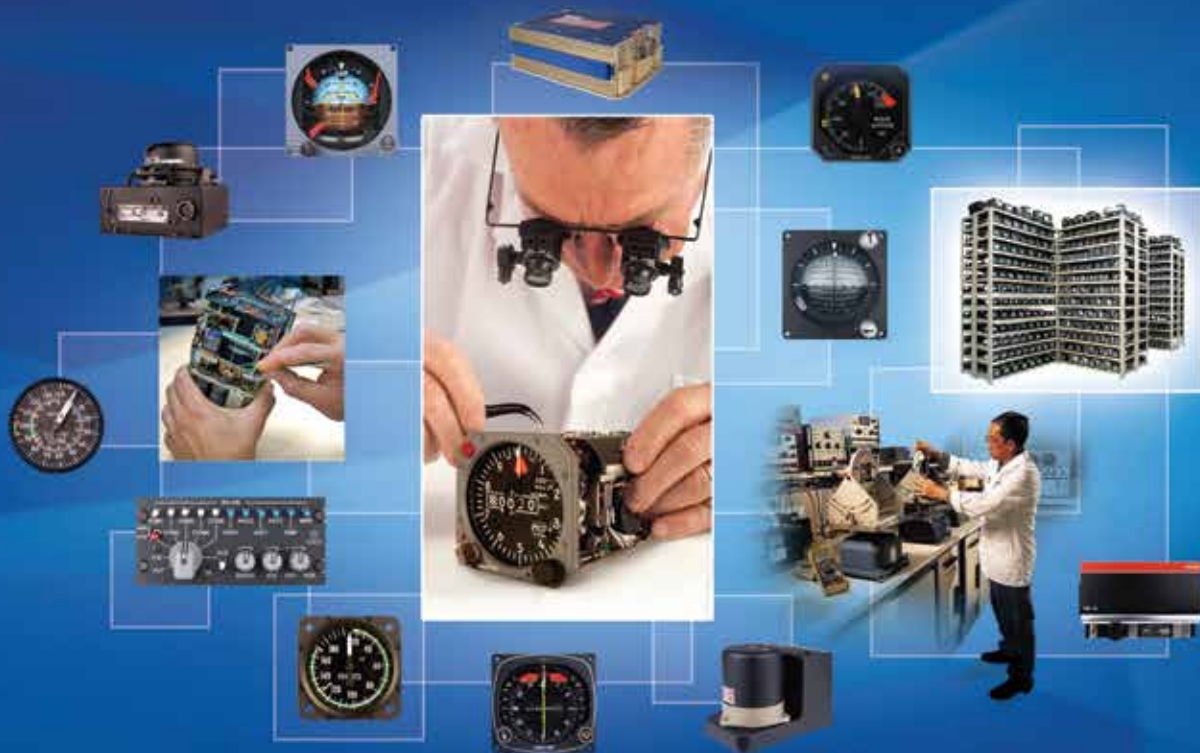
The company trains aircrew members from various domestic and international military branches in addition to local and regional law enforcement agencies and SAR operators worldwide at its training facilities in Mesa, Arizona, and Bordeaux, France.



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