



HSAC

Helicopter Safety Advisory Conference

Safety Through Cooperation
Since 1978

Aerial Observation Committee January 19, 2022 In Person and via Zoom

Winston Seiler
(661) 333-6036
winston@kcsiaerialpatrol.com



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Agenda

| | | |
|------|--------------------------------------------------------|----------------|
| 1300 | Anti-Trust Statement, Introductions, and Overview | Winston Seiler |
| 1310 | Recap on Previous Meeting and Action Items | Winston Seiler |
| 1330 | SMS Software: FltPlan.com | Marshall Cox |
| 1430 | Accidents and Incidents | Tom Buchner |
| 1445 | Tower Fatalities – Preventive Measures | All |
| 1500 | Leading Indicators and Hazard Reporting | Winston Seiler |
| 1515 | Hazard Shares | All |
| 1540 | IOGP 590 → 690 | All |
| | Spidertracks Discussion | Randy |
| | Langefeld | |
| 1550 | Other Topics of Interest and Future Topics of Interest | All |

“HSAC participants only share Safety information. We never discuss commercially advantaged info, competitive cost, production, market analysis, or other competitive trade sensitive data of any kind”

Antitrust Checklist



We should always....

- **Not** discuss competitive cost, production, market analysis or other competitive trade sensitive data
- **Have** an agenda
- **Report** to our own counsel any concerns that we have of variation from the agenda
- **Keep** minutes for a record of our discussions



HSAC ANTI TRUST STATEMENT

The Sherman Act and the Clayton Act are federal statutes which make certain agreements in restraint of trade illegal. Violators can be subject to criminal penalties and large monetary damages.

The purpose of antitrust policies is to **restrict communications concerning cost, production or other trade sensitive information which could be the foundation for such illegal agreements.**

HSAC ANTI TRUST STATEMENT



❖ Trade Associations / Industry Groups

Trade associations are generally recognized as a legitimate forum for competitors to share ideas which promote the efficiency of the industry.

Example:

- How to do things safer, better, more efficiently.
- However, any discussion which involves the use of cost information (even historical) or other competitive information should not take place without specific authorization of antitrust counsel.



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Recap from Past Meeting

- RP 2021-1 Ab Initio Training Recommended Practice, submitted to HSAC Board at last meeting, pending approval
- Review of Existing RP's
 - AORP06-1 PREFERRED MAINTENANCE GUIDELINES
 - AORP06-2 PREFERRED AIRPLANE EQUIPMENT FIT
 - AORP06-3 PATROL CAPTAIN MINIMUM REQUIREMENTS
 - AORP08-1 GUIDELINES FOR FLIGHT FOLLOWING MANUAL
 - AORP09-1 AERIAL OBSERVATION PILOT OBSERVER TRAINING
 - AORP09-2 AERIAL OBSERVATION RADIO FREQUENCIES
 - AORP10-01 MOUNTAIN PATROL TRAINING
 - Fatigue Management RP is missing from the HSAC Website
- Other Items?



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Randy Langefeld

Customer Success Director
Spidertracks

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Marshall Cox

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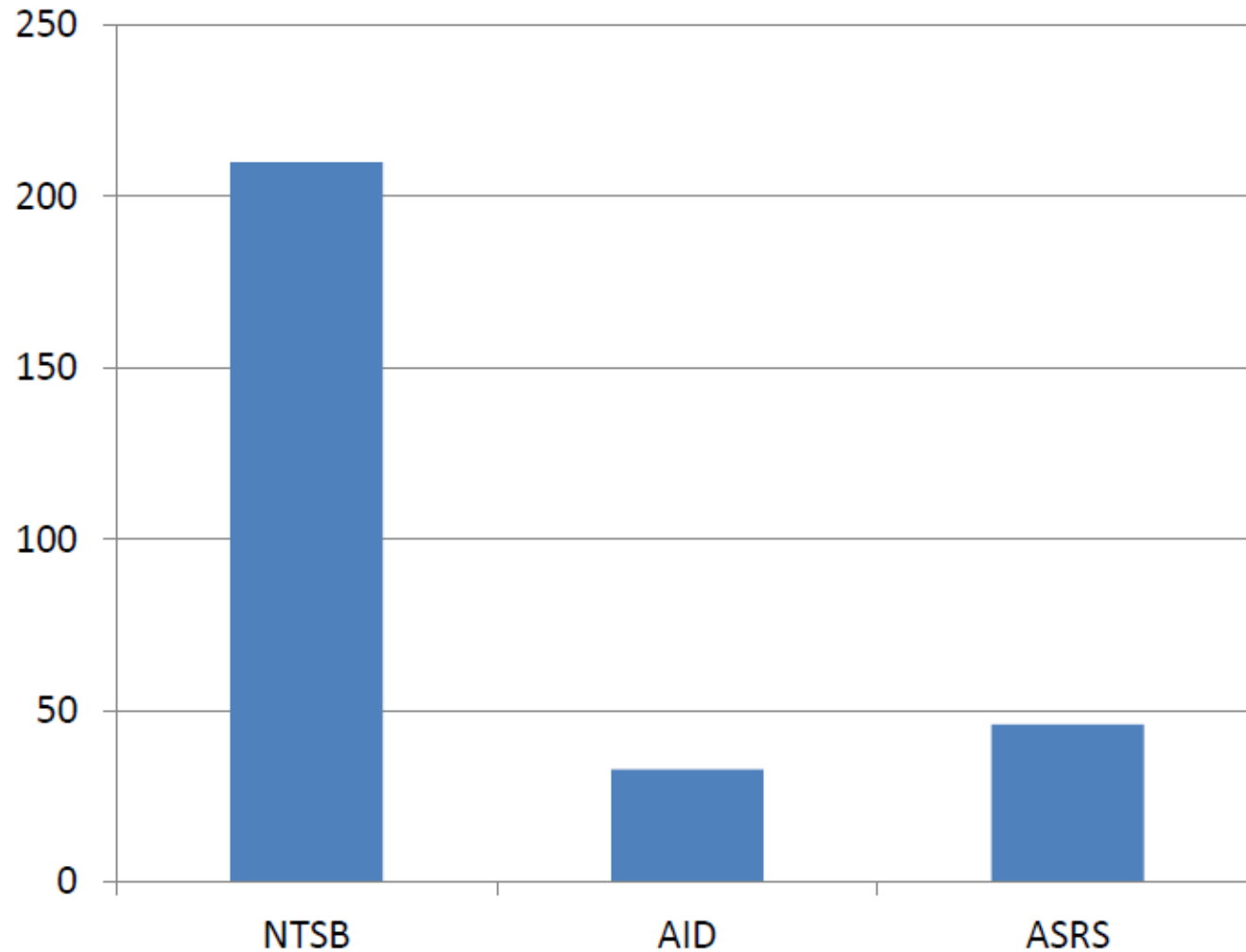
Aerial Observation Committee

Accidents, Flight Hours, and Stats

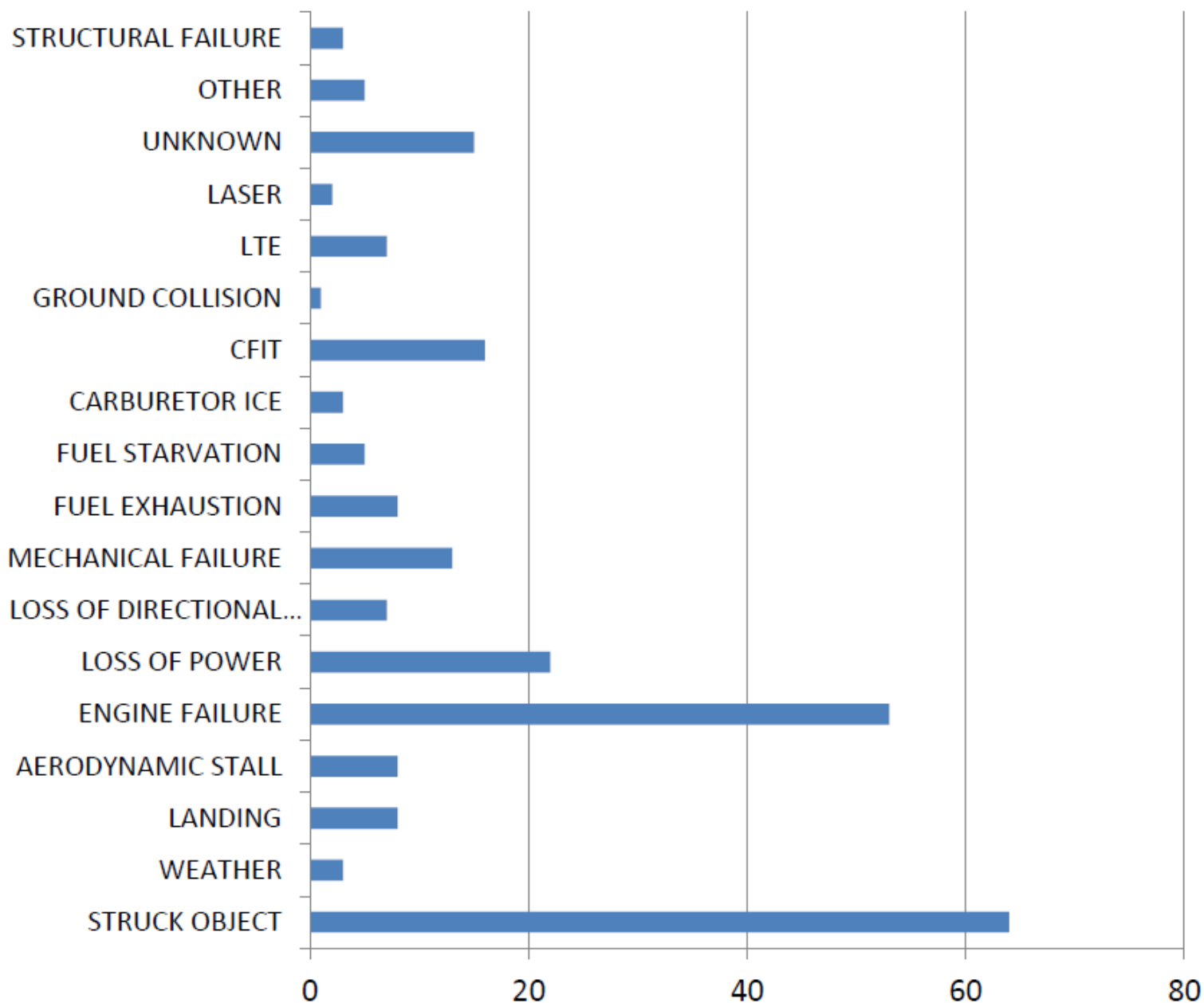
Total NTSB/AID/ASRS Reports (2007 – 2021)

Info provided by ARGUS/PRISM

Total Reports



Event Cause (NTSB/AID)



NASA - Aviation Safety Reporting System (ASRS)

| Date | State | A/C Model | Cause |
|---------|-------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2021-05 | US | Small Aircraft | A flight instructor reported a NMAC on final approach with an aircraft that had reported them in sight to the tower. |
| 2019-11 | US | Helicopter | While conducting power line patrol, a helicopter had a near midair collision with an agricultural aircraft which was not observed on the helicopters TCAS unit. |
| 2019-07 | VA | Helicopter | Helicopter pilot reported violating Class D airspace while conducting aerial survey and inspection work. |
| 2019-07 | US | Cessna 172 | C172 pilot reported a NMAC with a helicopter during his pipeline patrol. |
| 2019-06 | US | Cessna 150 | On left base runway XX at ZZZ. Helicopter appeared to be patrolling nearby pipeline not on common frequency flew approximately 100 feet below aircraft turning final. |
| 2019-03 | TX | Small Aircraft, High Wing | Recently we had a situation where two VFR pipeline aircraft entered our Charlie surface area while the surface area was IFR. |
| 2018-05 | US | Cessna 401 | Cessna pilot and Approach Controller reported that the aircraft entered a live fire Restricted Area. |

2021 Patrol/Surveillance - Accidents/Incidents

1/23/2021 – Denton, NC – Cessna U206G – Mapping operation at 250' AGL – emergency landing due to loss of engine power – substantial aircraft damage - no injuries

2/3/2021 – Big Spring, TX – C172 – Pipeline patrol – emergency landing due to loss of engine power – substantial aircraft damage – no injuries

3/25/2021 – Lake City, KS – Hughes 369 – Caught gust of wind while installing bird diverters – substantial damage to all 5 rotor blades – no injuries

4/28/2021 – Eden, NC – Bell 429 – Power line patrol – Mechanical failure - 1 fatal and 2 seriously injured

2021 Patrol/Surveillance - Accidents/Incidents

5/17/2021 – St. Louis, MI – C182 – Struck guy wires of a 1049' tower during pipeline patrol – aircraft destroyed – 1 fatality

6/10/2021 – Gonzales, LA – C172 – Pipeline patrol – emergency landing on highway due to a “very loud pop” noise – impacted road sign – substantial damage – no injuries

11/19/2021 – Carlsbad, NM – C182 – Struck tower during pipeline patrol – aircraft destroyed – 1 fatality

2021 Patrol/Surveillance – In Flight Near Misses

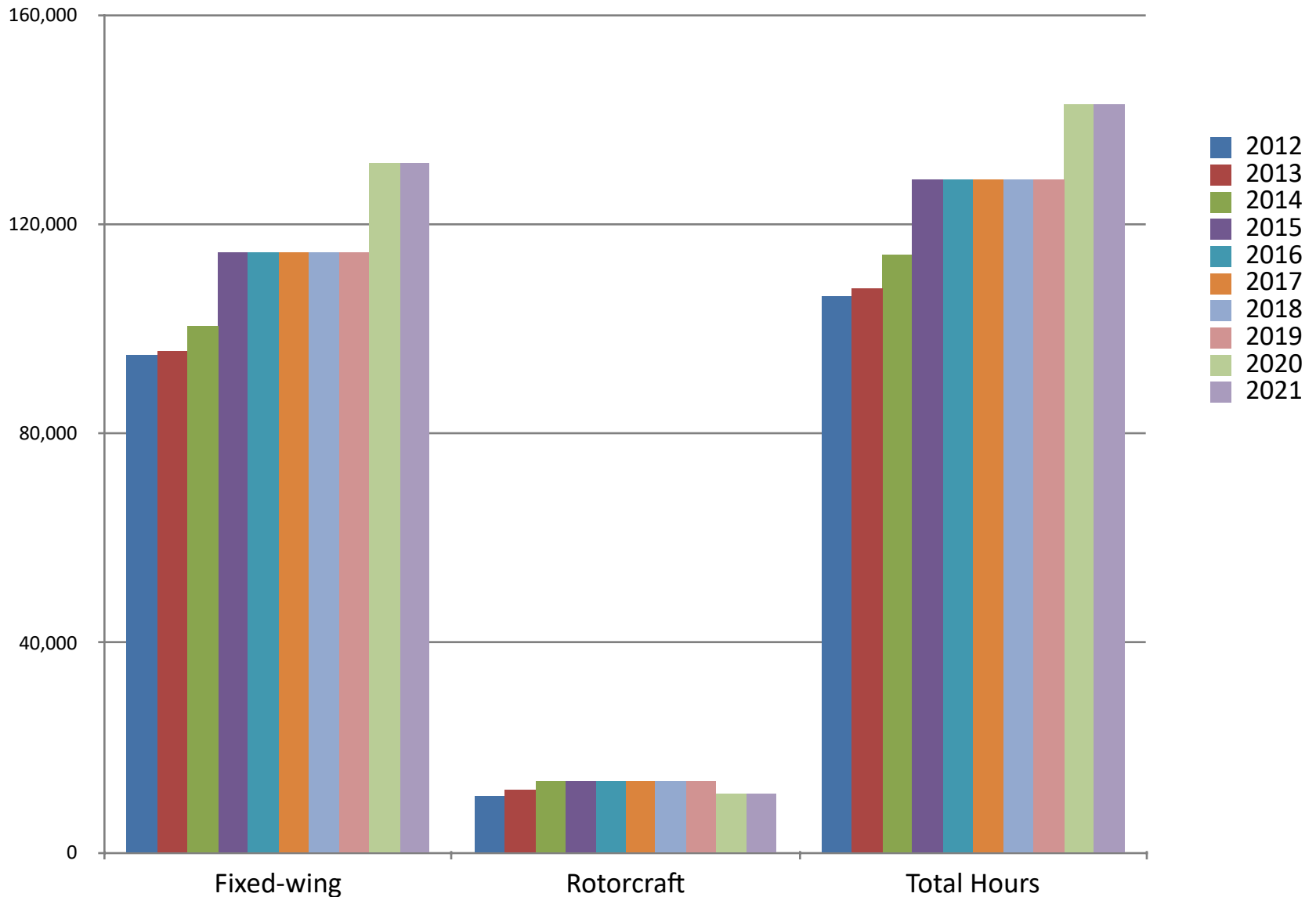
March 2021 – PA - Near miss while flying pipeline in a remote area – another aircraft flew 200 – 300' directly over and perpendicular the patrol aircraft

May 2021 - A flight instructor reported a NMAC on final approach with an aircraft that had reported them in sight to the tower.

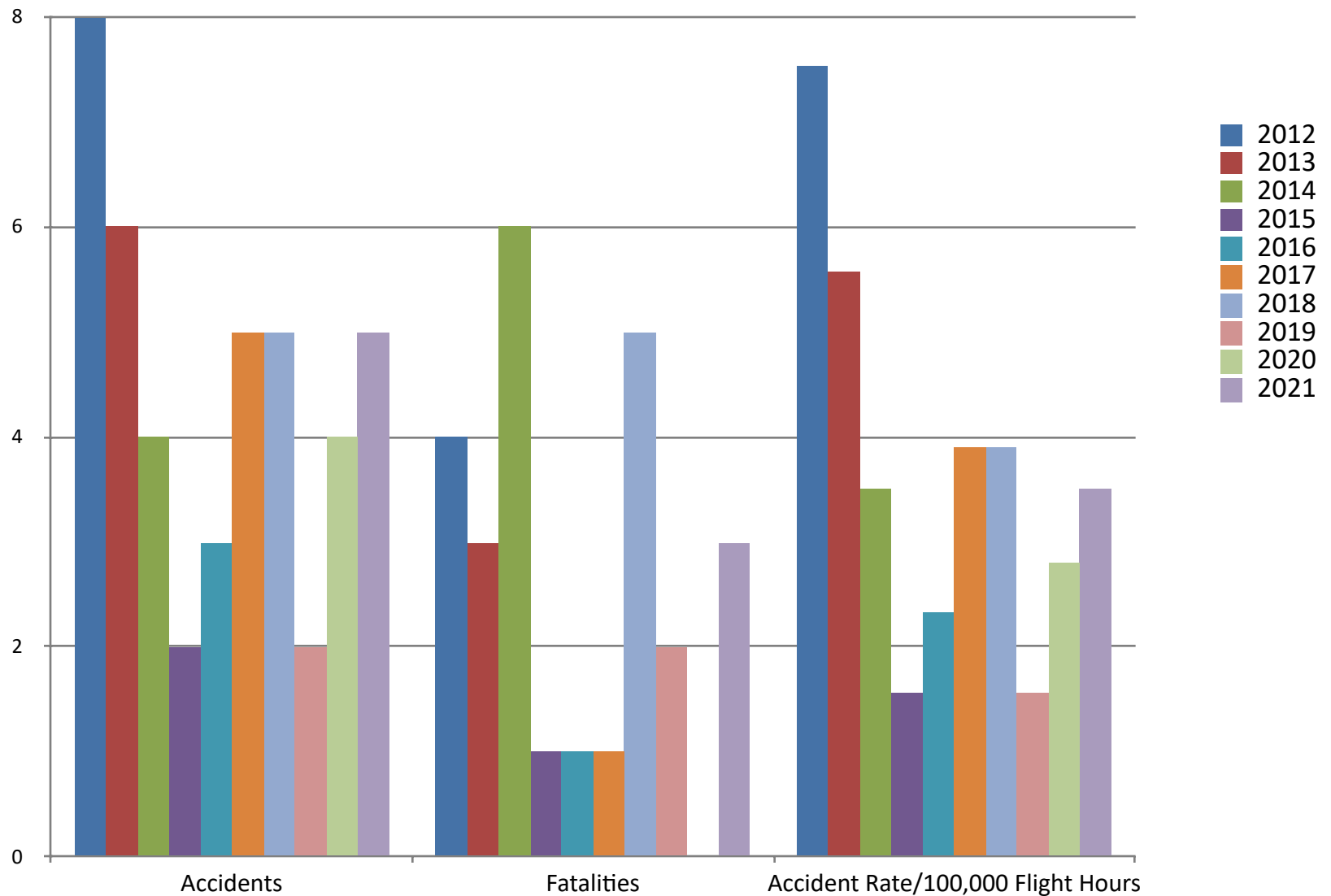
November 2021 – TX - Pipeline pilot reported near miss with another aircraft assigned to a parallel runway which overshot their final, ending up immediately in front of and close to the patrol aircraft before turning back toward their assigned runway.

Aerial Patrol Flight Hours – Industry Wide

Estimated total of 142,992 flight hours for 2021



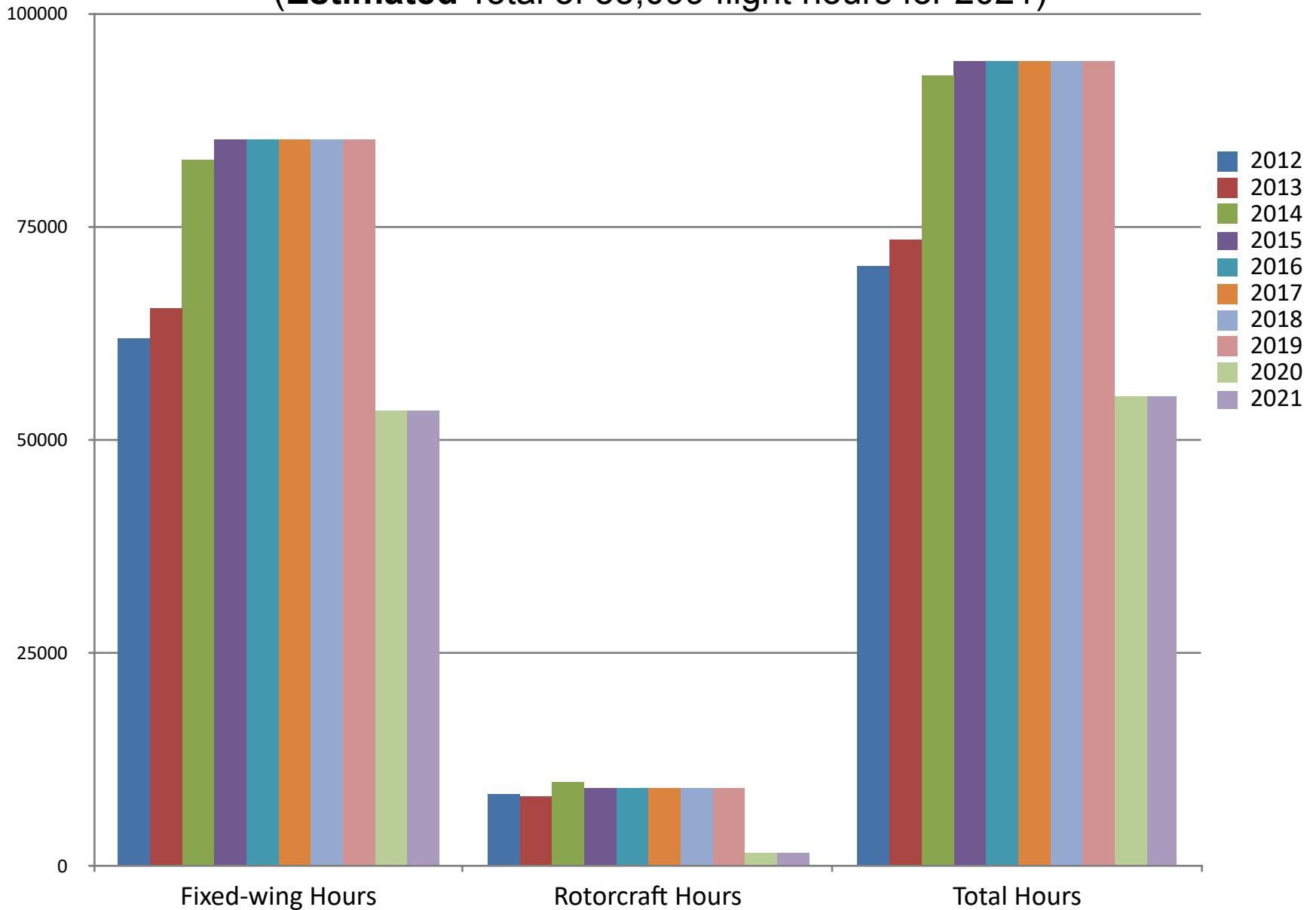
Aerial Patrol Accidents & Rate – Industry Wide



Aerial Patrol Flight Hours – HSAC Participants Only

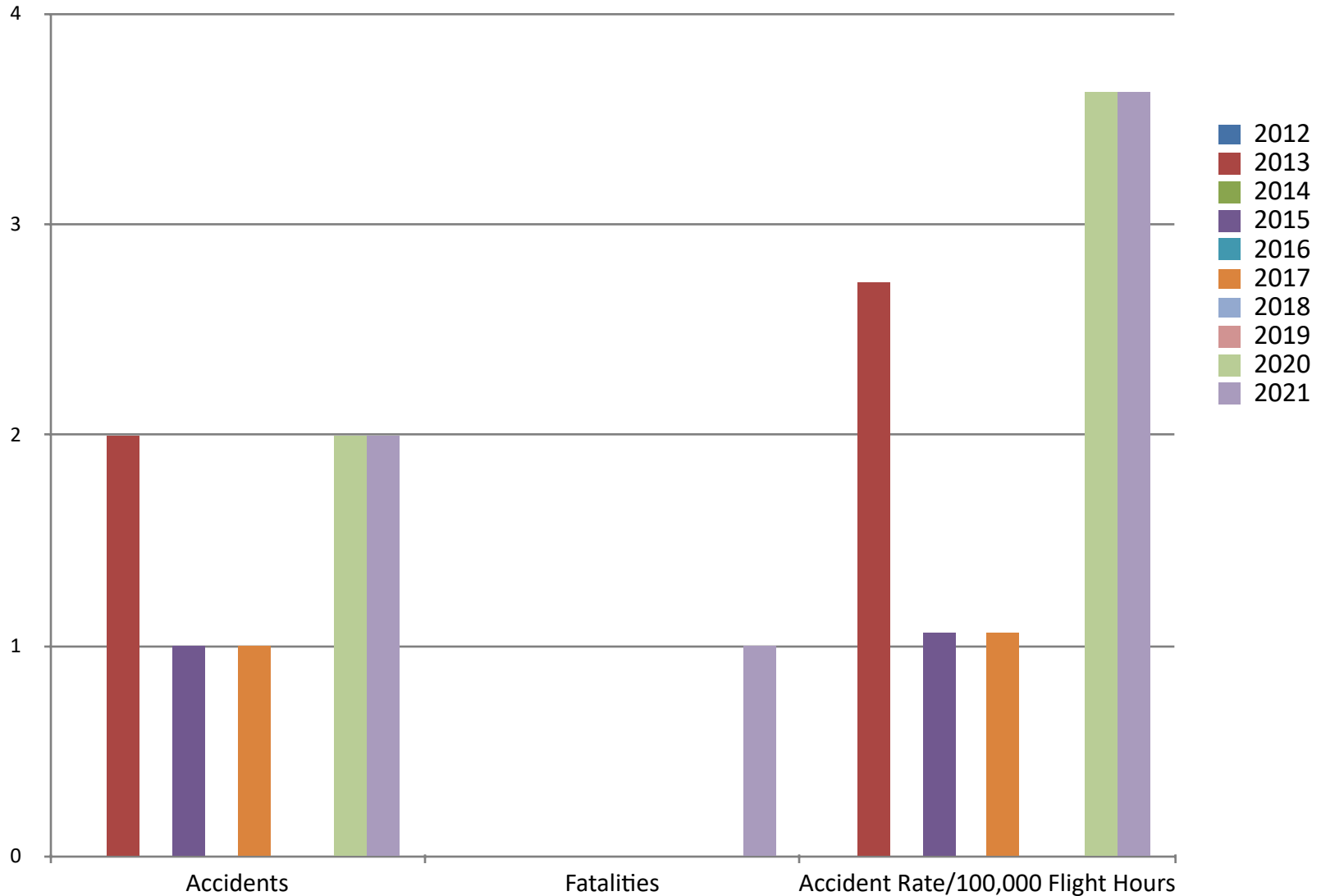
(Participants are those who attend and participate in HSAC meetings/discussions or known to have similar safety standards)

(Estimated Total of 55,099 flight hours for 2021)

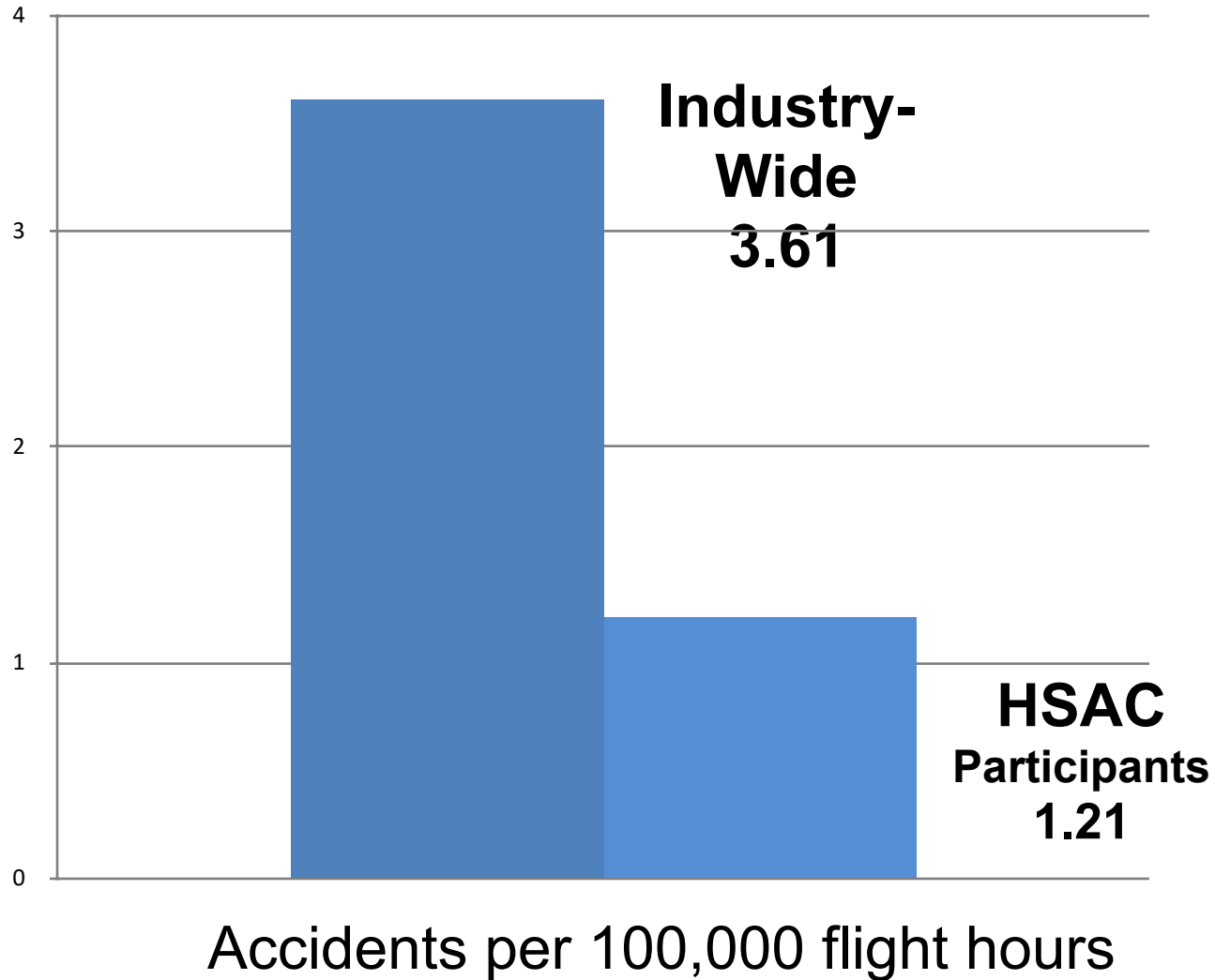


Aerial Patrol Accidents & Rate – HSAC Participants Only

(Participants are those who attend and participate in HSAC meetings/discussions or known to have similar safety standards)



Aerial Observation Accident Rate Comparison 2012 - 2021



Estimated 2021 Flight Hours Included From:

- Aero Plus
- Airborne Energy Solutions (Canada)
- Aircraft Data
- Aviation Specialists
- Barr Air Patrol
- Basin Aviation
- Brentco Aerial Patrol
- Eagle Sky Patrol
- Enbridge Pipeline
- Energy Transfer Company
- Falcon Aviation
- Guardian Aerial Patrol
- Hawkeye Helicopters
- INR Inspection Services
- KCSI Aerial Patrol
- Kenai Aviation
- Kenan Aviation
- Midwest Avtech
- Revelator Services
- Reynold's Aviation
- Skywatch Aerial Patrol
- TAF Aerial Inspections
- Texas Aerial Inspections
- TransCanada
- Western Edge

2022 Notes for Discussion

U.S. and Canada Patrol Accidents & Incidents



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Tower Hazards Preventative Measures



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Discussion:

Situational Awareness

Foreflight Hazard Advisor

Minimum Altitude and Distance Separation in Ops Procedures

Fly Patrols the same way every flight

Can Spidertracks be used to evaluate hazard? Manual Geofencing around Towers is available.

Hazards being briefed prior to the flight.

Brief how you are going around or above a tower as they are approaching the tower.

Drop Waypoints of new hazards along lines...these can be shared within the organization. (Non charted hazard database)

Deadhead minimum altitudes as per the ops manual

Minimum altitudes in the patrol reporting form...lack of attention during deadhead flights

Radar Altimeter (are GA versions affected by 5G?)

Look at obstacles hit, and determine single pilot vs. dual crew and familiarization with the area...how often had the crew flown the line or in the area? What was the weather during the incident – Clear, overcast and/or gray?



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Hazard Shares



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Hazard: Improper Trim Tab Rigging Discovered During Pre Purchase Inspection

Mitigation: Perform Post Maintenance Inspections beyond normal pre-flight





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Hazard: Helicopter Rotor Wash

Mitigation: Minimum Distance Separation When Taxiing, Allowing Time for Vortices to Dissipate prior to arrival and departure, Secured Tie Downs, Awareness



- **FAA Study**
- 90 secs MINIMUM for Medium Lift Helicopter Rotor Wash Dissipation, 120 secs MINIMUM for Heavy Lift Helicopters



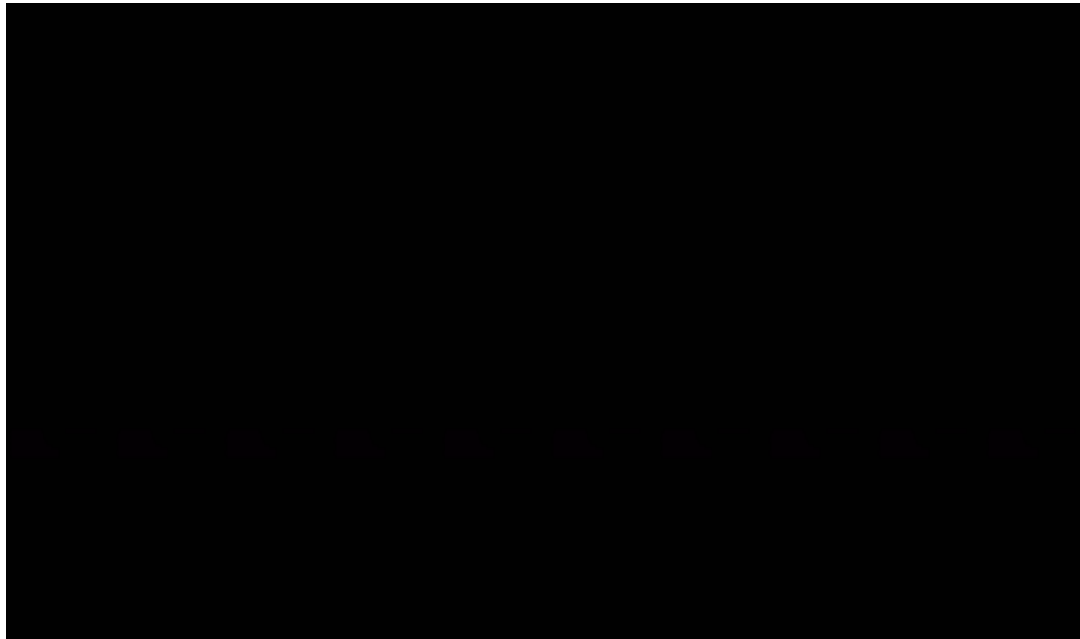
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Hazard: Helicopter Rotor Wash

Mitigation: Minimum Distance Separation When Taxiing, Allowing Time for Vortices to Dissipate prior to arrival and departure, Secured Tie Downs, Awareness



- **AIM 7-4-7. Helicopters**
- “...generate downwash producing high velocity outwash vortices to a distance approximately three times the diameter of the rotor. “



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Hazard Shares

Hazard: Any other hazards to share?



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Leading Indicators and Hazard Reporting

HSAC Aerial Observation Safety Reporting

Voluntary, Anonymous Safety and Hazard Reporting for HSAC Aerial Observation Participants

 winston@kcsiaerialpatrol.com (not shared) [Switch account](#)



Hazard Category

- ☐ Hangar
- ☐ Ground Operations and Movement
- ☐ Flight
- ☐ Maintenance
- ☐ Policy/Procedure
- ☐ Other: _____

Description

Your answer _____

Recommendation / Corrective Action (Optional)

Your answer _____

Would you like to share this at the next meeting?

- ☐ Yes
- ☐ No

Name (Optional, and only required if you want to share)

Your answer _____

[Submit](#)

[Clear form](#)

| | A | B | C | D | E | F |
|----|-------------------|--------------------------------|-----------------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------|
| 1 | Timestamp | Hazard Category | Description | Recommendation / Corrective Action (Optional) | Would you like to share this at the next meeting? | Name (Optional, and only required if you want to share) |
| 2 | 1/12/2022 9:05:03 | Ground Operations and Movement | FOD - Mesquite Thorns on Taxiway | Caution upon taxi, engage FBO | No | |
| 3 | 1/12/2022 9:07:46 | Hangar | Fire Hazard - Power Cord | | No | |
| 4 | 1/12/2022 9:08:16 | Ground Operations and Movement | Helicopter Rotorwash Hazard | | Yes | Winston Seiler |
| 5 | 1/12/2022 9:09:18 | Maintenance | Improperly rigged trim tab found during pre-purchase inspection | Post Maintenance Inspection Checklist prior to all purchases | Yes | Winston Seiler |
| 6 | 1/12/2022 9:09:40 | Hangar | Hangar Rash | | No | |
| 7 | 1/12/2022 9:10:23 | Flight | Undetected Aircraft | TCAS plus ADSB | No | |
| 8 | 1/12/2022 9:10:56 | External Pressure | External Pressure to Fly from Customer | | No | |
| 9 | 1/12/2022 9:11:44 | Maintenance | | | | |
| 10 | 1/12/2022 9:11:51 | Maintenance | | | | |
| 11 | 1/12/2022 9:12:11 | Flight | Low Fuel | | | |
| 12 | | | | | | |
| 13 | | | | | | |

It is set up to be anonymous

- Timestamp
- Hazard Category
- Description
- Recommendation/Corrective Action (Optional)
- Would you like to share this at the next meeting?
- Name (only required if you want to share)

Need to migrate to an HSAC account.

Can give HSAC members editor access to current questionnaire and spreadsheet for full transparency



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IOGP 590 revision to 690

Is anyone interested in participating in the revision to provide feedback on the IOGP pipeline patrol guidelines?



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Other Topics for Current Discussion and Future Topics of Interest/Guest Speakers

Winston Seiler
(661) 333-6036

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Other and Future Topics

- Next Meeting in person or virtual for Aerial Patrol Group?

| UPCOMING MEETING DATES | LOCATION |
|------------------------|----------------------------------------------------------|
| May 18 & 19, 2022 | City Club at River Ranch, Lafayette, LA |
| October 12 & 13, 2022 | Four Points by Sheraton, French Quarter, New Orleans, LA |

- Other Discussion Topics for the Current Meeting
- Future Guest Speakers
 - SMS Program Comparison
- Any participants to be added to distribution list?
- General Meeting Information for tomorrow

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Summary Slides for General Meeting

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Anti-Trust Statement, Introductions, and Overview

Recap on Previous Meeting and Action Items

Spidertracks Discussion

SMS Software: FltPlan.com

Accidents and Incidents

Tower Fatalities – Preventive Measures

Leading Indicators and Hazard Reporting

Hazard Shares

IOGP 590 → 690

Other Topics of Interest and Future Topics of Interest

Winston Seiler

Winston Seiler

Randy Langefeld

Marshall Cox

Tom Buchner

All

Winston Seiler

All

All

All

Anti-Trust Statement, Introductions, and Overview

23 Participants, 4 Patrol Companies

SMS Software: FltPlan.com

Marshall Cox; (913) 440-1947; Marshall.Cox@garmin.com

FRAT, Hazard Reporting, Some QA Functionality, Company Documents and Policies, Mobile Enabled, Integrates with Garmin Pilot





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Accidents and Incidents Discussion

Estimated 55,000 HSAC Participant Patrol Flight Hours (143,000 Industry Flight Hours) in 2021

2/2021 C172 Emergency Landing Due to Loss of Engine Power

5/2021 C182 Struck Guy Wires of 1049' Tower

6/2021 C172 Loud pop from air conditioner hose failure, emergency landing impacting road sign

11/2021 C182 Struck tower during oil field patrol

Three reported in flight near misses associated with patrol aircraft

Tower Fatalities

Discussion of the two tower fatalities and preventative measures:

Minimum Altitude and Distance Separation in Ops Procedures

Fly Patrols the same way every flight; brief hazards prior to flight, and as approaching hazard.

Geofencing around hazards in Spidertracks for analytics of flight patterns

Develop a non charted hazard database.

Deadhead minimum altitudes as per the ops manual

Add minimum altitudes in patrol reporting forms



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Leading Indicators and Hazard Reporting

Sharing anonymized leading indicator hazard reports to the HSAC Group. Relevant information to include Hazard Category, Description, Corrective Action, and whether interested in sharing.

Google form (or similar) to populate spreadsheet

Set up under HSAC email or database structure

Hazard Shares

Improperly rigged flight controls

Helicopter Rotor Wash

Spidertracks Discussion, Q&A, and Feedback

Randy Langefeld; (619) 708-1472; randy.langefeld@spidertracks.com

FDM with the SpiderX Unit

Other Topics of Interest and Future Topics of Interest