FY04 AVIATION SAFETY REPORT

The purpose of the Annual Aviation Safety Report is to inform and raise the awareness of Coast Guard aircrew members regarding aviation mishaps. Improving safety awareness is essential to improving operational performance and preventing aviation mishaps. Your ideas and suggestions related to this report or other safety issues are valuable. Please pass them to your unit Flight Safety Officer (FSO) or contact the Aviation Safety Staff at Headquarters (see last page for telephone numbers and email addresses). This report contains fiscal year 2004 mishap information as well as prior year and DOD data for comparison. We hope all can use this report to evaluate our aviation mishap experience and become more involved in mishap prevention. **NOTE:** Unless otherwise indicated, only flight mishaps are used for the annual statistics, instead of all mishaps (flight, flight-related and ground). This is the traditional way of reporting annual numbers within the aviation industry. Using only flight mishaps for the annual statistics also eliminates some of the fluctuations in the mishap numbers due to reporting variations. The other categories of mishaps are still important, and are reviewed separately.

THE YEAR IN REVIEW, FROM THE HEADQUARTERS PERSPECTIVE

FY04 was an exciting one for the Coast Guard Aviation Safety Program. Once again, we had no Class A or B mishaps. This report offers ample commentary regarding the overall increase in reporting frequency and cost of mishaps experienced, but I will confirm my conviction that with easier processes and tangible benefits for reporting, air stations are doing a much better job of it than in years past. This is a very healthy trend for Coast Guard Aviation, since full, frank, and open discussion of our low and no-cost incidents holds great promise for reducing the likelihood of major mishaps.

FY04 was the first year for the new **e-AVIATRS** web-based mishap reporting system. Feedback from air stations on ease of use has been very positive. Miss Cathie Zimmerman has done a fantastic job of taking field inputs and concerns and packaging them along with her own to the MLCLANT contract programmers to gain countless modifications and enhancements. She also continues to work with the programmers to develop better query functions for the end users. In the meantime, the "old fashioned" method of picking up a phone and calling G-WKS-1 will yield many of the answers you may seek.

Equally exciting has been the progress LCDR Rick Christoffersen has made regarding fleetwide voice and flight data recorder (VFDR) recapitalization. Detailed discussion of this effort is provided herein, but I do need to highlight his tireless persistence in partnering with G-SEA, ARSC, and the respective equipment manufacturers to select, then properly configure and field the equipment needed to capture and take advantage of the abundant data that modern recorders can harness.

E-AVIATRS and the VFDR initiatives are two great examples of leveraging technology to better posture Coast Guard Aviation for success in the future, but equally important are continued low/no cost advances in the burgeoning field of human factors to help us better understand and account

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for the vast complexities of the human body and mind. Crew and Maintenance Resource Management (CRM and MRM) program changes took effect during FY04 intended to provide the right training at the right interval to gain maximum benefit. Ongoing G-WKS forays in crew endurance management and maintenance event trend analysis are aimed at establishing effective loss control processes.

FY04 also saw the culmination of a concerted, multi-year cooperative effort between G-OCA, G-SEA, and G-WKS-1 to translate unsatisfactory field experience with the arcane HH65 engine control system into definitive action to resolve a significant and growing hazard to HH65 aircrews and the public they strive to serve. As this report goes to press (delayed as it was by the difficulties associated with being the first year using **e-AVIATRS** to generate the summary data), Air Station Atlantic City has begun operationally flying the re-engined HH65C.

Many other significant changes are afoot for Coast Guard Aviation, such as major legacy asset sustainment projects in development, airborne use of force modifications to our helicopters, and fielding new Deepwater assets. G-WKS-1 embraces the challenges associated with safe implementation of these changes while retaining a strong focus on proficiency in our "traditional" higher risk duties such as night hoist/Rescue Swimmer operations.

Fly Safe…..CDR Chip Strangfeld
Chief Aviation Safety Division (G-WKS-1)

"0.0" CLASS A MISHAP RATE

We came close a couple times, but CG aviation again experienced no Class A or Class B mishaps in FY04. That's five 0.00 Class A mishap rates in the last seven years. Coast Guard Aviation has averaged one Class A mishap a year for the last twenty years. Our 10 and 20 year Class A Flight mishap rates per 100,000 fight hours are 0.72 and 0.86 respectively. CG Auxiliary Aviation reported no Class A or B mishaps for the third year in a row. Figure 1 on the next page compares Coast Guard 5, 10, 15 and 20 year average Class A Flight mishap rates with the DOD services.

Table 1 displays aviation mishap class and category definitions. Note: Auxiliary Aviation flight hours and mishaps are not used in figuring CG mishap rates in this report (See page 8 for more on the AUXAIR program)

ANNUAL RECAP

Flight mishap costs for FY04 were $7,528,100, up considerably from past years (almost doubled FY03 costs) even though we did not have any Class A or B mishaps (see Figure 2 on the next page). The number of reported mishaps more than tripled this year. Total Aviation mishap costs (Flight, Flight-Related and Ground) for FY04 were $9,157,755 the highest since 1997 (see Figure 3 on page 4) and the highest ever without a Class A mishap.

We believe these increases are primarily attributable to the successful implementation of the new **e-AVIATRS** web-based reporting system, which greatly simplified the mishap reporting process for the air stations, as well as the significantly increased reporting of HH65 engine related and C130 chip light related

MISHAP CLASS COST BREAKDOWN

FY02-FY04

Class A	$1,000,000 or greater or death
Class B	$200,000 to $999,999 or serious injury
Class C	$20,000 to $199,999 or minor injury
Class D	Less than $20,000
Class E	Engine damage only, regardless of cost

FY89-FY01

Class A	$1,000,000 or greater or death
Class B	$200,000 to $999,999 or serious injury
Class C	$10,000 to $199,999 or minor injury
Class D	Less than $10,000

MISHAP CATEGORIES

Flight Mishaps--Mishaps involving damage to Coast Guard aircraft and intent for flight existed at the time of the mishap. There may be other property damage, death, injury, or occupational illness involved.

Flight-Related Mishaps--Mishaps where intent for flight existed at the time of the mishap and there is **NO** Coast Guard aircraft damage, but there is death, injury, occupational illness, or other property damage.

Ground Mishaps--Mishaps involving Coast Guard aircraft or aviation equipment where **NO** intent for flight existed and the mishap resulted in aircraft damage, death, injury, occupational illness, or other property damage (e.g., towing, maintenance, repairing, ground handling, etc.)

Auxiliary Aviation Mishaps--Injuries or property damage sustained by an Auxiliarist while under official orders.

NOTE: Dollar values of mishap costs are actual annual costs -- not adjusted for inflation.

Table 1

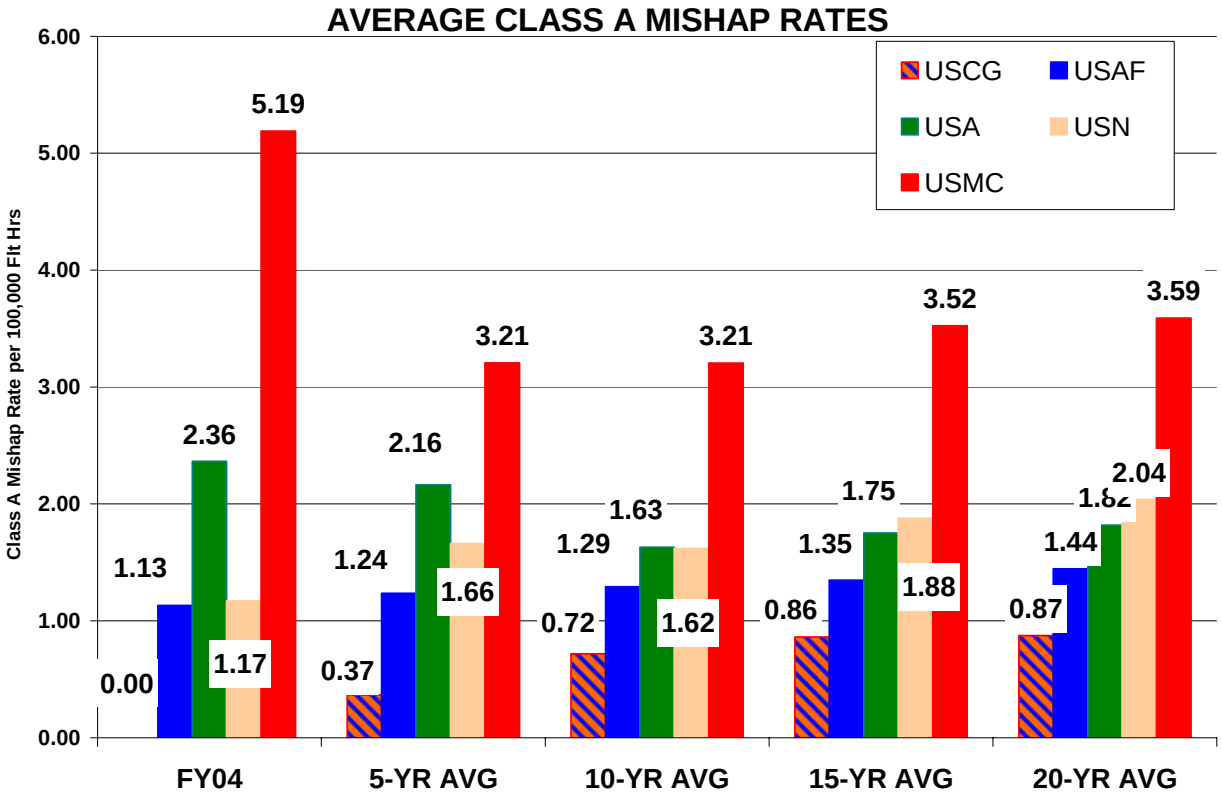


Figure 1

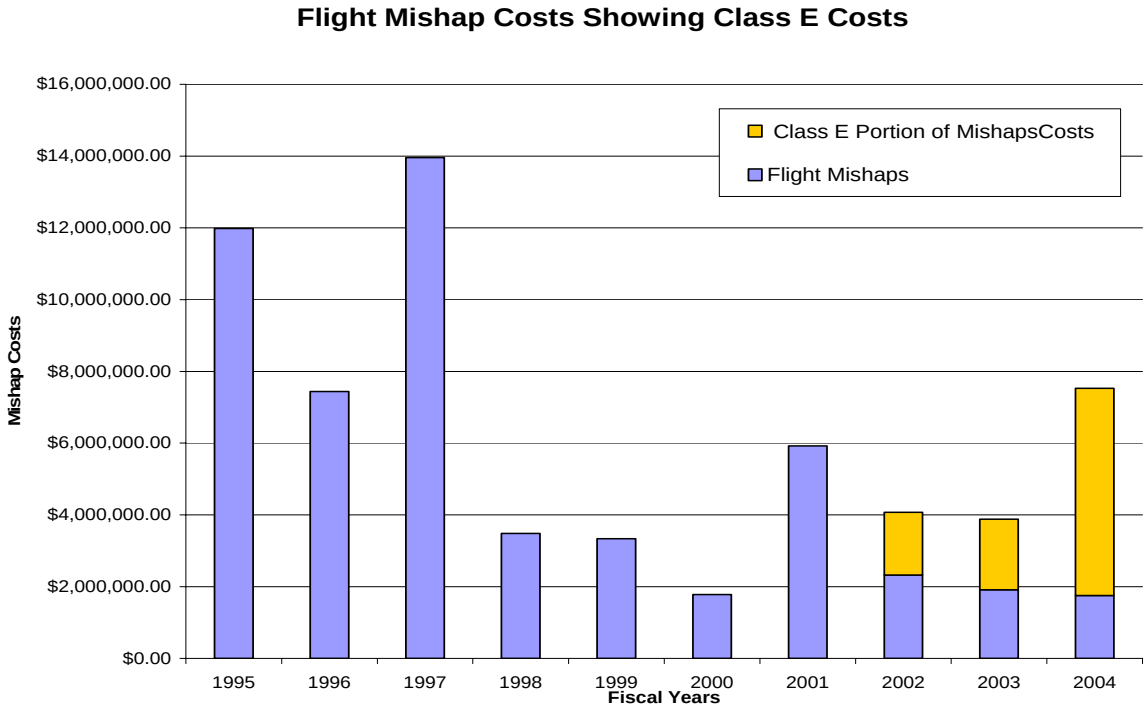
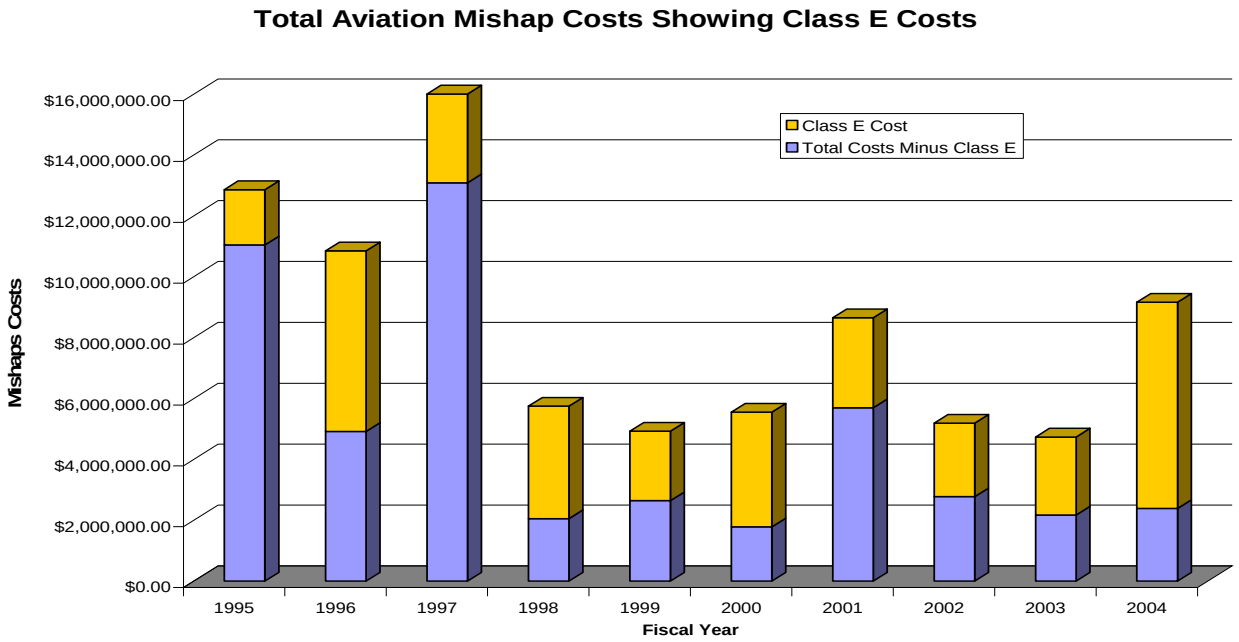


Figure 2

mishaps. The continued successful efforts of our MRM program also appears to be resulting in increased mishap reporting, which is a very positive trend in terms of preventing major mishaps.

In general, it appears that air stations are trying harder to comply with existing reporting criteria, which could be based on the belief that doing so could have a significant positive influence on a particular situation, similar to the recent HH65 re-engining decision which was influenced by mishap reporting.

Despite increased overall reporting, the Class ABC rate has remained relatively stable. Of the 667 Flight mishaps reported, 90% (597) were below the Class C threshold of $20,000 and accounted for less than a quarter of the Flight mishap costs. Similarly, looking at Total mishap numbers (Flight, Flight-related and Ground), only 8 (12%) of the 795 mishaps reported exceeded the $20,000 threshold, yet they accounted for 77% of the Total Aviation mishap costs.



Note: Class E mishap cost are broken out to show the portion of Class E (engine only) mishaps costs related to the total mishap costs for each year.

Figure 3

		FLIGHT HRS =	114,446
	FLIGHT	FLT-REL	GROUND	TOTAL
CLASS A MISHAPS	0	0	0	0
CLASS A COST	0	0	$0	0
CLASS A RATE	0.00	0.00	n/a	0.00
TOTAL MISHAPS	677	22	100	799
TOTAL COST	7,528,100	45,090	$1,586,761	9,159,951
TOTAL RATE	0.59	0.02	n/a	0.70
COST/MISHAP	$11,120	$2,050	$15,868	$11,464
A/B/C MISHAPS	20	6	12	38
A/B/C COST	983,276	45,000	$438,228	1,466,504
A/B/C RATE	0.02	0.01	n/a	0.03
COST/MISHAP	$49,164	$7,500	$36,519	$38,592

Table 2

Accordingly, the average cost per mishap report dropped substantially. G-WKS-1 is very pleased to see this, since the lessons learned from increased reporting of low/no cost incidents can greatly assist in averting high-cost incidents ("cost" being in terms of both injuries and dollars). We feel this is an indication of more thorough reporting, not necessarily more frequent mishaps. Anecdotal indicators are that many of these mishaps were happening before, but were not always being reported. Again, this is most likely because reporting mishaps has become easier, and the field is seeing the value of reporting the low/no cost mishaps.

We believe MRM training and awareness has also contributed both to the increased reporting of smaller/minor incidents, and to keeping the overall ABC mishap statistics down. Only eleven of the ninety-four MRM events had mishap costs over $20,000 and accounted for 81% ($1,020,436) of the total MRM costs ($1,225,384). These higher cost MRM incidents included three engines totaling $489,423, four ground handling mishaps totaling $374,352, fuel truck contamination costing $52,215, and a main rotor head incident of $48,360. See page 12 for a discussion of the MRM program.

Table 2 on page 4 displays the FY04 Aviation mishap summary data. Figures 2 and 3 display mishap cost data for the last ten years for Flight mishaps and for Total Aviation mishaps (Flight, Flight-Related and Ground). Of the 799 aviation mishaps reported this year, 100 were Ground and 22 were Flight-Related.

The Class ABC flight mishap rate (per 100 flight hours) remains at 0.02. It has fallen steadily from 0.08 in FY94. This rate has been below 0.05 for the last eight years and below 0.10 since FY90.

Over half (474) of the mishaps reported this year were Class E, and accounted for 74% ($6,771,786) of the total FY04 aviation mishap costs ($9,189,951). 85% (404) of the Class E mishaps cost less than $20,000, and a full half (239) cost less that $1,000. Only 17 of the Class E mishaps had costs over $100,000, but these 17 incidents represented 55% of the total Class E costs and 41% of the Total Aviation Mishap costs for FY04. Many of these incidents would have been reported as Flight-Related mishaps before we added the Class E mishap category in FY02.

Figure 4 below displays our Class A Flight mishap history along with total flight hours since 1956. Figure 5 on page 6 displays the Coast Guard aviation Class A Flight mishap rates for the past fifteen years. Also on the next page, Figure 6 provides a comparison of Coast Guard aviation Class A Flight mishap rates to the DOD military services for the last ten years.

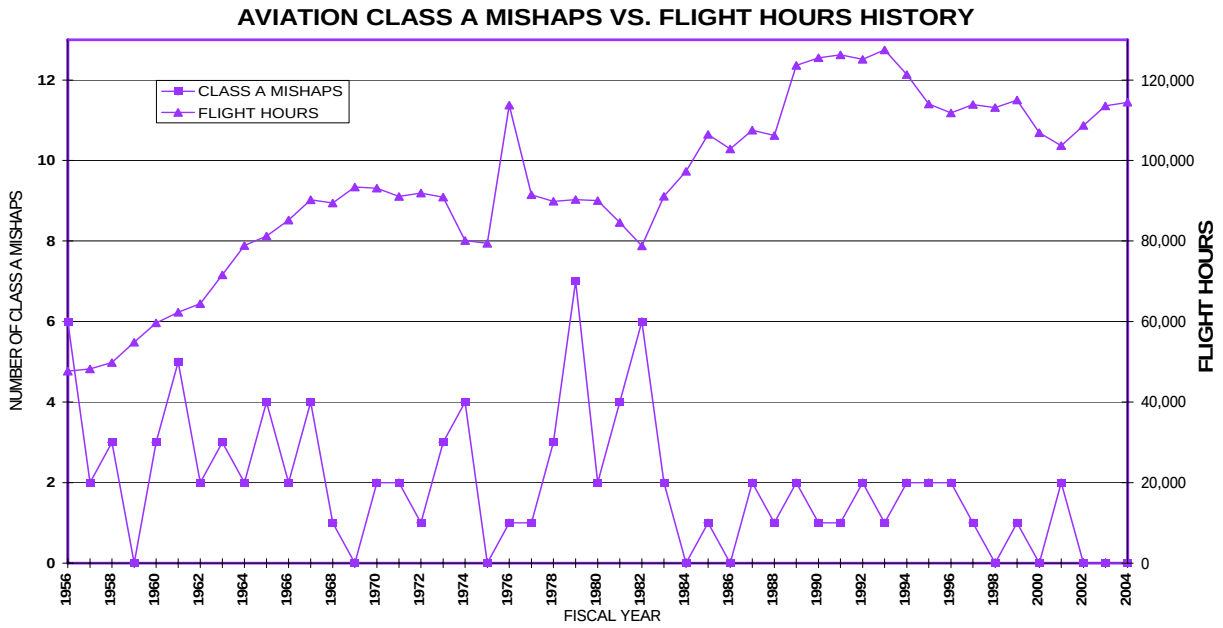


Figure 4

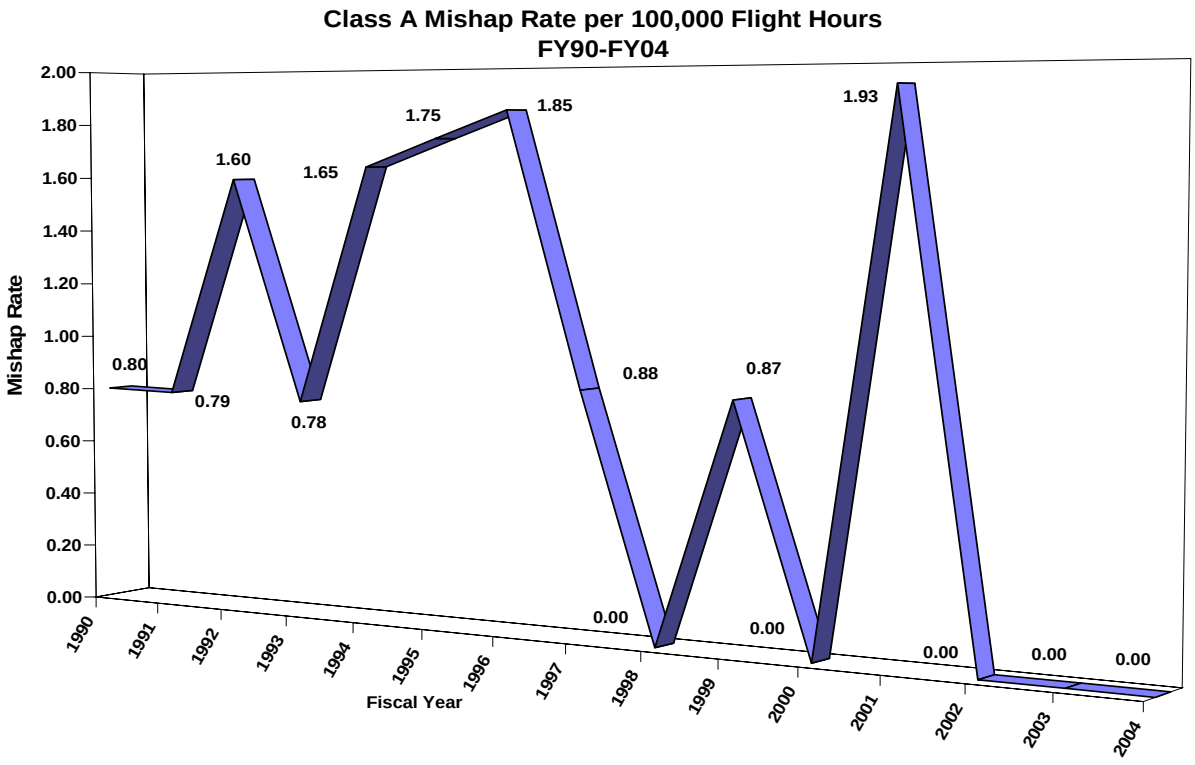


Figure 5

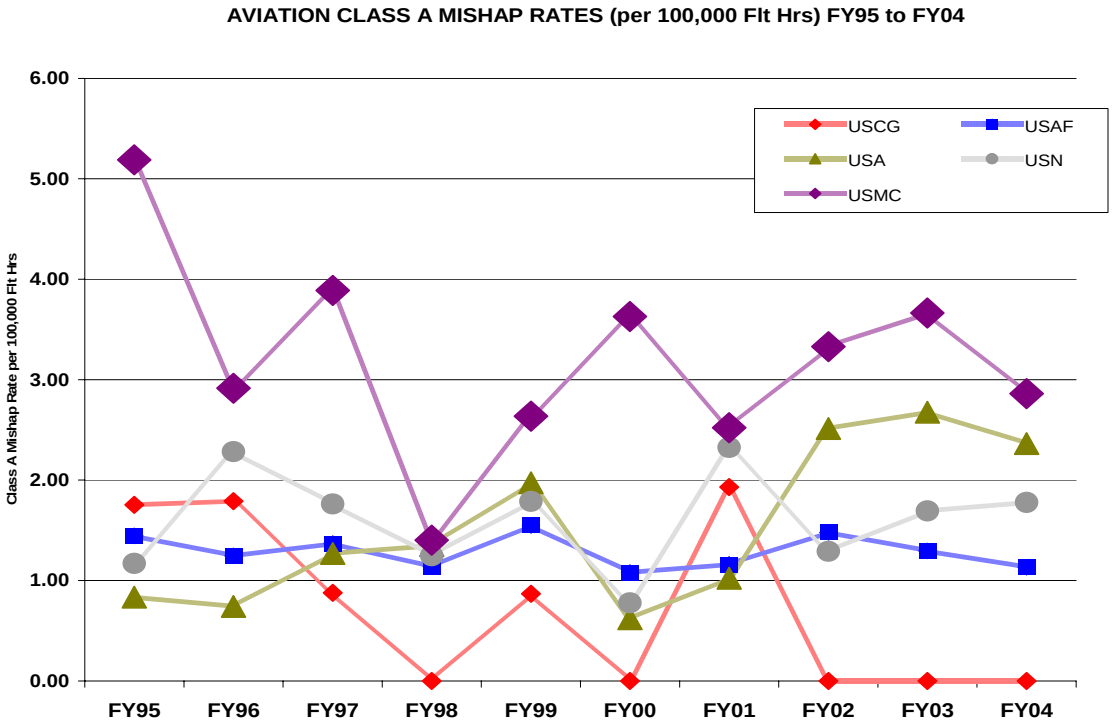


Figure 6

AVIATION SAFETY POSTGRADUATE TRAINING

This year marks another successful endorsement and full funding of our Aviation Safety Management Postgraduate Training Allowance Billet (TAB), making the 2006 TAB our third consecutive award and fourth TAB overall. With our 2006 TAB we have expanded our program to recognize two Aviation Safety Management postgraduate programs; the Master of Science in Safety Science (MSSS) at Embry Riddle Aeronautical University, Prescott, AZ, and the Master of Science in Aeronautics (MSA) with specialization in Aviation/Aerospace Safety Systems at Embry Riddle Aeronautical University, Daytona Beach, FL. Program information can be found at: http://www.erau.edu/pr/degrees/pr-ma-degrees.html and http://www.erau.edu/db/degrees/ma-aeroscience.html.

The MSSS curriculum provides in-depth knowledge of industrial safety practices as they apply specifically to an aviation/aerospace environment. This program is serving us very well as evidenced by the contributions being made by LCDR Jeff Kotson, our first graduate. As the Flight Safety Officer at ARSC, LCDR Kotson is providing essential oversight of our Voice and Flight Data Recorder (VFDR) budget and programs, which includes the multi-year/multi-million dollar contracts for HH65C/HH60T VFDR upgrades and the C130 Flight Data Acquisition Unit (FDAU) purchase and VFDR upgrade. The industrial safety curriculum has further enabled LCDR Kotson to work effectively with ARSC's Industrial Safety manager, Mr. Sam Mickey. In all, the MSSS program is ideally suited for graduates serving in the TAB coded FSO billets at ARSC and/or ATC Mobile.

The MSA with Aviation/Aerospace Safety System specialization provides a Human Factors and Safety System centered curriculum that is aptly suited for the G-WKS-1 staff billets. We hope to leverage the knowledge and expertise gained in this curriculum to enhance our ability to forecast and integrate emerging aviation safety system technologies such as Terrain Awareness Warning Systems (TAWS) and Military Flight Operations Quality Assurance (MFOQA) programs. The G-WKS-1 staff is actively engaged in these efforts, but we're in a "learn-as-we-go" mode. We're confident that Coast Guard aviation will be better served by staffing the G- WKS-1 O-4 billets with seasoned aviators knowledgeable of leading edge aviation safety systems technologies. A further appealing aspect of the MSA program is its flexible curriculum which enables graduates to complete the degree within a 15 to 18 month cycle. Though this may seem insignificant, in the long-term it reduces the total time away from mainstream Coast Guard (which can equate to relevant OER input during critical promotion periods), and it lessens the gap in operational flying time which can affect an officer's aviation career gates.

In a fiscally constrained environment, ongoing endorsement of our TAB reflects highly upon Coast Guard Aviation and the significance of our aviation safety program/culture. Expanding the program options provides tailored graduate study to best serve the unique demands of the safety TAB coded billets, and creates greater flexibility for those with a strong interest in aviation safety and graduate education.

VOICE AND FLIGHT DATA RECORDERS

Our VFDR projects continue moving forward. On the HU25 front, the installation of the L-3 Communications FA-2100 (digital Voice and Flight Data recorder) is in full swing. TCTO T31001.0, for aircraft modification by ARSC or by Contract Field Teams (CFT) has been published. The FA-2100 records a minimum of 25 hours of flight data and two hours of voice data. The VFDR upgrade for the HC130H is also underway, and the FA-2100 "combi-box" was also selected for this aircraft.

The VFDR modification for the C130 is an extensive project which has been divided into two separate efforts; voice data which can be accomplished as a unit level TCTO and flight data which will require depot-level installation. Replacing the aircraft's obsolete magnetic tape voice recorder was our most urgent requirement, and the installation of the FA2100 per TCTO 130-T31030.0 proved straightforward, resolving the voice recording deficiency. Integrating the flight data recorder portion of the FA2100 is a far more complex effort. It requires the installation of a Flight Data Acquisition Unit (FDAU). The FDAU and related sensors will be used to convert existing analog and discrete instrument signals to a digital medium acceptable for use by the flight data recorder.

A Statement of Work (SOW) for the FDAU upgrade is complete and will be posted for competitive selection soon. Once installed, the FDAU will provide flight data to the crash survivable memory unit (CSMU) of the VFDR

(voice is already wired to the CSMU.) The CSMU is capable of recording 25 hours of flight data and two hours of voice data. When the full FDAU/VFDR upgrade is complete, as a system, it will provide superior flight data fidelity for mishap analysis. The data can also be employed to support detailed analysis of aircraft systems performance and maintenance troubleshooting.

On the rotary wing side, we are upgrading the VFDR systems to meet the integration requirements of the HH65C and HH60T. A contract in support of this effort was recently awarded to Smith Industries. Their new recorder, the VADR K, will be installed in the HH65C, HH60J and HH60T. The VADR K will have imbedded Operational Flight Profile (OFP) data sets for all three platform types; the K is configured to immediately identify the host aircraft upon connection and power-up. This achieves a "single box" solution for the rotary wing fleet and ultimately reduces the number of spares ARSC will need to maintain.

Our rotary wing contract also required the integration of a supplemental recorder (non-crash hardened) referred to as the Data Storage Unit (DSU). The DSU expands the flight data recording duration to 25 hours and voice to 6 hours. The DSU will be used for flight data downloads in support of aeronautical engineering maintenance analysis and provides a pathway toward development of Health Usage Monitoring System (HUMS) and Military Flight Operations Quality Assurance (MFOQA) applications. Voice data will be fully partitioned, codified and protected to insure compliance with existing "Safety Privilege" policies as outlined in the Safety and Environmental Health Manual, COMDTINST M5100.47.

AUXILIARY AVIATION

Auxiliary Aviation continued its determined march toward becoming a safer, more standardized organization in FY2004. A key benchmark achieved was the creation and integration of an Auxiliary Aviation Standardization Team to examine the Auxiliary Aviation program and develop and maintain aviation standards. Accomplishments of the AuxAir Stan team included:

- Development and promulgation of a nationwide instructor pilot/flight examiner syllabus.
- Development of an Auxiliary pilot syllabus and check flight regimen.
- Design and implementation of an Auxiliary aviation Risk Assessment Matrix.
- Standardization of engine shut-down procedures when embarking/disembarking passengers and crew.
- Standardized uniform guidance for wearing of flight suits.

A major achievement has been the complete re-write of the Auxiliary Operations Policy Manual. This new edition includes three completely revamped annexes clarifying and standardizing Auxiliary Aviation Policy

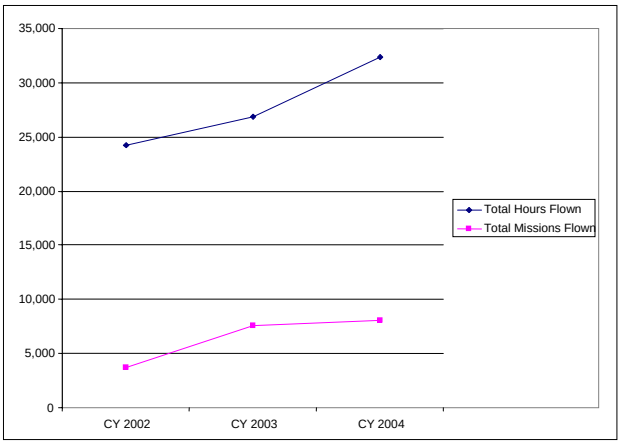
The Auxiliary Aviation Spatial Disorientation and CRM training continues to be a huge success, with classes scheduled every month through the end of 2005. The inaugural Auxiliary Air Coordinator (AAC) / Auxiliary Liaison (AUXLO) one-day "C" school was held in January 2005. This school provided the basics for district administration and safe conduct of the Auxiliary Aviation Program. This first-ever class was held in conjunction with the Auxiliary National Training Conference and included the Auxiliary District Staff Officers – Aviation (DSO-AV). The addition to the training was very well-received, and enhanced the reach of the class and the integration of the program with the Air Stations.

In the queue for this summer is the Auxiliary District Flight Safety Officer (DFSO) "C" school. The focus in this G-OCX/WKS-1 coordinated effort will be to train the Auxiliary DFSOs in ways to coordinate and support an aviation safety program. and how to interact with air station FSOs, including the use of **e-AVIATRS.**

	CY 2002	CY 2003	CY 2004
Total Hours Flown	24,204	26,886	32,375
Total Missions Flown	3689	7532	8,067
# Acft (End Of Year)	191	280	294
# Pilots – all (EOY)	257	431	442
# Aircrew (EOY)	81	123	150
# Observers (EOY)	210	454	551

Table 3

Auxiliary Aviation Statistics for the last three calendar years clearly indicate its growth and the increased demand for services. This is shown in the table 3 above. Figure 7 illustrates this growth and shows as well the increase in hours spent per mission in CY2004. (Thanks to LCDR Mike Staier of OCX for writing this article)



Auxiliary Aviation Support
Figure 7

FLIGHT RELATED MISHAP REVIEW

Although not included as part of the annual aviation mishap rates, flight-related mishaps are important. Flight-related mishaps are mishaps where there was intent for flight, but no aircraft damage. Included in this category are injuries (with no aircraft damage), near midair collisions, and other close calls or near mishaps. Flight-related mishap reports include no cost lessons learned and any incident having value to the rest of the fleet. These reports are valuable mishap prevention tools.

Aviation Injury

There were 24 reported aviation related injury mishaps in FY04 involving injury to 18 Coast Guard aviation personnel, 2 boat crew and 6 "fastropers" (helicopter vertical insertion training). Once again, over half of these injuries involved improper procedures, the wrong tool or improper/poorly designed equipment. Inattention, complacency, awareness and motivation were factors in over half of these incidents as well, and 30% listed lack of training or experience as a cause factor.

Hoist Injuries this year included more than just Rescue Swimmers and boat crews. Thirteen people were hurt during hoisting ops (four Rescue Swimmers, two boat crew, one Flight Mech and 6 fastropers). Two swimmers and one boat crew were shocked by static discharge enough to abort the mission and report to the clinic for evaluation. As the vertical insertion program develops, we expect to see more injury reports. This year there were two knee injuries, one broken ankle, one broken leg and two people "banged up" from contact with the hoist platform.

Four people were sprayed by or otherwise exposed to hydraulic fluid, fire extinguishing compound or fuel. We had no reports of personnel exposure to radar, but did have a report of a night laser light exposure to one aircraft and crew. Injuries this year ran the gamut from blocked ears and sinuses to bruised hands, sprained/strained arms, knees and backs, broken ankles and legs. There were lacerated hands and fingers, but no concussions or food poisonings.

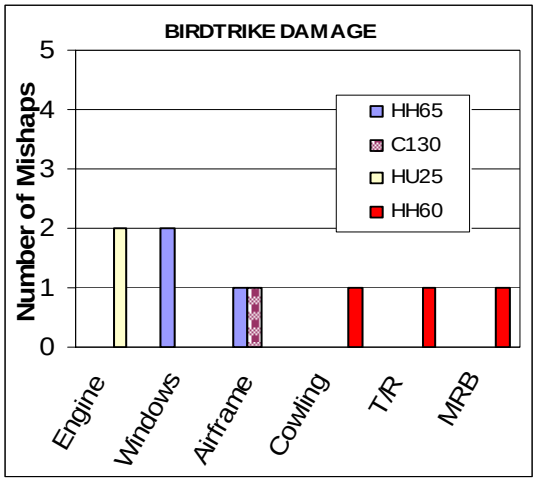


Figure 8

Birdstrikes

There were nine birdstrikes reported in FY04. Reported cost of birdstrike damage was $28,589. Damage involved two HU25 engines, and airframe damage to one C130 and one HH65. Birdstrikes damaged two Dolphin windscreens and a Jayhawk tail rotor blade, main rotor blade, and cowling. Figure 8 shows a breakdown of the FY04 birdstrikes.

Near Midair Collision

There were only four near midair collisions (NMAC) reported in FY04. Reported NMAC's have decreased since Traffic Collision Avoidance Systems (TCAS) were installed in Coast Guard aircraft in the mid-nineties. All four NMACs reported involved an HH65 and involved civil, commercial and other military aircraft.

FOD

There were sixteen Foreign Object Debris (FOD) incidents reported this year resulting in $414,106 in damage. Figure 9 on the next page shows a breakdown of the reported FOD incidents. Foreign object debris mishaps involved one

windscreen, two tail rotors, four engines, one MLG door, a binding flight control, a rotor system, and six incidents of contamination. Eight HH65's, four HH60's, three HC130's, and one MH68 were involved in FOD mishaps this year.

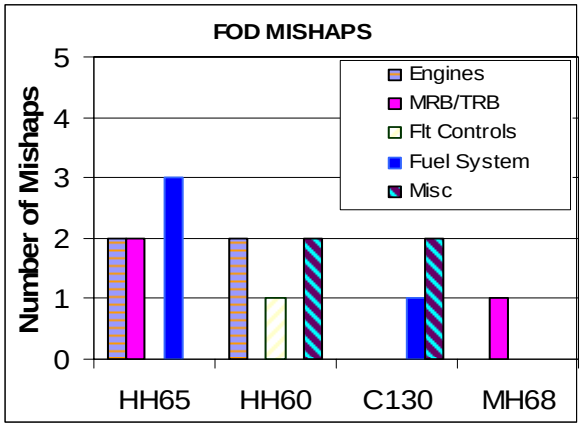


Figure 9

ENGINE MISHAPS

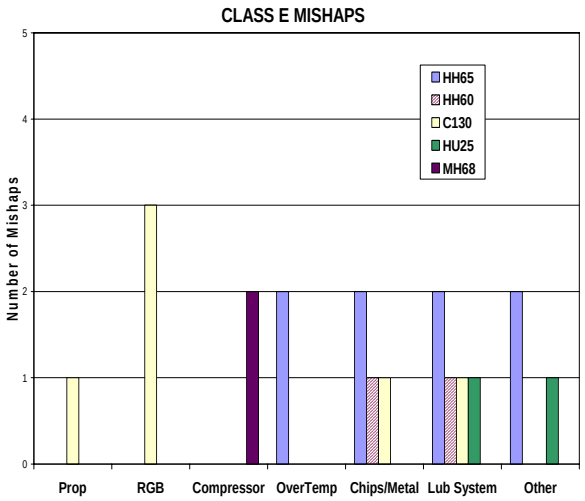


Figure 10

Class E mishaps accounted for 59% of the reported Total mishaps and 74% of the Total mishap costs in FY04 There were twenty engine replacements or inflight shutdowns over $20,000 reported, resulting in $1,707,355 of mishap costs (this does not include partial power losses/torque-splits). Figure 10 above shows a breakdown by mishap and aircraft type and figure 11 provides a breakdown by airframe.

SHIP-HELO MISHAP REVIEW

There were thirty-seven mishaps reported in FY04 involving ship-helo operations, totaling $527,297 in mishap costs. Only six (16%) of these mishaps were unique to the ship-helo environment (e.g., aircraft damage due to ship movement, portable hangar, HIFR mishaps, flight deck issues and tiedowns). The remaining 31 were not the result of the ship-helo interface (e.g., landing gear problems, FOD, engine problems, indicator problems, etc.).

Ship-helo related mishaps normally account for 5 to 10% of the total mishaps reported and less than 5% of the total costs. This year they accounted for 6% of the mishaps and 7% of the total mishap costs.

WEATHER RELATED MISHAPS

Weather contributed to thirteen reported mishaps which resulted in $140,811 in damage. These incidents included electronic malfunctions due to moisture, parts prematurely failing due to corrosion, and airframes damaged by hail, wind and lightning.

GROUND MISHAP REVIEW

One hundred aviation ground mishaps were reported in FY04. Total cost for these mishaps was $1,521,170. Twenty-seven engine torque splits and compressor stalls accounted for $460,522 of the ground mishap cost (See Figure 12). Of the 63 non-engine related ground mishaps, ground handling (ground support equipment (GSE), towing, blade folding, fueling, washing or jacking) accounted for 46% of mishaps (31), and 36% of the costs ($386,287). Virtually all of the ground mishaps listed some form of human factors as one of the cause factors.

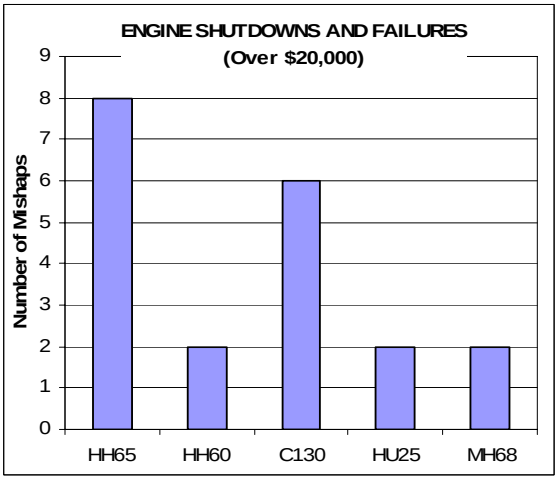


Figure 11

At least five aircraft were damaged by checkstands or equipment carts while parked, accounting for $115,385. Ten towing mishaps accounted for $192,837 of the mishap costs. Contaminated fuel and fueling equipment failures totaled $58,415. The wrong part, tool,

equipment or incorrect procedures were factors for forty percent of the ground mishaps.

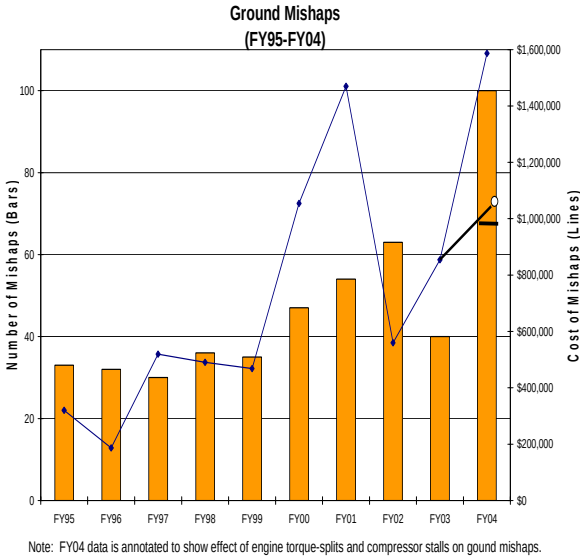


Figure 12

Insufficient Q/A, review or supervision was cited in 21% (19) of the mishaps. One third of the mishaps listed awareness, complacency or inattention as a factor. Of the 100 ground mishaps reported this year, 82 were below $20,000 in cost, totaling only $182,493. Conversely, the twelve most costly ground mishaps totaled $1,244,624.

MAINTENANCE HUMAN ERROR MISHAPS

Ninety-four mishaps listed some type of maintenance human factor as a cause. These mishaps included incomplete passdown, poor communications, inappropriate procedures, improperly followed procedures, a lack of supervisor review, or Q/A problems. Over half (51) of the mishaps involved incomplete, improperly followed, inappropriate or unavailable procedures. The wrong part, poor equipment/part design, or lack of parts was listed as a cause in at least sixty-seven (71%) of the mishaps (see Figure 13). Inattention, complacency or awareness was a factor in twenty-one (22%) of the incidents reported. Poor passdown, incomplete checklist, or poor communications were also listed in 10% of the mishaps. Some form of inexperience, lack of training, or staffing issues were factors in 15% of the incidents. Workload, feeling rushed, or lack of resources was mentioned in 15% (14) of the mishaps. 61% (57) of the mishaps cited Q/A review or supervision as a cause factor.

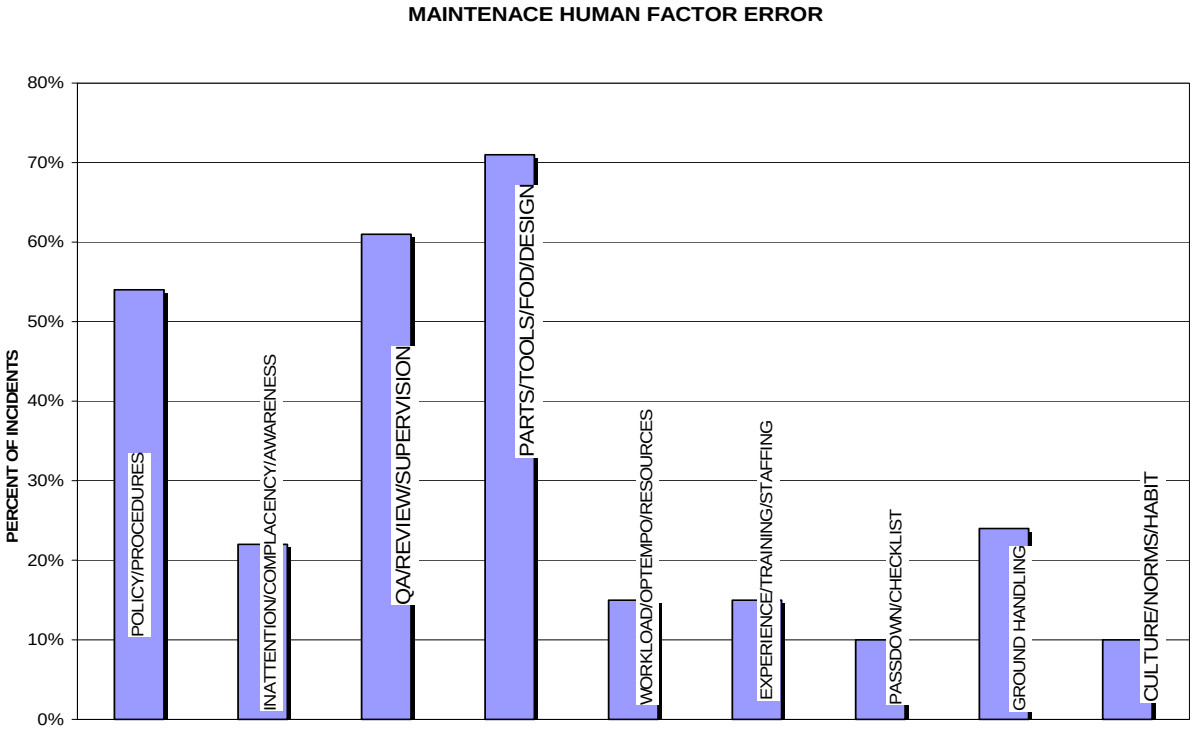


Figure 13

MAINTENANCE RESOURCE MANAGEMENT (MRM)

Our MRM program and the principles taught are designed to raise awareness of the impact of Human Factors within the realm of aeronautical engineering work, and to provide tools to maintainers (at all levels) to help identify and mitigate mishap drivers that are imbedded in our maintenance norms, procedures and/or processes. Successful integration of MRM can appear to be a double-edged sword. Both edges prove positive in the long run. On one hand, we raise awareness and knowledge which results in deliberate efforts to stop or prevent mishaps (our ultimate goal). On the other, as awareness increases, so does mishap reporting. With increased reporting comes an expected increase in mishap numbers and costs, which is what we believe we've experienced this year. Though the increased number of reports this year might seem alarming, it is important to recognize the benefits gained. Thorough mishap analysis, exchange of lessons learned, and the integration of mitigation practices will ultimately lead to a healthier culture and long-term, productive change.

Following the integration of MRM in 2001, we've witnessed a steady decline in the costs associated with Human Factor (HF) events in aircraft maintenance. In FY00, maintenance mishap events reached a high of $2M, in FY01 they dropped to $643K, in FY02 $485K and in FY03 the downward trend continued to a low of $378K (see Figure 14 on the next page). However, maintenance related mishap costs rose sharply in FY04 to $1M, nearly triple FY03 costs, (but still half the $2M experienced the year before MRM started).

As mentioned earlier, these costs resulted from 94 maintenance mishaps, of which 7 high dollar events (over $50K) contributed to 75% ($779,492) of the overall maintenance related mishap costs. The remaining losses resulted primarily from Class D events: Of the 66 Class D's reported, 35 had costs less than $1K. Clearly, the seven major events significantly impact this year's statistics. However, costs and statistical significance aside, all 94 events prove costly in terms of impact on the workforce, as combined they reflect a loss of 4,547 work hours. Along with the loss of constrained fiscal resources and valuable workforce hours, each event represents a mishap opportunity that could have resulted in far greater losses.

The increase in reporting of low dollar, Class D events is laudable. Analysis of these relatively inexpensive, "below the water line" events helps us identify latent system errors, errors in the processes or procedures that can easily be overlooked, "lived-with," and/or worked around--errors that can remain uncorrected and create opportunity (links) for more costly and/or hazardous mishaps. The open exchange of these events and lessons learned (as evidenced in this year's messages) is fostering increased communication and situational awareness. It is also driving improvements to maintenance practices and policies, and ultimately will further advance our strong aviation safety culture. Through this environment of open and complete mishap reporting we gain knowledge. Armed with this knowledge, aeronautical engineering leaders can be more deliberate in their assessment of organizational elements or safety nets that are failing, and in the development/integration of effective "error traps" and other loss control strategies.

This may be what we are experiencing in regards to our traditional leading maintenance mishap factor which is "compliance with procedures or policies." Traditionally, this causal factor has been contributory in approximately 91% of our maintenance related mishaps. However, this year we've witnessed that number decline sharply to a low of 53%. Job well done!

Opportunities for continued process improvement still exist, as related message text reveals norms that are still common, such as conducting procedures from memory or failing to identify discrepancies during Quality Assurance checks. Task turnover and distraction has also been noted as contributing to breakdowns in maintenance discipline.

From a program management perspective, our integration and acceptance of MRM parallels our cultural growth after introducing Crew Resource Management (CRM). In 1990 when we first

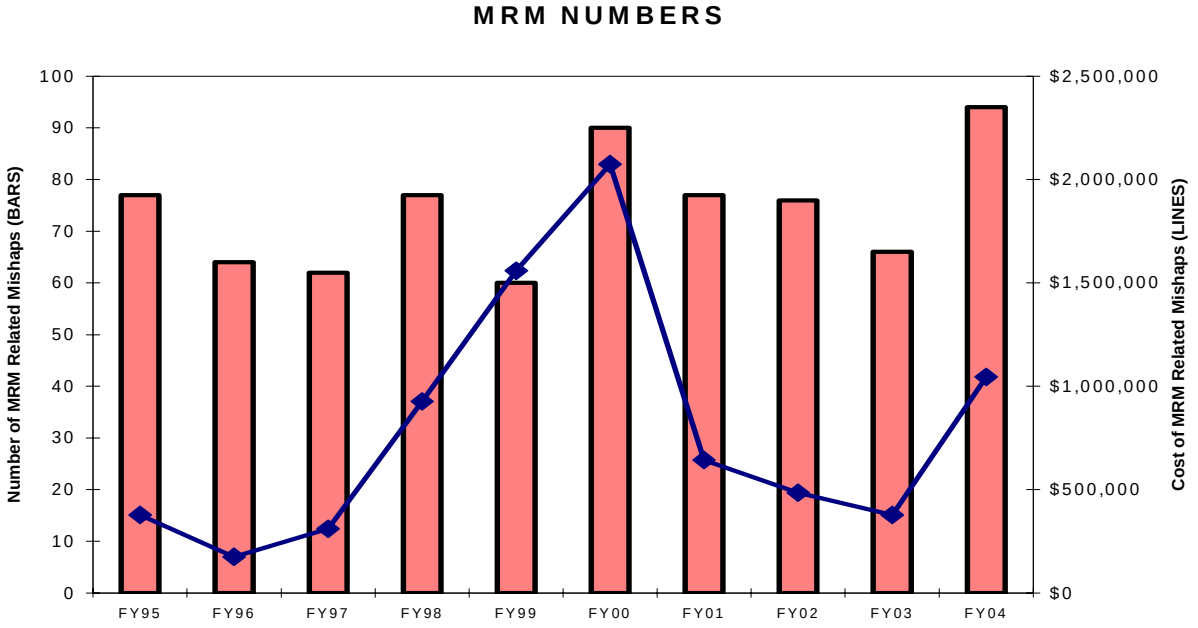


Figure 14

introduced CRM, numerous seasoned veterans challenged its value and did not fully embrace the human factors concepts imbedded in CRM disciplines. At first, message reporting reflecting CRM "events" trickled in slowly. But today, our widely embraced CRM program, resulting strong safety culture, and consistently low mishap rate (for mishaps costing more than $20K) is highly envied by our DOD counterparts. Aeronautical engineering leaders are encouraged to help achieve fullest support of MRM principles and training. Together, we can work to share valuable lessons learned in an ongoing effort to reduce the frequency and severity of aviation maintenance mishaps.

SUMMARY INFORMATION

Tables 4 and 5 display mishap summary information for FY04 associated with each of the four major airframes. The pie charts on the next page, (Figures 15, 16 and 17) illustrate the percentage of total mishaps, flight hours and total mishap costs for each airframe.

AIRFRAME REVIEWS

Pages 15-18 contain mishap data for each major aircraft type. In reviewing these pages, it should be noted that since we have not had a reported reportable Class A or B mishap in over three years, the ABC Flight mishap rate for all aircraft is made up of Class C mishaps only. Also note that the ABC Flight mishap rate for each airframe and all of CG aviation is fairly stable. Total Flight mishaps were up this year and the highest they have been in 6 years. But as stated earlier, this increase is made up largely of low/no cost mishaps and the engine related mishaps.

FY04 FLIGHT MISHAP PERCENTAGES

AIRCRAFT	MISHAPS	% of TOTAL MISHAPS	COST	% of TOTAL COST	FLIGHT HOURS	% of FLIGHT HOURS
HH60	53	8%	$619,370	8%	24,444	21%
HH65	486	72%	$4,646,538	62%	52,196	46%
MH68	13	2%	$39,096	1%	3,329	3%
C130H	66	10%	$1,602,705	21%	18,746	16%
C130J	2	0%	$234	0%	805	1%
HU25	57	8%	$620,157	8%	13,761	12%
VC4 &C20	0	0%	$0	0%	1,165	1%
TOTAL	677		$7,528,100		114,446	

Table 4

FY04 FLIGHT MISHAP PERCENTAGES				
CLASS	MISHAPS	% of TOTAL MISHAPS	COST	% of TOTAL COST
A	0	0%	$0	0%
B	0	0%	$0	0%
C	20	3%	$983,277	13%
D	219	32%	$769,822	10%
E	438	65%	$5,775,001	77%
TOTAL	677		$7,528,100	

Table 5

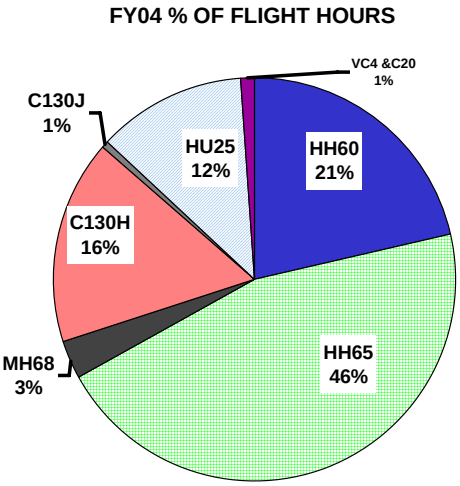


Figure 15

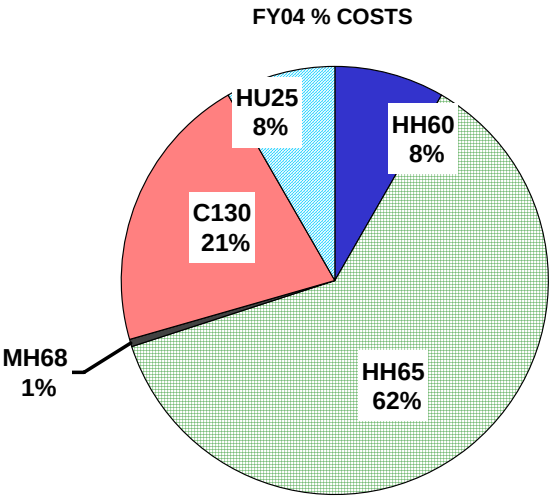


Figure 17

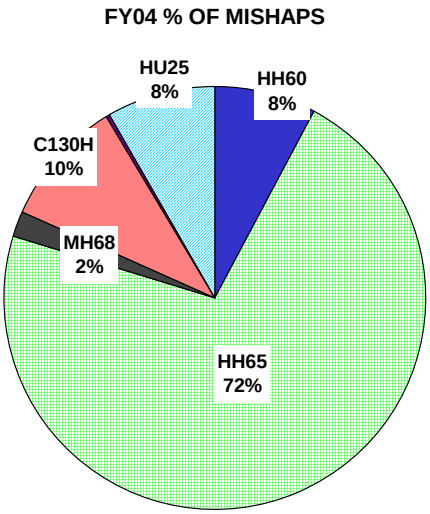


Figure 16

HH60J MEDIUM RANGE RECOVERY (MRR)

The HH60J flew 24,444 hours (21% of the total flight hours). The Jayhawk reported 53 flight mishaps (only 8% of total reported flight mishaps). With only 8% of the mishap costs ($619,370), this was the only airframe to see a decrease in mishap costs this year. The HH60J had the lowest mishap rate (0.22) and the lowest mishap cost per flight hour ($25) of all the airframes.

Of the total 53 HH60J records for FY04, thirteen cited costs of less than $1,000 and of those thirteen, six had mishap costs of under $100. Of the ten Class E mishaps, eight reported cost less than $20,000.

HH60J Flight Mishaps for FY04

Aircraft	Class	No. Mishaps	Cost
HH60J	A	0	$ 0
	B	0	$ 0
	C	4	$ 279,390
	D	39	$ 180,656
	E	10	$ 159,324
Totals		**53**	**$ 619,370**

Table 6

HH60 ABCDE	NO. MISHAPS	COST	FLIGHT HOURS	MISHAPS/ 100 FLIGHT HOURS	COST/ MISHAP	COST/ FLIGHT HOUR	HH60 ABC	NO. MISHAPS	COST	FLIGHT HOURS	MISHAPS/ 100 FLIGHT HOURS	COST/ MISHAP	COST/ FLIGHT HOUR
FY00	36	$568,351	23,684	0.15	$15,788	$24	FY00	8	$521,216	23,684	0.03	$65,152	$22
FY01	34	$2,407,943	21,903	0.16	$70,822	$110	FY01	7	$2,343,976	21,903	0.03	$334,854	$107
FY02	29	$312,820	23,667	0.12	$10,787	$13	FY02	2	$56,044	23,667	0.01	$28,022	$2
FY03	37	$1,370,502	25,098	0.15	$37,041	$55	FY03	7	$508,426	25,098	0.03	$72,632	$20
FY04	53	$619,370	24,444	0.22	$11,686	$25	FY03	4	$279,390	24,444	0.02	$69,848	$11

Table 7

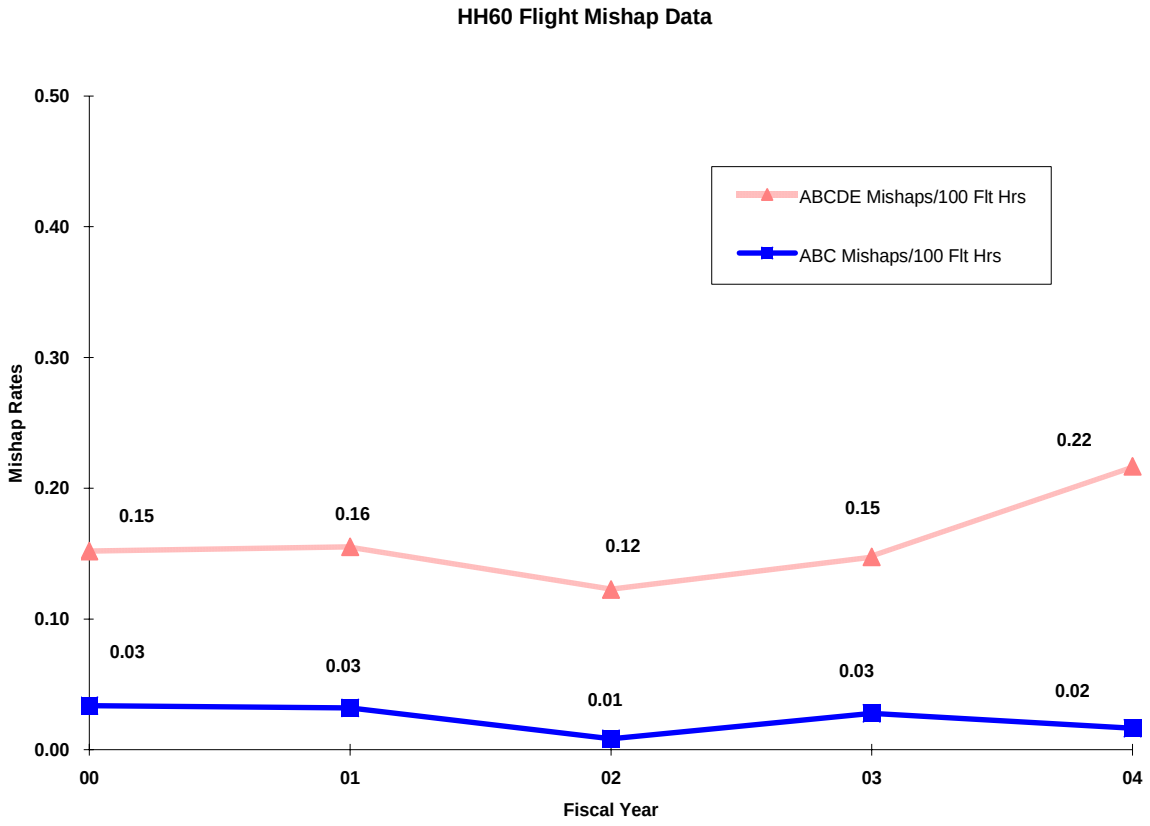


Figure 18

HH65 SHORT RANGE RECOVERY (SRR)

The HH65 flew 52,196 hours, the most hours the Coast Guard's Dauphin has ever flown in a year. The HH65 reported 72% of the mishaps (486 mishaps), and 62% ($4,646,538) of the mishap cost. The Dauphin reported the highest mishap rate (0.93) and highest mishap cost per flight hour ($89) of the four major airframes. Mishaps involving engine control systems continued to account for the high number of mishaps reported.

Of the 486 HH65 records for FY04, 372 were Class E mishaps. 184 of the Class E mishaps reported mishaps cost of under $1,000 and of these, 72 had associated cost of under $100. Only 57 of the HH65 Flight mishaps reported had costs above $20,000.

HH65 Flight Mishaps for FY04

Aircraft	Class	No. Mishaps	Cost
HH65	A	0	$ 0
	B	0	$ 0
	C	8	$ 343,464
	D	106	$ 321,766
	E	372	$ 3,981,308
Totals		**486**	**$ 4,646,538**

Table 8

HH65 ABCDE	NO. MISHAPS	COST	FLIGHT HOURS	MISHAPS/ 100 FLIGHT HOURS	COST/ MISHAP	COST/ FLIGHT HOUR	HH65 ABC	NO. MISHAPS	COST	FLIGHT HOURS	MISHAPS/ 100 FLIGHT HOURS	COST/ MISHAP	COST/ FLIGHT HOUR
FY00	68	$542,964	45,620	0.15	$7,985	$12	FY00	13	$398,726	45,620	0.03	$30,671	$9
FY01	78	$2,928,788	45,095	0.17	$37,549	$65	FY01	22	$2,812,225	45,095	0.05	$127,828	$62
FY02	100	$861,004	50,067	0.20	$8,610	$17	FY02	6	$350,044	50,067	0.01	$58,341	$7
FY03	92	$1,097,536	51,010	0.18	$11,930	$22	FY03	13	$680,793	51,010	0.03	$52,369	$13
FY04	486	$4,646,538	52,196	0.93	$9,561	$89	FY04	8	$343,464	52,196	0.02	$42,933	$7

Table 9

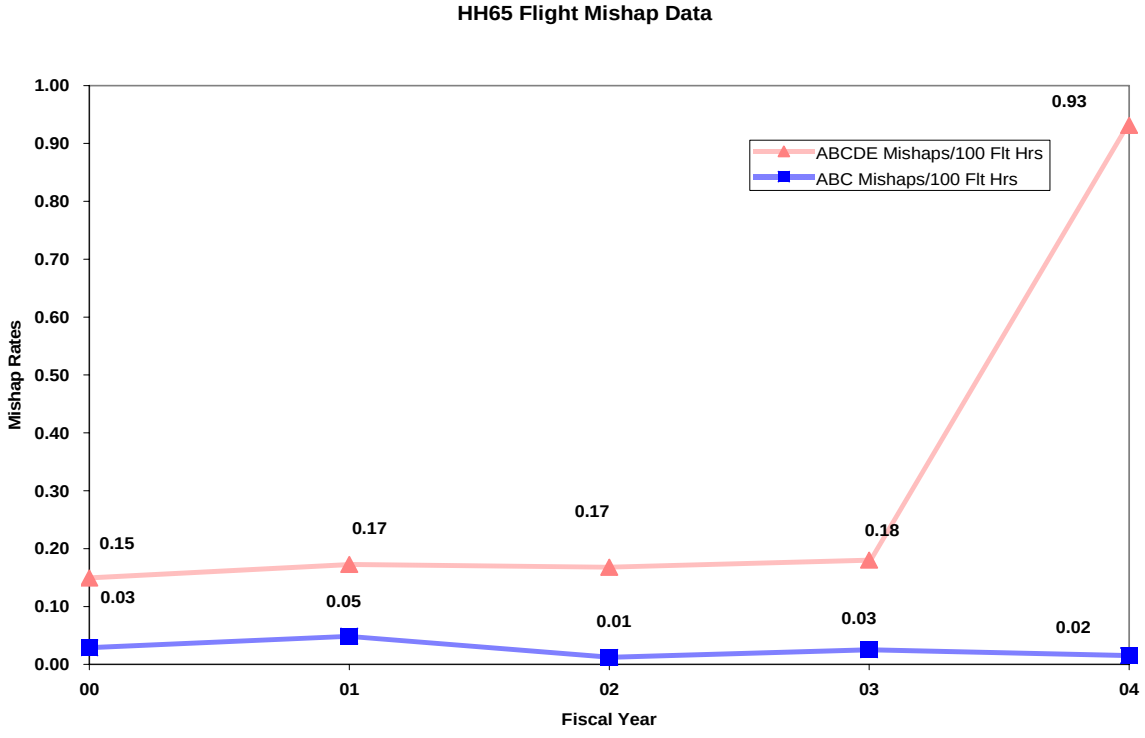


Figure 19

HC130H LONG RANGE SEARCH (LRS)

The HC130H flew 18,746 hours and reported 66 mishaps, the most reported since 1995. The Herc had the highest cost per mishap ($24,283) this year and reported its highest mishap rate (0.35) since 1983.

Only 12 of the 66 mishaps reported had costs above $20,000. 32 of the mishaps had costs below $1000 and 10 of those were below $100. Of the 41 Class E mishaps reported, only seven of those involved costs of more than $20,000. The seventeen incidents involving the recently installed chip detectors accounted for $632,115 or 39% of the HC130H mishap costs.

HC130H Flight Mishaps for FY04

Aircraft	Class	No. Mishaps	Cost
HC130	A	0	$ 0
	B	0	$ 0
	C	5	$ 183,149
	D	20	$ 88,457
	E	41	$ 1,331,099
Totals		**66**	**$ 1,602,705**

Table 10

C130 ABCDE	NO. MISHAPS	COST	FLIGHT HOURS	MISHAPS/ 100 FLIGHT HOURS	COST/ MISHAP	COST/ FLIGHT HOUR	C130 ABC	NO. MISHAPS	COST	FLIGHT HOURS	MISHAPS/ 100 FLIGHT HOURS	COST/ MISHAP	COST/ FLIGHT HOUR
FY00	23	$307,817	20,030	0.11	$13,383	$15	FY00	7	$257,712	20,030	0.03	$36,816	$13
FY01	16	$106,552	18,845	0.08	$6,660	$6	FY01	4	$76,754	18,845	0.02	$19,189	$4
FY02	23	$476,709	18,852	0.12	$20,726	$25	FY02	5	$331,701	18,852	0.03	$66,340	$18
FY03	19	$941,794	19,353	0.10	$49,568	$49	FY03	1	$70,789	19,353	0.01	$70,789	$4
FY04	66	$1,602,705	18,746	0.35	$24,283	$85	FY04	5	$183,149	18,746	0.03	$36,630	$10

Table 11

C130 Flight Mishap Data

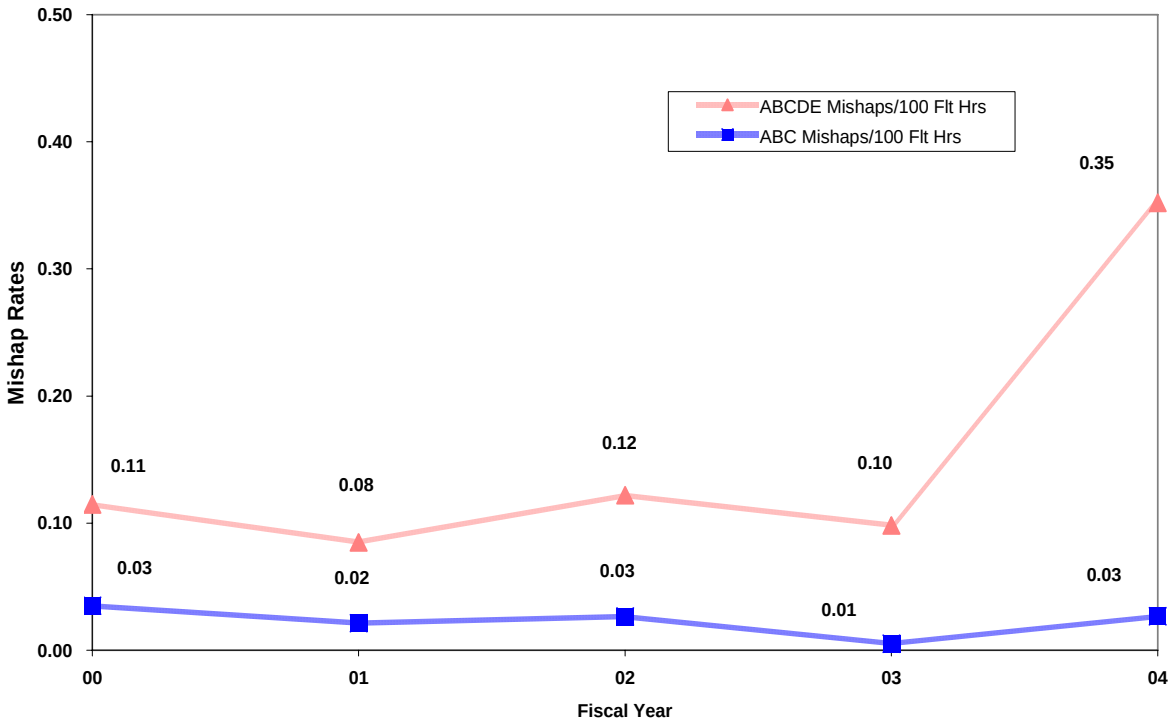


Figure 20

HU25 MEDIUM RANGE SEARCH (MRS)

The HU25 flew 13,791 hours and reported 57 of the total flight mishaps, the most reported since 1998. While the HU25 had the same percent (8%) of mishaps and mishap costs as the HH60J, since it flew half the hours as the Jayhawk, the Falcon's mishap rate and cost per mishap were almost double the Jayhawk's.

Of the 57 HU25 mishaps for FY04, eleven were Class E. All but two of the Class E mishaps were under $20,000. Twenty-nine of the fifty four mishaps were under $1,000. Only five mishaps reported over $20,000 in mishap costs.

HU25 Flight Mishaps for FY04

Aircraft	Class	No. Mishaps	Cost
HU25	A	0	$ 0
	B	0	$ 0
	C	3	$ 177,274
	D	43	$ 144,996
	E	11	$ 297,887
Totals		**57**	**$ 620,157**

Table 12

HU25 ABCDE	NO. MISHAPS	COST	FLIGHT HOURS	MISHAPS/ 100 FLIGHT HOURS	COST/ MISHAP	COST/ FLIGHT HOUR	HU25 ABC	NO. MISHAPS	COST	FLIGHT HOURS	MISHAPS/ 100 FLIGHT HOURS	COST/ MISHAP	COST/ FLIGHT HOUR
FY00	35	$357,741	15,967	0.22	$10,221	$22	FY00	8	$311,057	15,967	0.05	$38,882	$19
FY01	44	$403,097	15,371	0.29	$9,161	$26	FY01	13	$350,662	15,371	0.08	$26,974	$23
FY02	31	$1,596,952	12,235	0.25	$51,515	$131	FY02	2	$289,472	12,235	0.02	$144,736	$24
FY03	42	$295,745	13,560	0.31	$7,042	$22	FY03	4	$110,987	13,560	0.03	$27,747	$8
FY04	57	$620,157	13,761	0.41	$10,880	$45	FY04	3	$177,274	13,761	0.02	$59,091	$13

Table 13

HU25 Flight Mishap Data

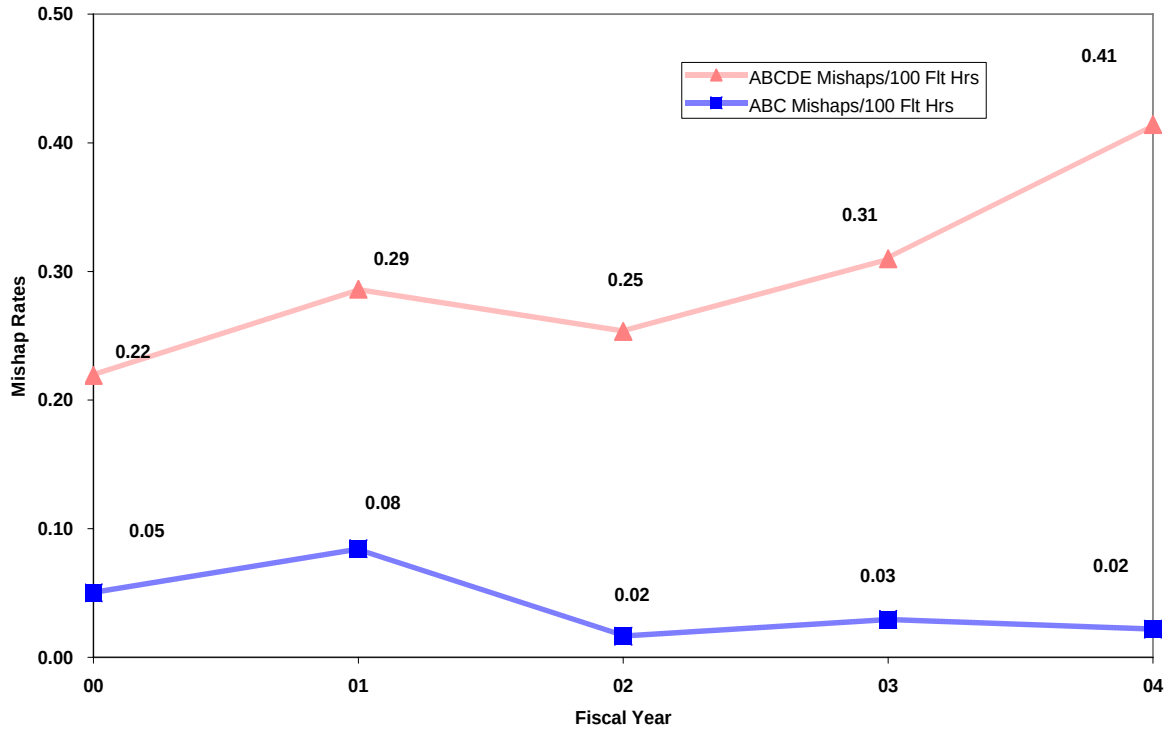


Figure 21

CLASS A MISHAP SUMMARY
FY90-FY04

DATE	ACFT	SUMMARY	CAUSE FACTORS
AUG 1990	E2C	Returning from night LE patrol, aircraft developed wing fire and crashed short of runway while on final approach.	Fire
AUG 1991	HH65	During daylight, low speed photo pass, aircraft experienced uncommanded left yaw and impacted ice.	Aircrew Error
JAN 1992	C130	Uncontained failure of # 3 reduction gearbox shortly after takeoff. Prop and front half of gearbox departed nacelle, struck fuselage resulting in explosive decompression and severing of MLG hydraulic line. Aircraft landed without further damage.	Overhaul Procedures, Material
MAR 1992	HH65	Aircraft impacted water during practice MATCH to water at night.	Fatigue, Disorientation, CRM, Supervisory & Aircrew Error
AUG 1993	HH65	During daylight delivery of ATON personnel and equipment, aircraft crashed while landing on elevated helipad.	Aircrew Error, CRM, Training
JUL 1994	HH65	Aircraft impacted side of cliff in low visibility during night SAR mission to assist S/V aground.	Communications, Situational Awareness, CRM, Aircrew
AUG 1994	HH65	Hard landing during daylight practice autorotation, aircraft impacted ground, slid and rolled on side.	Aircrew Error, CRM, Training
JAN 1995	HH65	During night pollution surveillance flight, with two MSO personnel on board, aircraft experienced engine fluctuations. While analyzing problem, aircraft flown into water.	Situational Awareness, CRM, Aircrew Error, Mechanical
AUG 1995	HH65	During daylight flight, deployed helo experienced rapid left yaw while conducting left pedal turn in a hover. Aircraft accelerated through wind line, spin could not be countered. Aircraft impacted water.	Design, CRM, Aircrew Error, Situational Awareness, Trng
DEC 1995	RG-8	While conducting patrol, sensor operator and pilot detected smoke in cockpit. Pilot determined engine was on fire, secured engine and crew bailed out (as required by emergency procedures). Crew recovered within an hour entering water. Acft lost at sea.	Cause of engine fire unknown, Training, Design
APR 1996	HH65	At end of 5-hour mission, pilot and crewman were practicing hover maneuvers over taxiway. During third hover, entered left turn; unable to counter and impacted ground.	Aircrew & Supervisory Error, Fatigue, Procedures, Design
JUN 1997	HH65	Night SAR in high winds and seas for sailboat taking on water. Shortly after arriving on scene, acft went lost comms. Crew did not egress, helicopter sank in 8,500 feet of water.	Aircrew & Supervisory Error, Design, Trng, Assignment, Policy/Procedures, Material
AUG 1999	HU25	Rear compartment fire lt illuminated during touch and go. Crew continued T/O, called out boldface procedures. Fire lt remained illuminated, emergency declared. Rear compartment fire lt extinguished approx 10 sec after fire extinguisher activated. Hyd sys lt illuminated during “before landing checks”. Acft landed, crew egressed, fire dept extinguished fire. Major fire damage.	Maintenance, QA, Procedures, Trng, Mechanical, Supervision,
JAN 2001	HH60	Lightning strike during airway trainer. Investigation revealed damage to numerous components as well as widespread magnetization of airframe and components.	Environmental Conditions
JAN 2001	HH65	After fifth night shipboard landing, crew signaled for primary tiedowns. Prior to attachment of tiedowns, helo rolled to the right. Main rotor blades impacted flight deck and helo spun approx 140 degrees counter clockwise and came to rest on right side.	Dynamic rollover, Policies, Environment, Procedures

Note: Mishaps are seldom, if ever the result of a single cause. They are a combination of several cause factors. When viewed alone, each cause factor often appears insignificant. A mishap is a sequence of events (which may seem unrelated) that results in tragic consequences.

Table 14

CLASS B MISHAP SUMMARYFY90-FY05

DATE	ACFT	SUMMARY	CAUSE FACTORS
MAR 1990	HH65	Power increase on #1 engine mis-analyzed and flight terminated w/autorotation and hard landing in sugar cane field. #1 fuel control failed, driving engine into overspeed and #2 engine decelerated to compensate for # 1 engine overspeed.	CRM, Supervisory & Aircrew Error, Material, Training, Procedures, Fixation
MAR 1991	HH65	While delivering passengers to Navy vessel, pilot pulled excessive collective overtorquing MGB and overspeeding both engines. Pilot was mistakenly advised to return to CG Cutter. Aircraft experienced hard landing upon return to CG cutter.	Supervisory & Aircrew Error, CRM, Training, Situational Awareness, Procedures
MAY 1992	HU25	Aircraft landed with left MLG up after MLG failed to extend. MLG unlock control cable separated, preventing MLG door from opening and stopping landing gear sequence.	Material, Aircrew Error, CRM, Procedures,
MAY 1992	HH60 FltRel	During live litter hoist from an RHI, litter cables failed, dropping the litter approximately 30 ft to the water.	Procedures, Maintenance, Supervisory,
DEC 1992	C130	Engine turbine wheel failed inflight. Damage limited to engine. Failure attributed to material fatigue and manufacturing processes.	Material, Procedures, Manufacture
MAR 1993	HH65	At end of offshore SAR, pilot misdiagnosed and improperly managed #2 engine indicating system failure and secured #2 engine. Situation further aggravated by series of uncoordinated inputs by both pilots. FM recognized situation, advanced FFCL, allowing remaining engine to regain power.	Mechanical, Aircrew Error, CRM, Training, Procedures
MAY 1993	HH65	During instrument approach to hover over water, rotorwash engulfed aircraft in salt spray. Pilots lost visual contact with surface resulting in MGB overtorque and overspeeding both engines during ITO.	Aircrew, Procedures, Darkness, CRM, Environment, Disorientation
AUG 1993	HH3	During flood relief support, MRBs contacted hangar, as crew completed turn into parking space. Crew had parked in same position several times.	CRM, Aircrew, Situational Awareness, Procedures
MAR 1994	HH65	Fenestron contacted runway during practice single engine landing for annual Stan check ride.	Awareness, Training, Supervisory & Aircrew
SEPT 1994	HU25 FltRel	Crew dropped DMB to aid relocation of lone raft at sea and departed scene for fuel. Unknown to crew, DMB struck a female in the raft. Rafters were later rescued, female underwent surgery and recovered.	Supervisory & Aircrew Error, Procedures
APR 1995	HH60	MRB tipcap departed inflight. Returning along coast from trng flt in VFR conditions, crew felt abnormal vibration. Vibrations so severe, pilots had difficulty reading instruments and controlling acft. Acft damaged during ldng on boulder-strewn beach.	Material Failure
JUL 1995	HH65	Deployed acft taxied into side of Navy hangar. Five navy personnel inside hangar received minor shrapnel injuries. Acft sustained shrapnel and sudden stoppage damage.	CRM, Aircrew & Supervisory Error, Procedures, Distractions, Judgement
AUG 1995	HH65	PAC was attempting to park helo between two other aircraft. MRB struck chain link fence. Two other aircraft and several buildings sustained shrapnel damage.	Aircrew, CRM, Distractions, Situation Awareness
DEC 1996	HH60 FltRel	Acft diverted from routine trng flight to assist F/V reported taking on water and sinking. Two PIW were hoisted using basket recovery, third PIW recovered using direct deployment. Victim's survival suit was improperly donned and filled with water. FM and RS encountered difficulties bring victim in cabin. Added weight caused victim to slip out of strop and fall to the water.	Environment, Procedures, Design, Equipment,
JAN 1997	HH65 FltRel	Acft was launched on early morning SAR to assist a F/V aground and breaking up. First victim was located face down in debris, unconscious and unresponsive. Victim had improperly donned PFD and slipped out of quick-strop while being brought into cabin. FM and RS tried to hold the victim, but he slipped out of PFD and quick-strop.	Procedures, aircrew, Training, Design
MAR 1998	HU25	Fan spinner departed in flight. Large section of fan spinner lodged in engine bellmouth, resulted in engine, fuselage, wing and horizontal stabilize damage.	Material, Design, Procedures, Aircrew
JUN 2002	MH68	During T-course day flight, crew experienced unusual vibrations and oscillations on touchdown from a hover due to a MRB damper failure. Vibrations and oscillations increased in magnitude. As aircraft was shut down, left MLG collapsed and helo came to rest on landing gear housing, left forward float and tailskid. MRB and TRB did not impact the ground. Crew safety egressed the aircraft with no significant injuries.	Mishap Investigation under review

Note: Mishaps are seldom, if ever the result of a single cause. They are a combination of several cause factors. When viewed alone, each cause factor often appears insignificant. A mishap is a sequence of events (which may seem unrelated) that results in tragic consequences.

Table 15

DOD CLASS "A" MISHAP RATES COMPARISON

Class A mishap rates for the DOD services are compared in Tables 16 and 17. When reviewing the DOD rates and comparing them to the Coast Guard, we need to consider the effect our limited flight hours have on our mishap rate. While one Class A mishap can greatly impact the Coast Guard mishap rate, one more or one less mishap would have little effect on the DOD rates.

FY03/FY04 CLASS A AVIATION MISHAP RATES FOR ALL SERVICES

Class A Rates	FY03 USCG	FY03 USAF	FY03 USA	FY03 USN	FY03 USMC	FY04 USCG	FY04 USAF	FY04 USA	FY04 USN	FY04 USMC
Total Class A Rate	0.00	1.29	2.68	2.28	2.91	0.00	1.18	2.36	1.17	5.19
Fixed Wing	0.00	1.15	0.83	2.70	1.34	0.00	1.12	0.0	1.34	5.37
Rotary Wing	0.00	7.41	2.92	0.79	2.98	0.00	0.09	2.67	0.49	4.98
HC130	0.00	0.00	N/A	5.91	0.00	0.00	0.31	N/A	0.00	0.00
HH60	0.00	4.20	3.50	5.91	N/A	0.00	0.31	1.81	0.00	N/A

Table 16

FY04CLASS MISHAP DATA

	USCG	USAF	USA	USN	USMC
# Class A	0	27	26	12	18
Flight Hours	114,441	2,295,953	1,100,205	1,026,131	346,881
Mishap Rate	0.00	1.18	2.36	1.17	5.19

Table 17

FLIGHT SAFETY PROGRAM

Training Courses

⇒ Traditional FSO training will continue at the Navy's School of Aviation Safety with the ASO Course, now located at NAS Pensacola, FL.

⇒ COs will continue to receive the Aviation Safety Command Course at the Navy's School of Aviation Safety (NAS Pensacola, FL).

⇒ Advanced aviation safety training will be provided for selected FSO's as preparation for assignment to a Commandant convened mishap analysis board (MAB).

⇒ FSO Annual Refresher/Re-evaluation training took place in April 05.

Safety Standardization Visits

⇒ The frequency of G-WKS-1 safety stan visits are determined by CO turnover (every three years for O-6 commands and every two years for O-5 commands).

⇒ G-WKS-1 completed 12 visits in FY04. The goal is to complete all visits within nine months of each Air Station change of command.

⇒ The Safety Stan visits focus on the flight safety program requirements contained in the Air Ops Manual, ORM Instruction and the Safety & Environmental Health Manual.

⇒ The checklist used during the Aviation Safety Stan Visits is available on the G-WKS-1 Website. http://www.uscg.mil/hq/g-w/g-wk/wks/wks1/index.htm. See chapter 2.F.4.c of COMDTINST M5100.47 for more information on Safety Stan Visits.

⇒ Units may request unscheduled or informal assist visits and safety training at any time.

"G-WKS-1.COM"

⇒ G-WKS Website has a slightly new address: http://www.uscg.mil/hq/g-w/g-wk/wks/wks1/index.htm. It is available from any internet-capable computer. Accordingly, G-WKS-1 carefully reviews content for general-public viewing, and can only post internet-releasable, non-privileged information. The website includes:

- Links to safety & health manuals and instructions with the latest changes.
- Anthropometric measurements and related information.
- Aviation safety presentations, safety stand downs and training ideas.

- ORM, CRM and MRM information and presentations.
- Mishap investigation and reporting requirements and other information.
- The CG Mishap Investigation Guide (MIG).
- Links to e-AVIATRS and e-MISHAP.
- Aircraft voice and flight data recorder (VFDR) information.
- Unit photographs of mishaps.
- Information on the Safety Stan Visit Program, including updated safety standardization checklists.
- Recent Annual Aviation Safety Reports.
- Links to military and civilian aviation sites. Links to the DOD service's Safety Center and risk management websites.
- Link to the NTSB database and the Aeronautical Information Manual (AIM).

CRM

⇒ The CRM program continues to evolve. ATC Mobile recommended that CRM Refresher Training be conducted annually. G-OCA and G-WKS-1 concurred with the change, which becomes effective when the new Air Operations Manual (COMDTINST M3710.1F) is promulgated.

⇒ FSOs will continue to receive CRM facilitator training annually at the FSO Stan Course. This training qualifies them to provide unit level CRM Refresher Training.

Electronic AVIation Accident TRacking System (e-AVIATRS)

http://webapps.mlca.uscg.mil/kdiv/Aviatrs/default.asp.

⇒ We're into year two of **E-AVIATRS.**

⇒ We gave the MLC programmers the "go-ahead" to start converting **AVIATRS** to the web-based **e-AVIATRS** in the spring of 2002.

⇒ The first mishap report was submitted to the new database on 21 November 2003.

⇒ **E-AVIATRS** went on line with minimal testing. For the first four months, the programming staff at MLCLANT were making changes and updates on a daily basis as the units started using it.

⇒ Version 2.0 came on line in June 2004, eliminating many workarounds and incorporating many of the changes requested at the 2004 FSO Stan Course.

⇒ Requirements to report aviation-related injuries can now be satisfied by entering a mishap report in either **e-AVIATRS** or **e-MISHAP,** eliminating the need for duplicate reporting and the confusion this caused. Although they aren't actually communicating yet, the two databases **(e-AVIATRS** and **e-MISHAP**) will be linked soon.

⇒ **E-AVIATRS** auto-generates the body of the CGMS message from the data entered. All the drafter has to do is enter the correct PLAD and appropriate AIG.

⇒ Aviation mishap reports can now be submitted to the database without a CGMS message being sent if the report is for trending and tracking only.

⇒ Units are now expected to enter cause factors for each incident. The unit can assign up to six cause factors for a mishap. These are not included in the mishap message. G-WKS has assigned cause factors for many years, and will continue to provide "quality assurance" on this field.

⇒ NVG flight time is now captured. The system will require NVG time for the flight and for the pilots if you check NVG as a factor in the mishap.

⇒ **E-AVIATRS** has a built in reviewer program for use by the units.

⇒ There are standard pull-down menus.

⇒ Additional Factor fields have been added. These are "yes/no" fields for quick searches.

⇒ All Legacy data from the **AVIATRS** database has been converted to **e-AVIATRS.**

⇒ **E-AVIATRS** will continue to capture all the information in the aviation mishap message. All information reported in the message can be searched and retrieved. G-WKS-1 will still maintain and review aviation mishap information.

⇒ Development of search programs, "canned" graphs, and report generators has been slower than expected due to programmer availability/competing Coast Guard demands. We anticipate that the contractors will be able to address these tasks by the end of FY05. Even after these important modifications are complete, G-WKS-1 will remain available for assistance or for non-standard data queries.

⇒ Until **e-AVIATRS** search capabilities are fully developed, please continue to contact G-WKS-1 for data searches and aviation mishap information.

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Hail and Farewell: LTJG Chuck Engbring left during the summer of 04 for MSST 91103, located in sunny San Pedro, CA. In Spring 05, CDR Chip Strangfeld will depart to become the new Commander of Sector San Diego and LCDR Rick Christoffersen will be OPS at Sector/AirSta Humboldt Bay. This summer we welcome CDR Tom Farris from Group/AirSta Port Angeles and LCDR Gene Rush from Clearwater.