FY03 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 2003 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

Coast Guard Aviation enjoyed a second consecutive year of record low overall aviation mishap dollar losses (inflation adjusted), and no Class A mishaps in fiscal year 2003. We also had no Class B mishaps for the fourth time in the past five years (knock on wood). FY03's record low losses are all the more noteworthy considering new mission requirements and the significant increase in hours flown from 86% to 99% to102% of programmed from FY01 to FY03.

With total reported losses of $4,117,953, we still have a great deal of room for improvement, and mishap trend analysis over the past year or two point to the possibility of some troubling degradation in the critical competencies of night hoisting and rescue swimmer operations.

Reported “near-miss” and injury mishaps in both operational and training hoist scenarios have increased, and frequently cite some sort of disorientation, vertigo, or loss of full situational awareness. Many of these mishap reports cite that NVG’s were in use at the time, suggesting that while of great benefit to our aircrews, they do not always cause a dramatic decrease in the level of difficulty for these night hoist evolutions.

Clearly, the best remedy for these hoist mishap symptoms include diligent use of operational risk management, and practice, practice, practice! Given the emerging and very important demands on Coast Guard Aviation, it is imperative that Air Stations act to zealously protect and pursue training opportunities, particularly in our more difficult missions and maneuvers. The model of

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the proficient aviator includes not just knowledge and experience, but currency as well. Reliance on completing just the bare minimum number of evolutions must remain the exception, and not become part of Coast Guard Aviation's "new norm."

The Aviation Safety Division fully embraces the challenges before us in "expanding the Aviation toolbox" to better meet our threats to homeland security. "Mother nature" had traditionally been our biggest, and increasingly predictable foe. Even violators of federal drug and fisheries laws behave in a relatively predictable fashion. However, the terrorism "foe" obviously calls for a major shift in our thinking as we address new, very unpredictable, asymmetrical threats against which it is impossible to accurately gage what capabilities are optimal, and "how much is enough." Working together, we must apply careful vigilance and heavy doses of risk management at all levels to safely address our new mission demands.

I hope you will take the time to peruse discussions in this report concerning current focus areas for Aviation Safety. Among major projects underway are advancement of effective CRM, ORM, and MRM programs to include active exploration of a Maintenance Event Trend Analysis process, CVR/FDR work in our fixed-wing aircraft, gaining a Flight Operations Quality Assurance capability for all aircraft, and the highly successful transition to the web-based e-AVIATRS mishap reporting and tracking system. On the latter point, the value of a good mishap and trend analysis process has been clearly underscored by the successful campaign to bring speedy and definitive resolution to the HH-65 engine control system reliability problem – Coast Guard Aviation's #1 priority throughout FY03, and to this date.

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

"0.0" CLASS A MISHAP RATE

CG aviation experienced no Class A or Class B mishaps in FY03. That's four 0.0 Class A mishap rates in the last six years. Coast Guard Aviation has averaged less than 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 0.89 and 0.92 (respectively). CG Auxiliary Aviation reported no Class A or B mishaps for the second year in a row. Figure 1 on the next page compares Coast Guard 5-, 10-, 15- and 20- year average Class A Flight mishap rate 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 11 for more on the AUXAIR program)

ANNUAL RECAP

Flight mishap costs for FY03 were $3,846,523 down again for the second year. Figure 2 on page 3 shows Total Flight mishap costs for the last ten years. The Class E (engine damage only) mishap category accounted for half ($1,926,230) of the FY03 total Flight mishap costs.

MISHAP CLASS COST BREAKDOWN

FY02-FY03

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

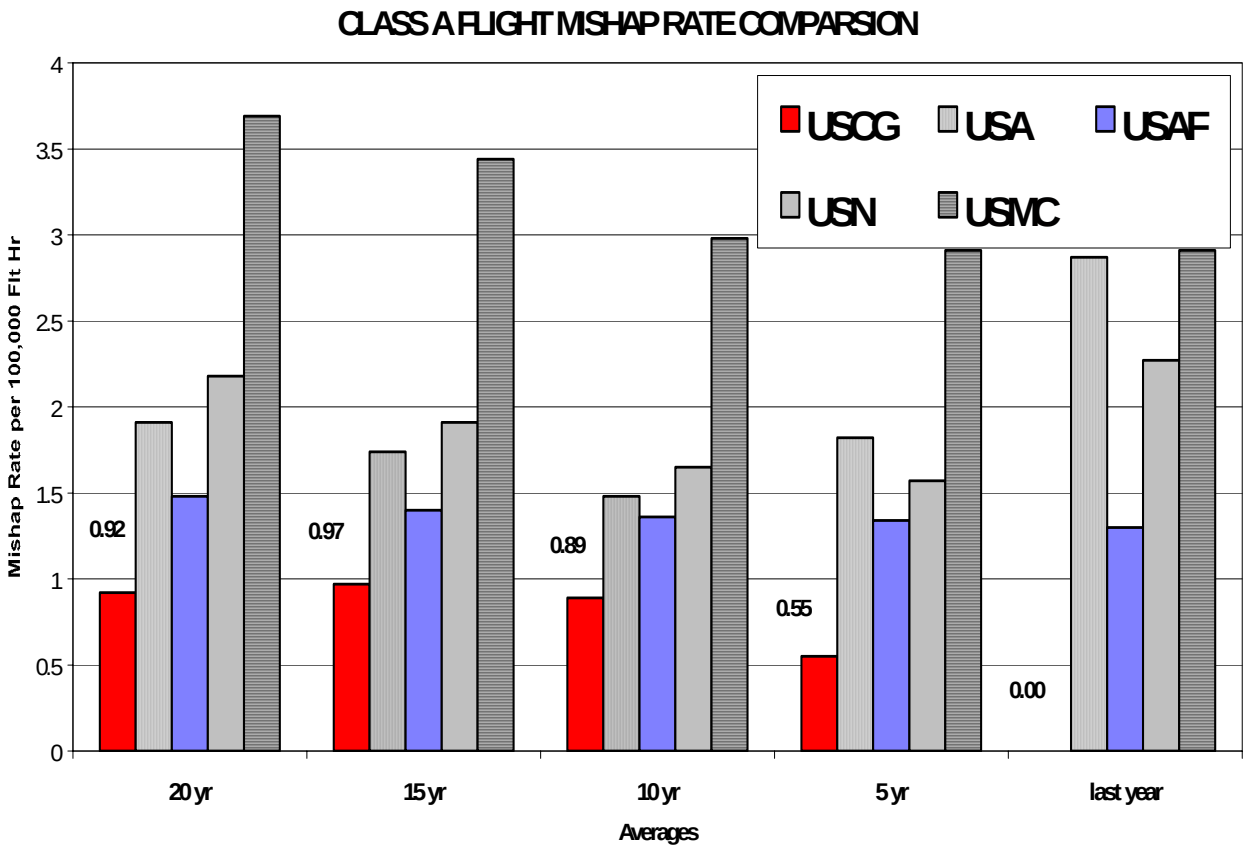

Figure 1

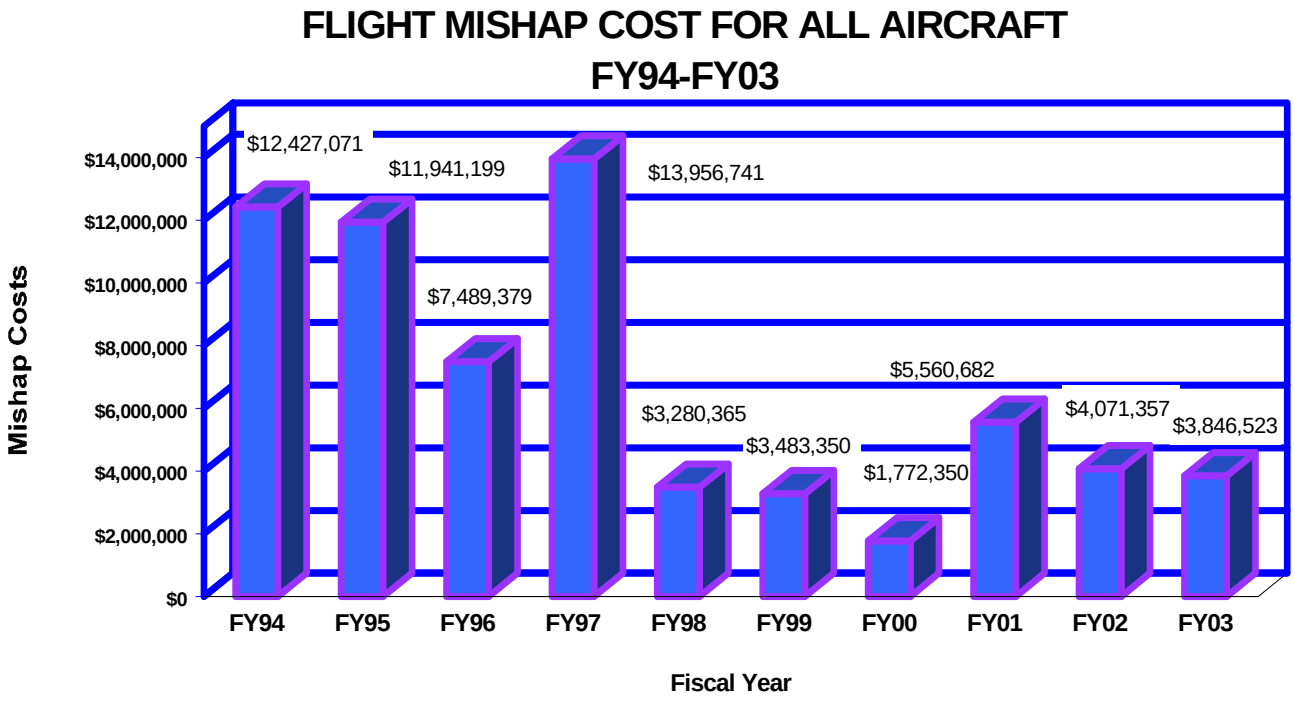

Figure 2

		FLIGHT HRS =		113,513
	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	200	26	39	265
TOTAL COST	$3,846,523	$2,239	$269,191	$4,117,953
TOTAL RATE	0.18	0.02	n/a	0.23
COST/MISHAP	$19,233	$86	$6,902	$15,539
A/B/C MISHAPS	26	4	4	34
A/B/C COST	$1,498,613	$0	$160,025	$1,658,638
A/B/C RATE	0.02	0.00	n/a	0.03
COST/MISHAP	$57,639	$0	$40,006	$48,783

Table 2

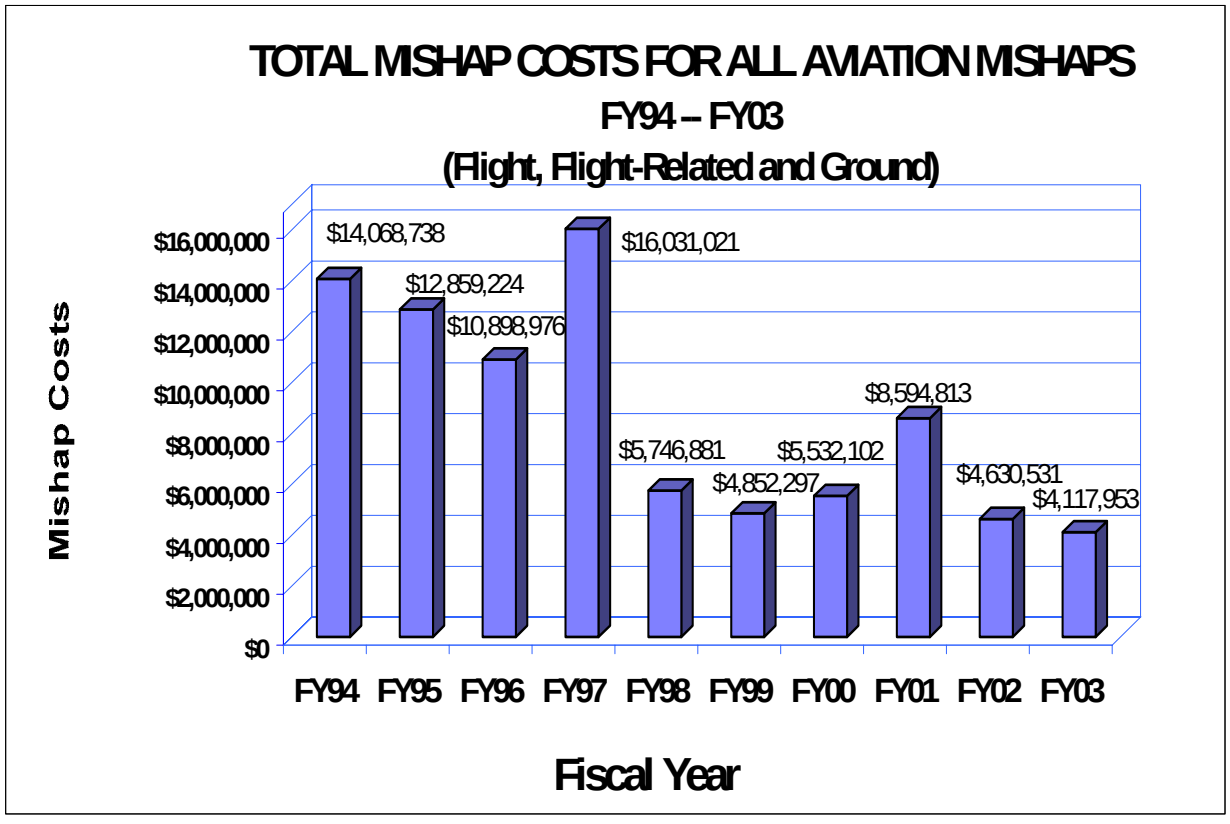

Figure 3

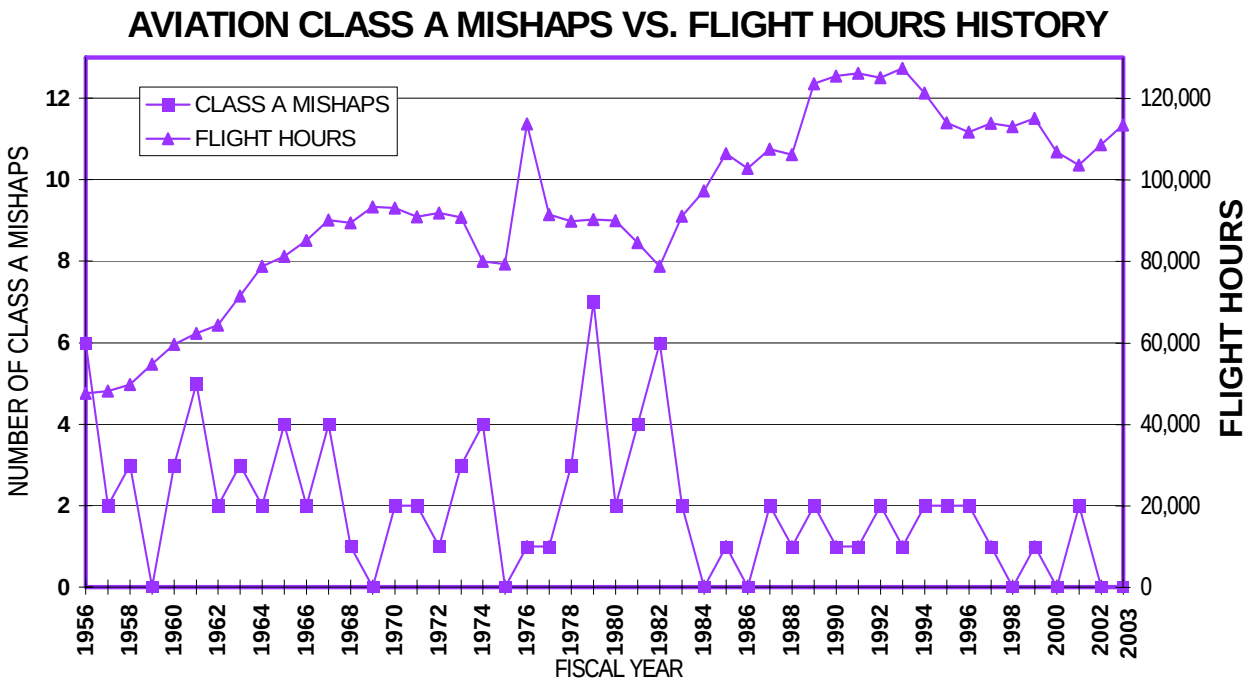

Figure 4

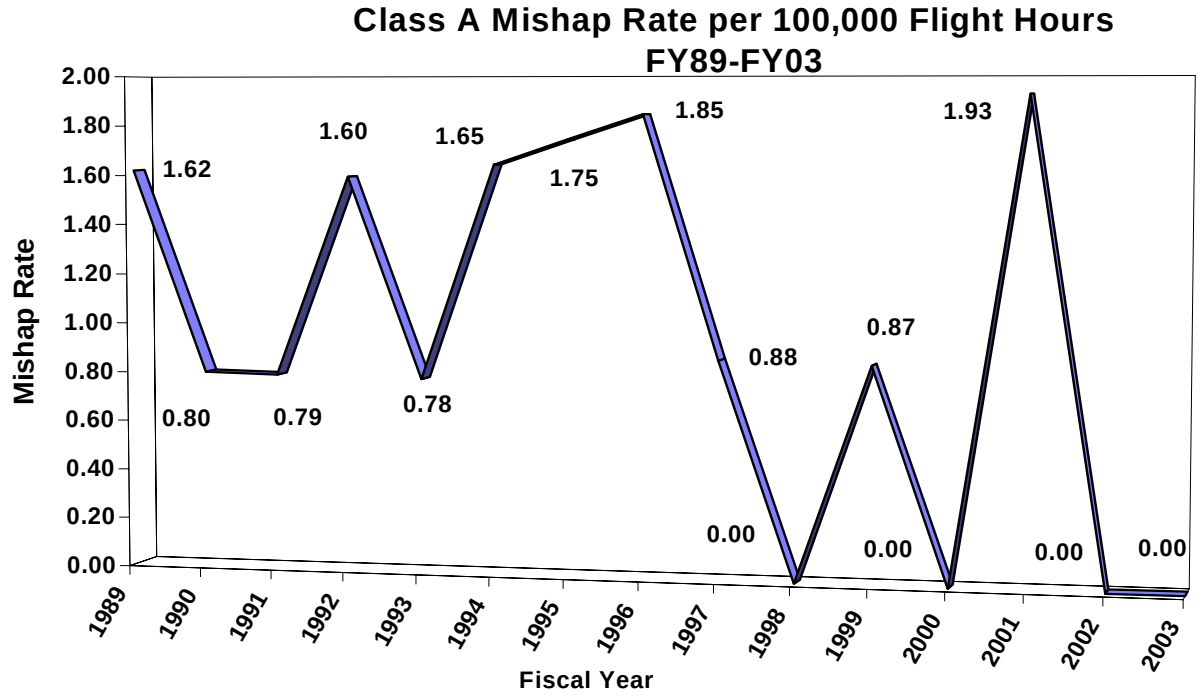

Figure 5

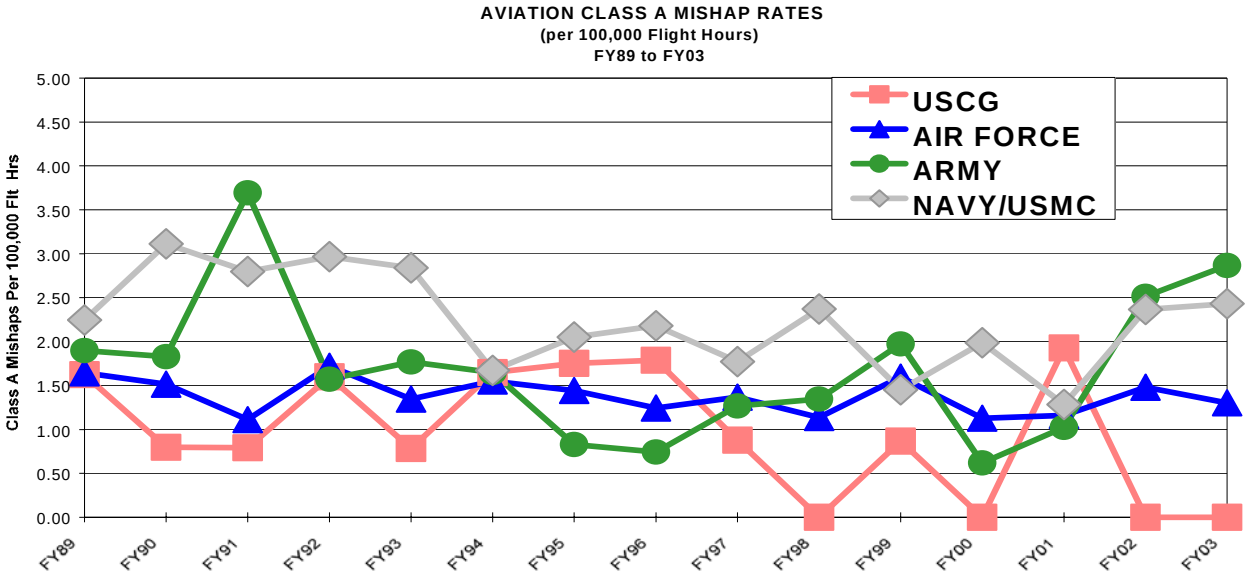

Figure 6

Many of these incidents would have been reported as Flight-Related mishaps before we added the Class E mishap category. See page 9 for more discussion on Class E mishaps. Table 2 on page 4 displays mishap data for FY03. 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).

Total Aviation mishap cost (Flight, Flight-Related and Ground) for FY03 was $4,117,953, down again this year and the lowest its been since 1986. (see Figure 3 on page 4). Of the 265 aviation mishaps reported this year, there were 39 Ground and 26 Flight-Related incidents reported. The Class ABC flight mishap rate (per 100 flight hours) has continued to fall from 0.08 in FY94 to 0.02 in FY03. This rate has been below 0.05 for the last seven years and below 0.10 since FY90.

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

MAINTENANCE RESOURCE MANAGEMENT (MRM)

Maintenance Resource Management (MRM) and Aviation Maintenance Human Factors continues to gain popularity within general aviation, commercial aviation, and DOD. The primary goal of the Coast Guard's MRM program, quite simply, is to conserve and improve CG operational readiness. Continued support of the MRM program will help achieve this goal with fewer and less costly maintenance related mishaps through the protection of aircraft, aviation support equipment, and our most valuable resource, people.

Review of FY03 maintenance-related mishaps reveals a steady decline in both total cost and overall mishap events since FY01 (see Figure 7 on the next page), the year the CG began integrating MRM throughout the hangar decks and at the ATTC. The raw data should not be viewed too literally, as one high dollar mishap can significantly alter a mishap trend line, given the relatively low numbers involved. Nonetheless, this trend certainly indicates that we are doing something right. The "Dirty Dozen" are being scrutinized, the "Magnificent Seven" are working, and overall awareness is up.

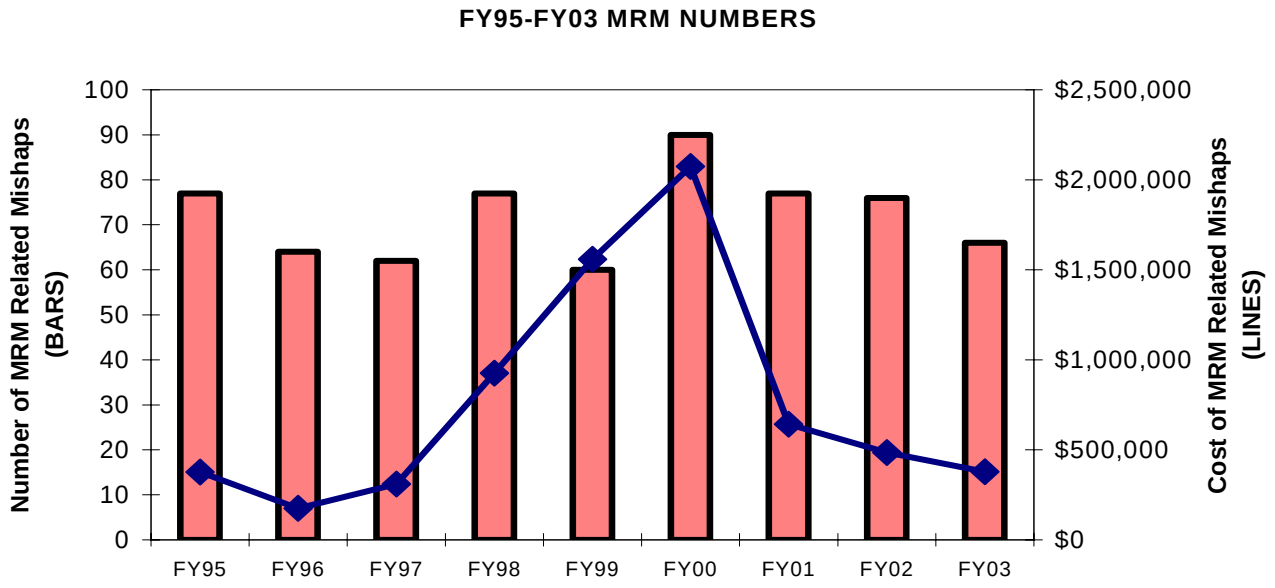

Figure 7

Details of the MRM program have been updated in the Aeronautical Engineering Maintenance Management Manual (AEMMM) COMDTINST M13020.1F, Chapter 6, page 6-4. There is a typographical error on page 6-4 regarding MRM refresher requirements. The text indicates "biannual" when in fact the requirement is *biennial* (once every two years). ALMIS correctly reflects the *biennial* MRM refresher requirement. A couple units conducted "prototype" MRM Initial Training during 2001. These individual's MRM qualification would have expired in mid to late 2003. To ease unit training burden and transition to a mature MRM Refresher program, a one-time extension was granted in message, DTG R 242115Z NOV 03. The message also gave units the latitude to provide refresher training during normal safety stand-downs in 2003/2004.

A select cadre of 49 experienced aviation enlisted attended MRM Facilitator training at ATTC in Sep 2003. This cadre will continue to provide refresher training to the hangar deck. Our MRM program has now matured to include Initial MRM training at ATTC, biennial fleet wide MRM Refresher training, and MRM Facilitator training. Additionally, during FY03, nine maintenance personnel at the E-6/E-7 level attended Alteon's Maintenance Human Factors Program Training for Managers, providing insight, analysis, and feedback regarding applicability to CG operations. Aviation Maintenance Human Factors / MRM is still a developing and burgeoning field. To meet our goal, we must keep pace with this expanding discipline.

MAINTENANCE EVENT TREND ANALYSIS

In last years report we provided a thorough introduction to Maintenance Event Trend Analysis (META), which can be found at: http://www.uscg.mil/hq/g-w/g-wk/wks/wks1/pdf/FY02_aviaiton_safety_rpt.pdf.

As a "Cliff Notes" summary: MRM related events are costly. Our mishap reporting process does not capture all of the costs associated with reported incidents, nor are we capturing all MRM related events (many events don't meet the criteria of a reportable mishap and as such aren't reported). Human error and systems failures that lead to MRM events result in re-work, re-scheduling, delays, near-mishaps and property damage.

MRM training provides the *knowledge* of human factors and systems safety, and its significance in the Aeronautical Engineering workplace. What MRM training doesn't provide is a systems approach to event analysis to aid in the determination of "root-cause" contributing factors (typically referred to as latent system failures). Maintenance Event Trend Analysis (META) fills that void.

From last years article: "Maintenance Event Trend Analysis (META) is an error investigation process, trend analysis and database tool designed specifically for Aeronautical Engineering use that provides a simple means to track and act on those human error events that lay 'below the waterline' without directly

leading to a mishap. META assists with identifying contributing factors (human error and otherwise) to aid in the development of error reduction strategies. It's the logical outgrowth of MRM training."

In simple terms, META provides the *tools & process* to conduct "root-cause" analysis. This is a standard process that walks through the analysis of MRM events and helps Aeronautical Engineering leaders to determine and isolate system failures (latent failures) that contribute to active human error.

Since introducing the concept of META last year, we've moved forward in two directions: paper and electronic formats. We introduced the "paper" META form and taught the META process during the recent MRM Facilitator course in September '03. We've offered the paper process as a voluntary tool to aid in the analysis of unit MRM events. The downside of the paper process is it doesn't lend itself to trend analysis at either the unit level or across communities. Along the second path, the electronic format, we've contracted to refine an in-house developed e-META. An electronic version will provide drill down tools to determine root-cause, analytical tools to measure "cause & effect," and data trending tools to help visualize the impact/true costs of MRM events (human, equipment & ops). E-META will aid managers and supervisors in developing targeted risk and mishap reduction strategies, and will provide strategic leaders with the data essential to articulating needs & capturing required resources.

As we move forward with the e-META contract, our immediate goal is the refinement of the graphic user interface for a beta test program. The contractor will conduct user interface studies (front-end analysis) at prime units in the spring of 2004 to evaluate functionality and ease of operation. Additionally, aviation engineering personnel will be encouraged to provide customer recommendations to improve the META format, function and process.

E-META is "self-reporting." As such, we recognize that the user interface must be quick and painless (help screens and job aids will be included), and that the data entered must provide value to the Aeronautical Engineering world of work. After incorporating changes and refining e-META, a 6 month beta program will be conducted at two or three sites to validate user interface, and more importantly, the value of capturing META data. If META proves to provide a significant return on investment, we will propose an Aviation Maintenance Risk Reduction (AMRR) Strategy that would incorporate recurring MRM Facilitator Training, e-META and staffing of personnel (initially at larger air stations) to manage the overall AMRR effort.

Early indications suggest that META has good potential. However, it is only as good as the data that goes in, and it requires effort to evaluate the data and develop sound error reduction strategies and recommendations. G-WKS-1 continues to pursue dedicated funding to support this effort, which holds the promise of markedly reducing human error and the costs associated with maintenance events. META could ultimately lead to improved work place efficiency, improved aircraft availability, and enhanced safety of operations.

AVIATION SAFETY POSTGRADUATE TRAINING

G-WKS-1 again competed successfully for a postgraduate Training Allocation Billet (TAB), giving us two consecutive years of dedicated TAB funding. Our Aviation Safety Management TAB for assignment year 2005 demonstrates continued organizational support towards providing postgraduate education for aviation safety professionals. This commitment furthers our strategic objective of filling specific Aviation Safety TAB coded billets with trained safety professionals. The four coded billets include the FSO billets at ARSC and ATC Mobile, and the two Aviation Safety Program Managers at G-WKS-1 (the FSO billets are operational flying billets, and the G-WKS-1 billets are DIFPRO).

Our target audience for the Aviation Safety TAB will be O-2 & O-3 Aircraft Commanders that are tour complete in 2005. Prior experience as a Flight Safety Officer or Ground Safety Officer are highly desired, but not required. Specific application criteria and guidance can be found in our solicitation message (151925Z MAR 04, Solicitation for Aviation Safety Mgmt Postgraduate Trng).

We are continuing to use the Master of Science in Safety Science (MSSS) program offered by Embry-Riddle Aeronautical University at Prescott, AZ. The MSSS arms the graduate with the knowledge and skills to lead and manage a comprehensive industrial and aviation safety program. The Coast Guard's first MSSS student,

who will soon complete his instruction, endorses the quality of education received, indicating it has provided him with the knowledge and skills to manage a strategic aviation safety program. He anticipates assignment as the FSO at ARSC this summer. For complete degree information visit: http://www.erau.edu/pr/degrees/ma-afetyscience.html

RECOMMENDED ACTIONS

Unless you've worked at Headquarters, ATC, ARSC or one of the Stan Teams, you may never have heard of the Recommended Action Tracking System (a.k.a. "RATS"). RATS tracks recommendations made by Commandant assigned mishap investigations, unit (Class C, D and E) mishap messages, after action reports, etc. Most RATS are connected to an aviation mishap, but the system can track any aviation safety-related recommendation.

Periodically, each headquarters aviation office is given a report of the new and pending recommendations in RATS. Each new recommendation is reviewed to verify that it is a valid or attainable recommendation. They are also reviewed to be sure that RATS is the appropriate way to accomplish the recommendation. Once it is determined that a recommendation will be taken for action, it becomes an active/pending recommendation. RATS then tracks the progress of the item until it is completed or closed out.

Class C, D and E mishap recommendations come from the recommendation section of the mishap report. RATS only tracks recommendations involving fleet-wide impact, airframe modifications, policy changes, major funding, or other Commandant action. Unit-level corrective actions and lessons learned ("all units should discuss " or "all pilots are reminded") type recommendations are not tracked in RATS and should not be put in the Recommendation section of the mishap report. These items should be included or commented on in either the Additional Findings/Corrective Actions Taken block or as part of the CO's Comments.

Since the inception of RATS in 1990, 969 recommendations have been addressed and 168 of these are still pending some type of action. FY03 began with 159 pending RATS. During the year 55 new RATS were submitted, and 46 were closed out. Of the 168 pending RATS, some are being researched for a workable solution or funding is needed to implement the corrective action. Keep feeding the RATS; those in the field know best what needs to be changed to work safer.

CLASS E MISHAP CATEGORY--UPDATE

The Class E Mishap category was created in FY02 to capture those mishaps involving damage to the engine only, with no collateral damage (no parts exit the engine), regardless of cost. These mishaps often involve a high cost, and have the potential for becoming a catastrophic incident. Class E Mishaps can be Flight or Ground incidents. The Class E Mishap category allows us to more accurately account for engine mishaps, and to separate engine mishaps and the associated costs from the other Flight and Ground mishaps.

For the past decade or so, the annual safety report has reviewed engine mishaps (inflight shutdowns, power loss and failures, birdstrikes, engine FOD, single engine/three engine landings) because of their significance and high dollar mishap costs. But they were reported as Flight-Related in an attempt to separate them for tracking purposes. Generally, the more expensive ones were reported as Flight-Related or Ground mishaps, and the minor ones were usually reported as Class C or D Flight mishaps. This was changed in Change 5 to the Safety and Environmental Health Manual by adding the Class E mishap category.

The effect on FY02 and FY03's annual report was an increase in Flight Mishap costs. These costs were included as Flight Related Mishap costs in the past. Overall Total Mishap costs (Flight, Flight-Related and Ground) will not change. The slight increase in Flight Mishap costs in the individual aircraft numbers can be attributed to the Class E mishaps. Class E mishaps accounted for 29% of the reported Flight mishaps and 50% of the Flight mishap costs ($1,926,230) in FY03.

We knew the Class E mishap definition would need refining. Based on feedback and review of the mishap reports, here is clarification on the definition:

AVIATION CLASS E MISHAPS--Aviation mishaps, which ***involve damage to the engine or internal engine components only, regardless of the damage cost. Integral engine components for the purpose of Class E mishap reporting includes components such as engine controls, engine mounted accessory gearboxes and engine plumbing***. If the damage is not contained within or limited to the engine (e.g., airframe, props, rotors, pylons, cowlings, non-airframe damage or injury), the mishap will be reported and investigated according to the appropriate mishap class. Class E mishaps can be Flight or Ground mishaps. Class E mishaps include engine Foreign Object Debris/Damage (FOD) Incidents, ***and engine birdstrikes***.

NOTE: FOD incidents confined to the engine or limited to internal components ***(but NOT cowling and pylons)*** are reported as Class E mishaps. If engine parts are not contained, exit the engine, and cause other damage, then report as the appropriate mishap class based on severity of the mishap.

NOTE: FOD incidents where the engine is the only damage do not normally require a formal mishap investigation and are reported as a Class E mishap. Commandant (G-WKS) may deem it necessary to convene a Mishap Analysis Board if other circumstances dictate.

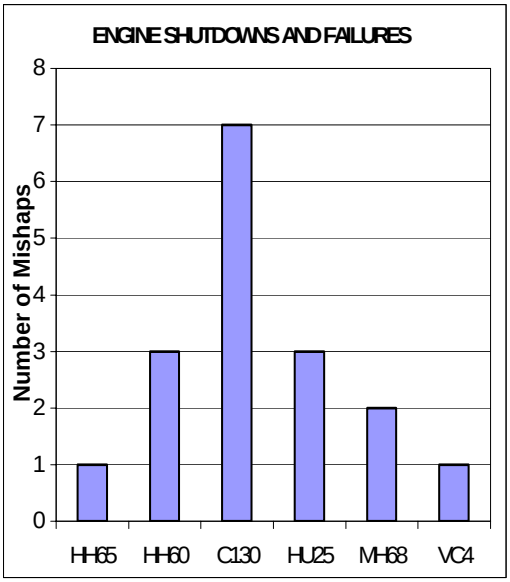

Figure 8

You may see modifications and refinements to the Class E mishap category as it adapts to our operations and needs. As always, we welcome comments, suggestions and questions.

Seventeen engine failures, shutdowns or power losses occurred in FY03 resulting in $1,707,355 in mishap costs. Figure 8 (above) shows a breakdown by airframe and figure 9 (below) provides a more detailed breakdown of these Class E mishaps by mishap and aircraft type.

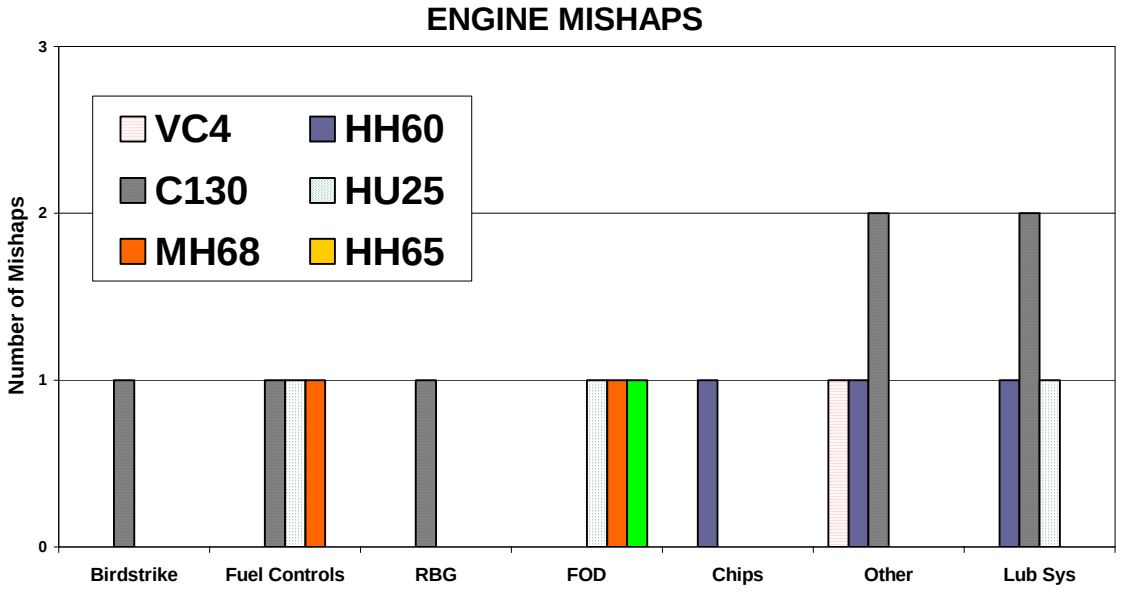

Figure 9

AUXILIARY AVIATION

The role of Auxiliary Aviation continues to grow. The ability for the Coast Guard to meet its MDA requirements in the various MARSECs relies on the Auxiliary's ability to provide reliable backfill capability, both in support roles and operationally. Table 3 below shows the continued growth of the Aux Air program.

The Aux Air program began its migration to the "squadron concept" in July 03. This will align the Aux Air program with active duty air stations. The dependence of some air stations on Aux Air has never been greater. CRM Initial and Spatial Disorientation training are now required for Auxiliary aviators. These classes are coordinated, allowing Auxiliarists to make one trip to the Pensacola/Mobile region for both training sessions. An Auxiliary Aviation Standardization team has been formed and includes an active duty pilot from ATC Mobile. Some of the issues tackled so far include standardization of Aux flight suits, creation of an Aux Air IP/FE syllabus, standardization of radio call signs, creation of an Aux Air FAA filing designator (such as the CG's "C"), etc.

	CY 2002	CY 2003
Total Hours Flown	24,204	26,886
Total Missions Flown	3689	7532
# Aircraft (End Of Year)	191	280
# Pilots – all (EOY)	257	431
# Aircrew (EOY)	81	123
# Observers (EOY)	210	454

Table 3

While Aux Air mishaps have ALWAYS been a part of the AVIATRS mishap database, reporting of AUX AIR mishaps has been woefully inadequate. AUXAIR incidents can and should be reported in e-AVIATRS, using the mishap reporting criteria in the SEH manual. Auxiliary District FSO's should work with the active duty air station FSO's to ensure appropriate data and information is captured.

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 17 reported aviation related injury mishaps in FY03 involving injury to 31 Coast Guard aviation personnel and 2 boat crew. 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, 30% listed lack of training or experience as a cause factor.

Injuries included eight people hurt during hoisting ops (six Rescue Swimmers and two boat crew), at least ten people were sprayed with or exposed to hydraulic fluid, paint, fire extinguishing compound or fuel. Thirteen people reported possible exposure to radar. This year reports included injuries to the shoulders, back, ribs, hands, arm, legs and one concussion. Three Rescue Swimmers were shocked by static discharge while being hoisted. There was also one reported case of food poisoning and three NVG/weather induced cases of spatial disorientation.

Birdstrikes

There were only two birdstrikes reported in FY03. Reported cost of birdstrike damage was $143,944. Damage involved the tailcone of one Falcon and a FOD'ed engine on a C130H.

Near Midair Collision

Also on the decrease are near midair collisions (NMAC). There were only five reported NMAC in FY03, down from the last three years. Reported NMAC's have decreased since Traffic Collision Avoidance Systems (TCAS) were installed in Coast Guard aircraft in the mid-nineties. Of the NMAC reported, three involved civilian aircraft and two involved other military aircraft.

FOD

There were fourteen Foreign Object Debris (FOD) incidents reported this year resulting in $647,260 in damage, up from previous years. Figure 10 shows a break down of the FOD reported. Foreign object debris involved five

engines, two windscreens, two transmissions, one avionics compartment, a main landing gear, two flight controls and an ECU. In five reports, FOD was found before any damage occurred. Seven HH65's, one HH60, one HC130, two Falcons and three MH68's were involved in FOD mishaps In FY03.

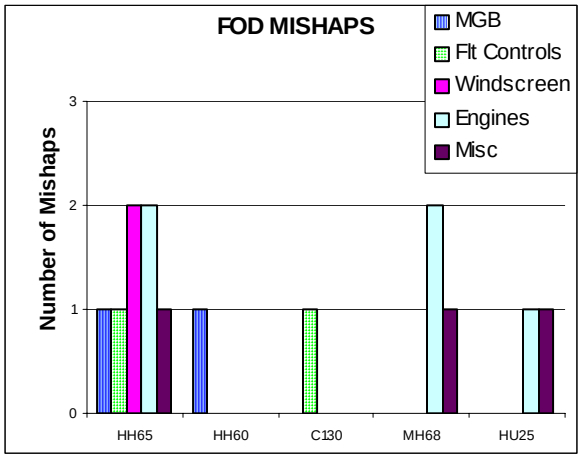

Figure 10

Both damaged windscreens were the result of rough area operations/landings, nine incidents were the result of a maintenance action (or lack of action). Two of these were the result of poor tool control; two involved maintenance supplies being left behind (rags, pads, aerosol cans, etc), and five incidents result from tools or extra parts being left behind and sealed up in the airframe. These incidents are illustrated in Figure 11.

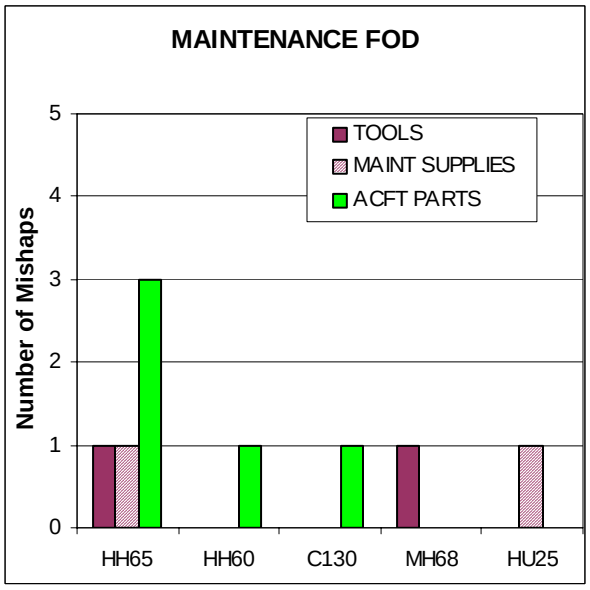

Figure 11

PHASE OF OPERATIONS

Close to half of Coast Guard aviation mishaps occurred during takeoff, landing, and low level operations. In FY03, 20% of reported flight mishaps occurred during some phase of landing or takeoff, while 29% were during low-level ops (drops, hoist, hover, autos, search, etc). (see Figure 12 below). As expected, mission profiles that produce a larger number of takeoffs, landings or low-level operations increase the likelihood of a mishap. This is important to remember when making risk management decisions.

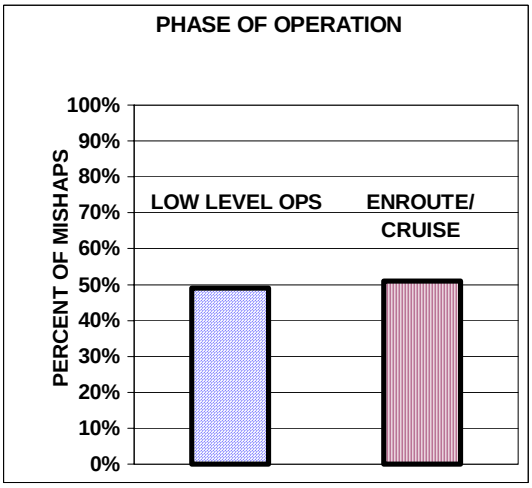

Figure 12

SHIP-HELO MISHAP REVIEW

There were thirteen mishaps reported in FY03 involving ship-helo operations, totaling $85,934 in mishap costs. Only five (less that 40%) 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 eight were not the result of the ship-helo interface (e.g., landing gear problems, cabin door departing, 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 less than 2% of total mishap costs.

WEATHER RELATED MISHAPS

Weather contributed to fourteen mishaps and resulted in $204,640 damage. These incidents included electronic malfunctions due to moisture, parts prematurely failing due to

corrosion, and airframes damaged by hail and lightning.

GROUND MISHAP REVIEW

Only 39 aviation ground mishaps were reported in FY03, down from the 63 that were reported in FY02. Total cost for ground mishaps was $269,191, the lowest in eight years. See Figure 13. Mishaps involving ground handling (ground support equipment (GSE), towing, blade folding, fueling, washing or jacking) accounted for 44% (17) of the ground mishaps reported, and over 62% ($168,014) of the ground mishap costs. Virtually all of the ground mishaps listed some form of human factors as one of the cause factors.

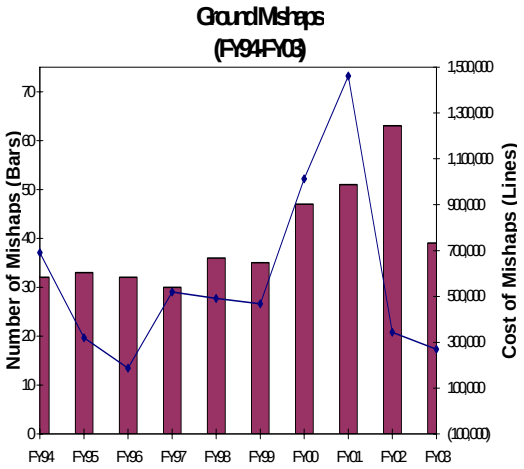

Figure 13

The wrong tool/equipment, the wrong part or incorrect procedures were factors for over sixty percent of the ground mishaps. Not surprising, more than a third of the ground mishaps list lack of experience/knowledge, staffing, resources, or insufficient personnel as a cause factor.

Insufficient Q/A, review or supervision was cited in 38% (15) of the mishaps. Over half of the mishaps listed awareness, complacency or inattention as a factor. Five mishaps listed norms, habits or culture as a factor.

MAINTENANCE HUMAN ERROR MISHAPS

Sixty-six mishaps listed some type of maintenance human factor error as a cause factor. These mishaps included incomplete passdown, poor communications, inappropriate procedures, improperly followed procedures, lack of supervisor review or Q/A problems. Sixty (91%) of the mishaps involved incomplete, improperly followed, inappropriate or unavailable procedures. Twenty-eight (42%) mishaps involved the wrong part, poor equipment/part design, or lack of parts (see Figure 14). Inattention, complacency or awareness was a factor in thirty-three (50%) of the incidents reported in FY03. Poor passdown, incomplete checklist, or poor communications were also listed in 20% of the mishaps. Some form of inexperience, lack of training, or staffing issues were factors in 24% of the incidents. Workload, feeling rushed, or lack of resources was mentioned in 32% of the mishaps. 39% of the mishaps cited Q/A review or supervision as a cause factor.

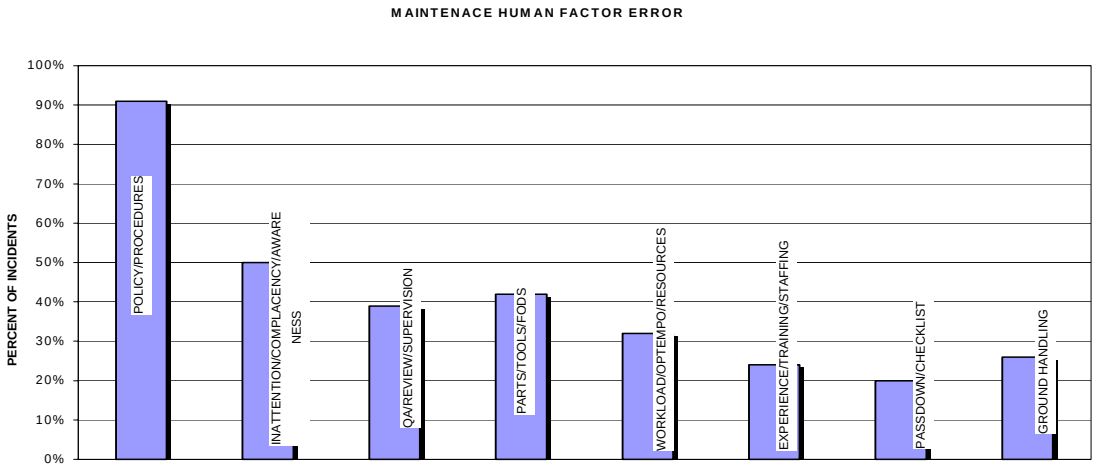

Figure 14

SUMMARY INFORMATION

Tables 4 and 5 display mishap summary information for FY03 associated with each of the four major airframes. The pie charts (Figures 15, 16 and 17) illustrate the percentage of total mishaps, flight hours and total mishap costs for each airframe. As can be seen in figures 15 and 17, both helo types represent roughly the same percentage of mishaps as flight hours, while the fixed wing mishaps are skewed more toward the HU25, and less for the C130.

AIRFRAME REVIEWS

Pages 16-19 contain mishap data for each major aircraft type. In reviewing these pages, it should be noted that since we had no reportable Class A or B mishaps in FY02 and FY03, 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 CG aviation is fairly stable. Total Flight mishaps (200) and flight hours were up this year and the highest they have been in 5 years.

FY03 FLIGHT MISHAP PERCENTAGES

AIRCRAFT	MISHAPS	% of TOTAL MISHAPS	COST	% of TOTAL COST	FLIGHT HOURS	% of FLIGHT HOURS
HH60	37	19%	$828,571	22%	25,084	22%
HH65	92	46%	$1,091,330	28%	51,013	45%
MH68	11	6%	$89,125	2%	3,428	3%
C130	17	9%	$874,634	23%	19,353	17%
HU25	42	21%	$872,863	23%	13,560	12%
VC4 &C20	1	1%	$90,000	2%	1,075	1%
TOTAL	200		$3,846,523		113,513	

Table 4

FY03 FLIGHT MISHAP PERCENTAGES

CLASS	MISHAPS	% of TOTAL MISHAPS	COST	% of TOTAL COST
A	0	0%	$0	0%
B	0	0%	$0	0%
C	26	13%	$1,498,613	39%
D	117	59%	$421,680	11%
E	57	29%	$1,926,230	50%
TOTAL	200		$3,846,523	

Table 5

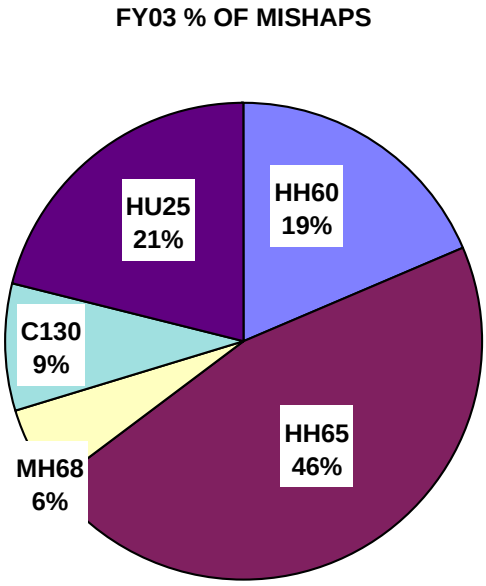

Figure 15

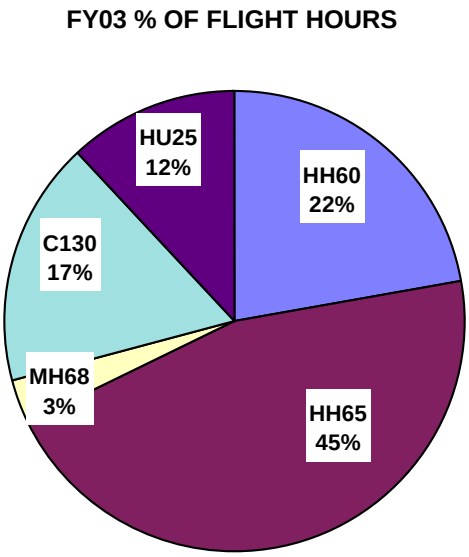

Figure 17

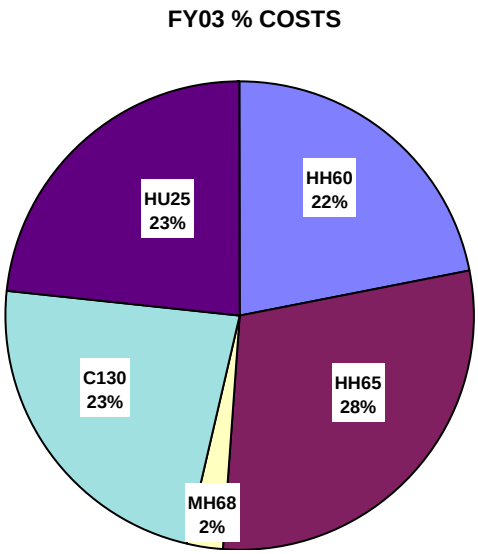

Figure 16

HH60J MEDIUM RANGE RECOVERY (MRR)

The HH60J flew 25,084 hours (22% of the total flight hours), the highest in five years. The Jayhawk reported 37 flight mishaps (19% of total reported flight mishaps) up from the last three years. Mishaps costs ($828,571) were also up from last year and the highest cost per mishap and per flight hour in 2 years.

HH60J Flight Mishaps for FY02

Aircraft	Class	No. Mishaps	Cost
HH60J	A	0	$ 0
	B	0	$ 0
	C	8	$ 588,030
	D	26	$ 64,477
	E	3	$ 176,064
Totals		**37**	**$ 828,571**

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
FY99	56	$791,300	25,207	0.22	$14,130	$31	FY99	14	$703,650	25,207	0.06	$50,261	$28
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	$828,571	25,084	0.15	$22,394	$33	FY03	8	$588,030	25,084	0.03	$73,504	$23

Table 7

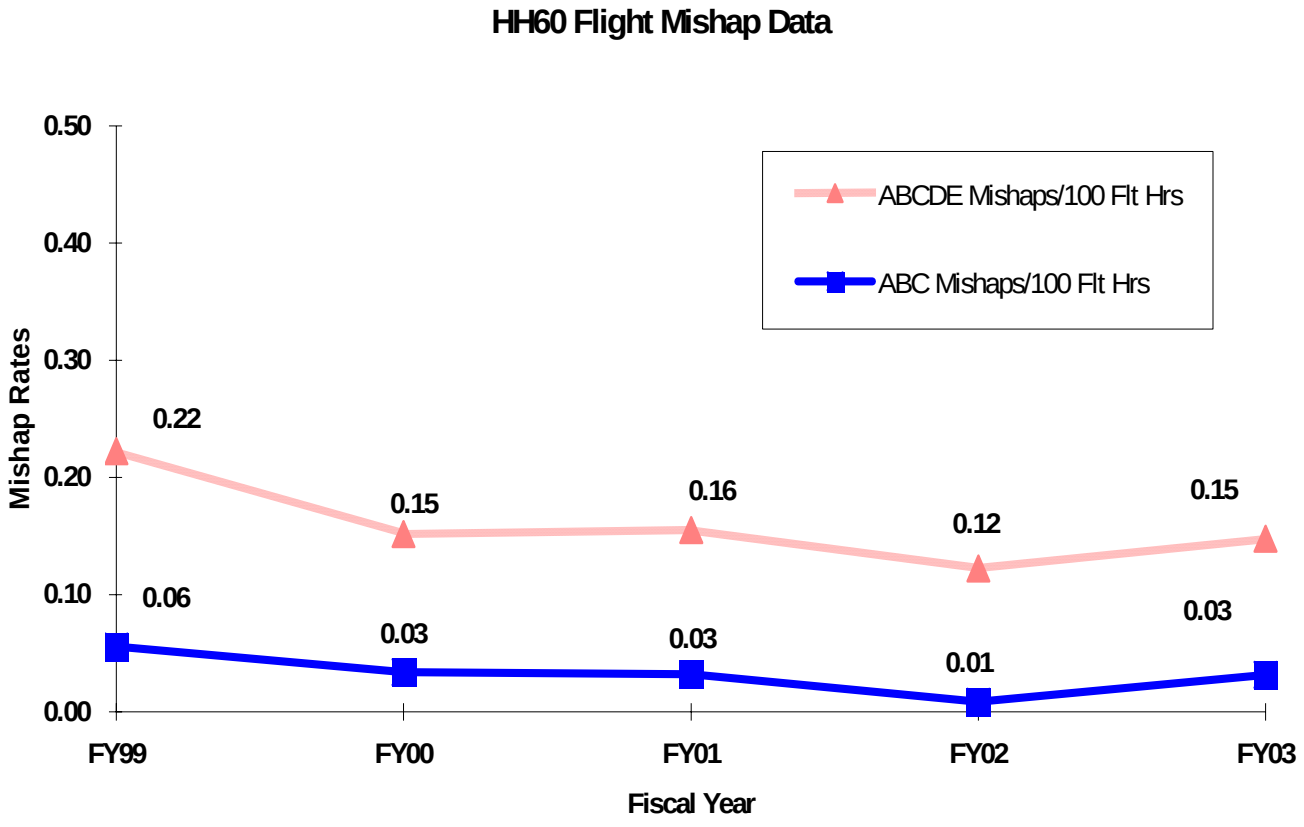

Figure 16

HH65 SHORT RANGE RECOVERY (SRR)

The HH65 flew 51,013 hours, the most hours the Coast Guard's Dauphin has ever flown in a year. The HH65 reported 46% of the mishaps (92 mishaps), and reported just over a quarter ($1,091,330, 28%) of the mishap cost. While the Dauphin reported the most mishap costs and flight hours, it reported the lowest cost per flight hour and per mishap of the four major airframes. Mishaps involving engine control systems continued to be reported at extraordinarily high levels.

HH65 Flight Mishaps for FY02

Aircraft	Class	No. Mishaps	Cost
HH65	A	0	$ 0
	B	0	$ 0
	C	13	$ 580,793
	D	47	$ 126,633
	E	32	$ 283,904
Totals		**92**	**$ 1,091,330**

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
FY99	92	$790,066	49,780	0.18	$8,588	$16	FY99	17	$654,867	49,780	0.03	$38,522	$13
FY00	67	$536,361	45,620	0.15	$8,005	$12	FY00	13	$398,726	45,620	0.03	$30,671	$9
FY01	77	$2,617,720	45,095	0.17	$33,996	$58	FY01	22	$2,505,556	45,095	0.05	$113,889	$56
FY02	100	$861,004	50,067	0.20	$8,610	$17	FY02	6	$350,044	50,067	0.01	$58,341	$7
FY03	92	$1,091,330	51,013	0.18	$11,862	$21	FY03	13	$680,793	51,013	0.03	$52,369	$13

Table 9

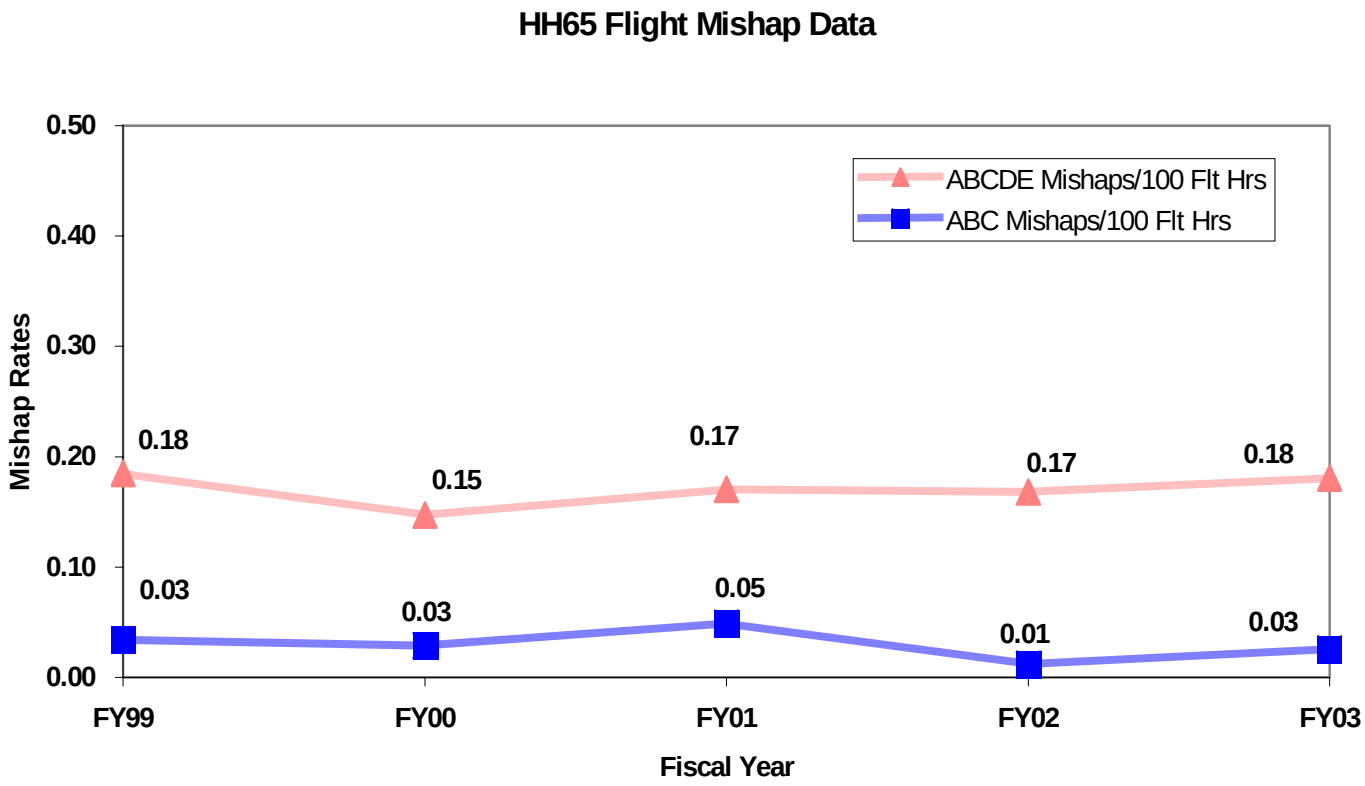

Figure 17

HC130H LONG RANGE SEARCH (LRS)

The HC130H flew 19,353 hours (17% of total flight hours) and reported the fewest flight mishaps (17), only 9% of reported flight mishaps. The Herc also had the lowest ABCDE mishap rate per 100 flight hours (0.09) of all the airframes in FY03. While only 23% of the Coast Guard total, the HC130H also reported its highest flight mishap costs in ten years. The HC130 also had the highest cost per mishap of the four major airframes.

HC130H Flight Mishaps for FY02

Aircraft	Class	No. Mishaps	Cost
HC130	A	0	$ 0
	B	0	$ 0
	C	1	$ 70,789
	D	10	$ 46,410
	E	6	$ 757,435
Totals		**17**	**$ 874,634**

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
FY99	27	$387,385	23,108	0.12	$14,348	$17	FY99	8	$352,058	23,108	0.03	$44,007	$15
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	3	$98,947	13,560	0.02	$32,982	$7
FY03	17	$874,634	19,353	0.09	$51,449	$45	FY03	1	$70,789	19,353	0.01	$70,789	$4

Table 11

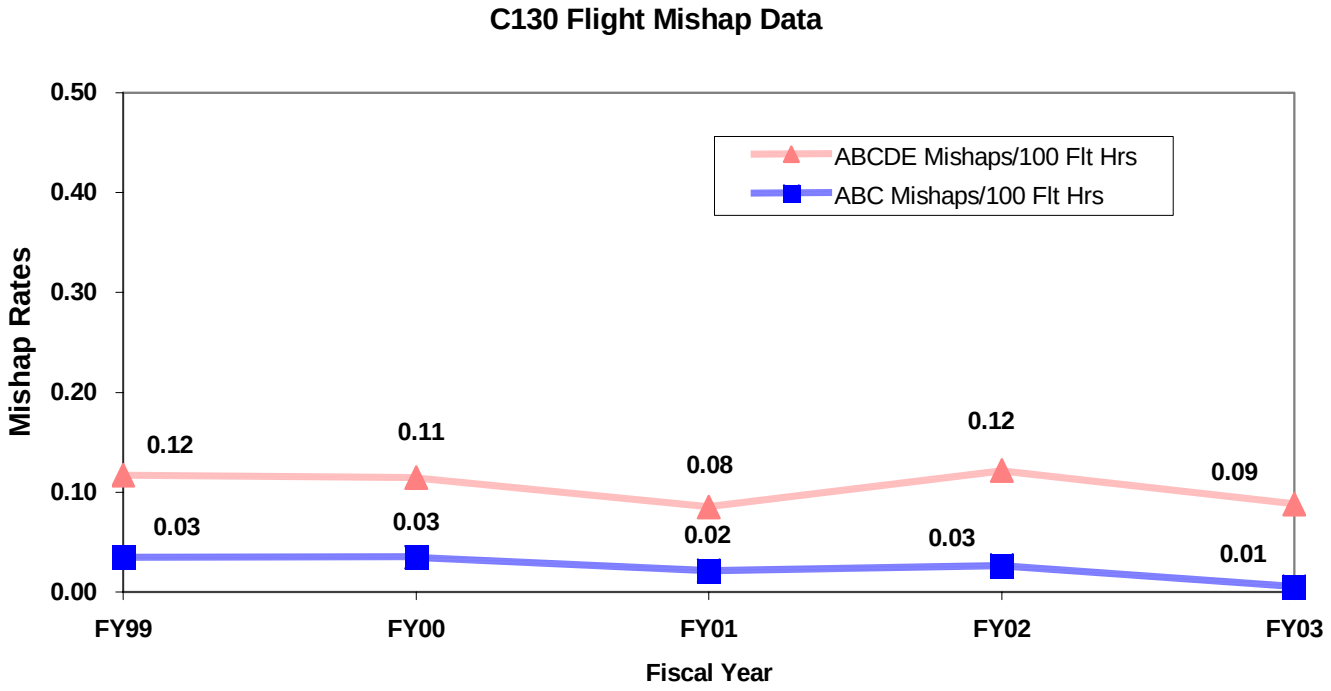

Figure 18

HU25 MEDIUM RANGE SEARCH (MRS)

The HU25 flew 12% of the total flight hours (13,560 hours) and reported 21% (42) of the total flight mishaps The Falcon experienced a 0.31 ABCDE mishap rate per 100 flight hours, the highest of the all the major airframes. The Falcon reported the lowest mishap costs ($872,863), but reported the highest cost per flight hour in FY03.

HU25 Flight Mishaps for FY02

Aircraft	Class	No. Mishaps	Cost
HU25	A	0	$ 0
	B	0	$ 0
	C	3	$ 98,947
	D	26	$ 155,151
	E	13	$ 618,765
Totals		**42**	**$ 872,863**

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
FY99	35	$1,311,514	15,491	0.23	$37,472	$85	FY99	8	$1,244,893	15,491	0.05	$155,612	$80
FY00	35	$357,741	15,967	0.22	$10,221	$22	FY00	8	$311,057	15,967	0.05	$38,882	$19
FY01	45	$407,436	15,371	0.29	$9,054	$27	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	$872,863	13,560	0.31	$20,782	$64	FY03	3	$98,947	13,560	0.02	$32,982	$7

Table 13

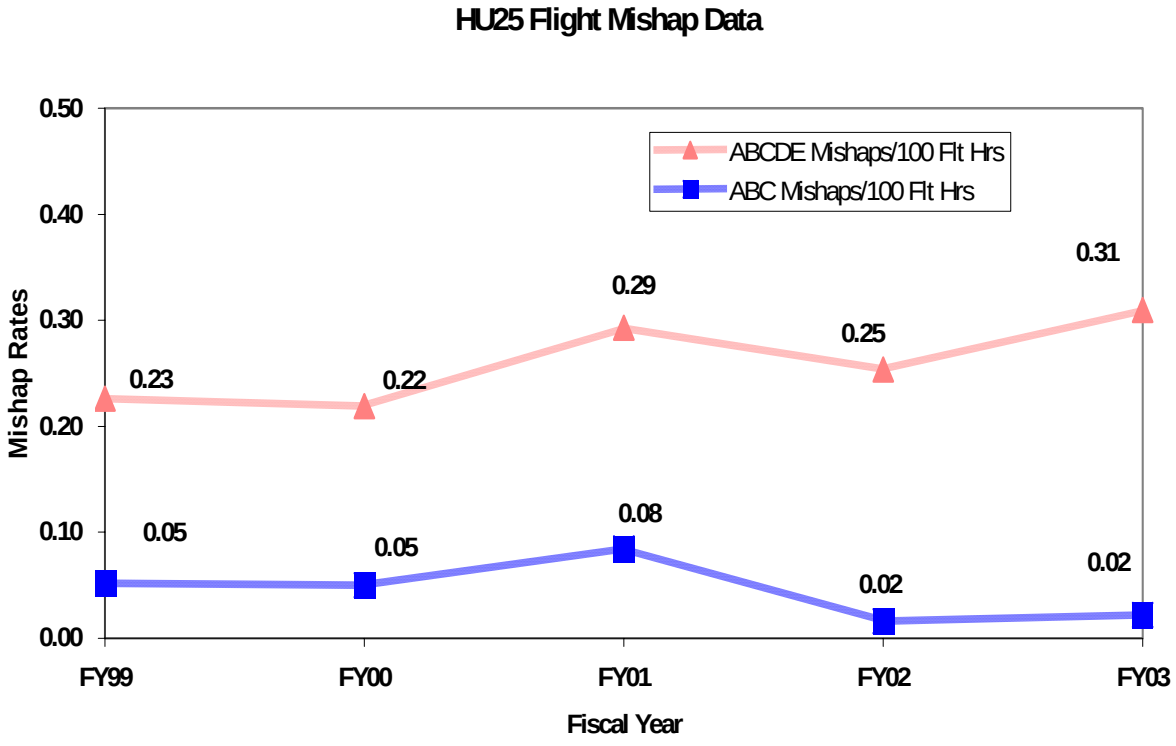

Figure 19

CLASS A MISHAP SUMMARY
FY94-FY03

DATE	ACFT	SUMMARY	CAUSE FACTORS*
JULY 1994	HH65	Aircraft impacted side of cliff in low visibility during night SAR mission to assist sailing/vessel aground.	Communications, Situational Awareness, Aircrew, CRM
AUG 1994	HH65	Hardlanding during daylight practice autorotation, aircraft impacted ground, slid and rolled on side.	Aircrew Error, CRM, Training
JAN 1995	HH65	During night pollution surveillance with two MSO personnel on board, acft experienced engine fluctuations. While analyzing problem, acft flown into water.	Situational Awareness, CRM, Aircrew, 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, Situational Awareness, Training
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 was recovered within an hour after entering water. Aircraft was lost at sea.	Cause of engine fire unknown, Training, Design
APR 1996	HH65	At end of 5-hour mission, pilot and aircrewman were practicing hover maneuvers over taxiway. During third hover, aircraft entered left turn; pilot was unable to counter. Aircraft continued spinning left and impacted ground.	Fatigue, Aircrew & Supervisory, Procedures, Design
JUN 1997	HH65	Night SAR in high winds and seas for sailboat taking on water. Shortly after arriving on scene, on scene resources lost comms with aircraft. Crew of four did not egress and the helicopter sank in 8,500 feet of water.	Trng, Assignment, Design, Aircrew & Supervisory, Material, Policy/ Procedures
AUG 1999	HU25	Rear compartment fire light illuminated during touch and go. Crew continued t/o and called out boldface procedures. Fire light remained illuminated, emergency declared. Rear compartment fire light extinguished approx 10 sec after fire extinguisher activated. Hyd sys light illuminated during “before landing checks”. Acft landed, crew egressed and 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.	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 14

CLASS B MISHAP SUMMARY
FY94-FY03

DATE	ACFT	SUMMARY	CAUSE FACTORS*
MAR 1994	HH65	Fenestron contacted runway during practice single engine landing for annual Stan check ride.	Awareness, Trng, Aircrew, & Supervisory
SEPT 1994	HU25 FltRel	Crew dropped a 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	Returning along coast from training flight in VFR conditions, crew felt abnormal vibration. Vibrations were so severe, pilots had difficulty reading instruments and controlling aircraft. Aircraft landed immediately on boulder-strewn beach damaging the aircraft. MRB tipcap departed inflight.	Material Failure
JUL 1995	HH65	Deployed aircraft taxied into side of Navy hangar. Five navy personnel inside hangar received minor shrapnel injuries. Aircraft sustained sudden stoppage damage and shrapnel damage.	Aircrew & Supervisory, Procedures, CRM, Distractions, Judgment
AUG 1995	HH65	PAC was attempting to park aircraft between two aircraft. MRB struck chain link fence. Two other aircraft and several buildings sustained shrapnel damage.	Aircrew, CRM, Distractions, SA
DEC 1996	HH60 FltRel	Aircraft diverted from routine trng flight to assist F/V reporting taking on water and sinking. Two PIW hoisted using a basket recovery, third PIW was recovered using rescue swimmer direct deployment. The victim's survival suit was improperly donned and filled with water. The added weight caused the victim to slip through the strop. FM and RS encountered difficulties trying to bring the victim into the cabin. The victim slipped out of the strop and fell to the water.	Environment, Procedures, Design, Equipment,
JAN 1997	HH65 FltRel	Aircraft launched on early morning SAR to assist a F/V aground and breaking up. First victim was located lying face down in debris. The unconscious, unresponsive victim had improperly donned a PFD. As the victim was being brought into the cabin, the victim began to slip out of the quick-strop. FM and RS tried to hold the victim, but he slipped out of the PFD and the quick-strop.	Procedures, Aircrew, Training, Design
MAR 1998	HU25	Fan spinner dptd in flight. Large section of fan spinner lodged in engine bellmouth, resulting engine, fuselage, wing and horizontal stabilizer damage.	Material, Design, Procedures, Aircrew
JUN 2002	MH68	During T- course day flight, crew experienced unusual vibrations and oscillations on touchdown from a hover. Upon landing, vibrations and oscillations increased in magnitude. As aircraft was shutdown, left MLG collapse and 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.	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 Table 16. When reviewing the DOD rates and comparing them to the Coast Guard, we need to consider the effect our limited flight hours has 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. For example, the Coast Guard only had two Class A mishaps in FY01, (FY01 data not shown) but had the highest Class A mishap rate (1.93), while the Army had the lowest mishap rate (1.03) with ten mishaps. Table 17 illustrates how the number of flight hours flown effected the FY03 Class A mishap rates. The Air Force reported the most Class A mishaps (31) but had the lowest Class A mishap rate (1.3) of the DOD services, while the Marine Corps reported the fewest Class A mishaps (11) yet had the highest Class A rate (2.91).

FY02/FY03 CLASS A AVIATION MISHAP RATES FOR ALL SERVICES

Class A Rates	FY02 USCG	FY02 USAF	FY02 USA	FY02 USN	FY02 USMC	FY03 USCG	FY03 USAF	FY03 USA	FY03 USN	FY03 USMC
Total Class A Rate	0.00	1.48	2.51	1.76	3.89	0.00	1.30	2.87	2.27	2.91
Fixed Wing	0.00	1.19	0.76	1.15	4.32	0.00	1.16	0.83	0.79	2.85
Rotary Wing	0.00	15.74	2.77	4.18	3.38	0.00	7.41	3.13	2.70	2.98
HC130	0.00	0.94	N/A	0.00	5.50	0.00	0.30	N/A	0.00	0.00
HH60	0.00	11.73	1.77	0.00	N/A	0.00	4.20	3.5	5.91	N/A

Table 16

FY03 CLASS MISHAP DATA

	USCG	USAF	USA	USN	USMC
# Class A	0	31	30	26	11
Flight Hours	113,513	2,379,949	1,046,220	1,142,965	378.019
Mishap Rate	0.00	1.30	2.87	2.27	2.91

Table 17

PILOT FLIGHT TIME REVIEW

Table 18 displays the flight time for Pilots in Command (PIC) and Copilots (CP) involved in Class A and B mishaps for the last twenty years.

PILOT-IN-COMMAND/COPILOT (PIC/CP) EXPERIENCE (CLASS A & B MISHAPS FY84--FY03)

TOTAL FLIGHT TIME			TOTAL FLIGHT TIME IN MISHAP AIRCRAFT TYPE		
HOURS	PIC	CP	HOURS	PIC	CP
0-500	0	1	0-500	3	11
501-1000	2	5	501-1000	10	5
1001-1500	7	8	1001-1500	9	7
1501-2001	4	4	1501-2001	7	1
2001-3000	8	4	2001-3000	1	4
3001-4000	7	5	3001-4000	2	0
OVER 4001	6	3	OVER 4001	0	0
UNKNOWN	1	1	UNKNOWN	3	3
TOTAL MISHAPS	35	*31	TOTAL MISHAPS	35	*31

*Four mishaps involved single piloted mission.

Table 18

The term CP used on this page refers to the pilot-not-in-command. It does not refer to the designation "copilot" or a particular seat position on the aircraft.

FLIGHT SAFETY PROGRAM

Training Courses

⇒ Traditional FSO training will continue at the Navy's School of Aviation Safety with the ASO Course.

⇒ COs will continue to receive the Command Safety Course at the Navy's School of Aviation Safety.

⇒ 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 was held in March 04.

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).

⇒ We completed 14 visits in FY03, putting us back on schedule. The goal in future years is to try to complete all visits within nine months of each Air Station change of command.

⇒ The safety visits focus on 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.

CRM

⇒ The CRM program continues to evolve. This past year, ATC Mobile noted concerns in student critiques citing multiple evolutions & methods of delivering CRM Refresher. Between Stan Visits, Safety Standdowns, and Proficiency Courses, many were receiving CRM Refresher 2-3 times each year. ATC Mobile requested discontinuation of CRM Refresher during Stan Visits, which G-OCA and G-WKS-1 approved.

⇒ Unit level CRM Refresher for aircrew will now be provided by the Flight Safety Officer. In addition, ATC Mobile recommended that CRM Refresher for pilots continue to be conducted in conjunction with annual proficiency courses. G-OCA & WKS-1 concurred with this recommendation, which will become effective when COMDTINST M3710.F is promulgated.

⇒ FSOs will continue to receive CRM facilitator training annually at the FSO Stan Course.

Voice And Flight Data Recorders (VFDR)

⇒ An FY03 Resource Proposal (RP) for VFDR upgrade to fixed-wing aircraft was funded at $2.7M annually. The RP funds the engineering and design aspects of the project, and purchases all related hardware (boxes, sensor, wire kits, etc.) and sparing. This effort is currently underway.

⇒ In FY03, ARSC successfully installed a digital VFDR in the HU-25. The related TCTO will be published shortly. This modification replaces the obsolete magnetic tape FDR with a digital Voice and Flight Data recorder.

⇒ ARSC has also installed a VFDR in the HC-130H. The replacement “form, fit, function” digital VFDR will initially address only the voice recording capability; related TCTO is in draft and under review. The Flight Data modification for the HC-130H involves significant engineering as sensors and analog-to-digital converters will have to be installed on the aircraft. The C-130 Product Line is currently working the development of this modification.

⇒ The goal of the VFDR upgrade for the fixed-wing community is to achieve mishap investigation and aircraft health monitoring capabilities that are closely aligned with the rotary-wing fleet. The rotary-wing VFDR capabilities have enabled us to develop effective loss control and error management strategies, and enhance the evaluation and management of component lifecycles.

⇒ Additionally, as the fixed-wing FDRs come on line, unit Aeronautical Engineering departments will be provided ground support equipment (GSE) that enables download of Flight Data. FDR data will be used solely to support aircraft systems monitoring/analysis.

⇒ VFDR GSE is specifically designed to prevent unit access to voice recording. Access to voice can only be accomplished by sending the VFDR to ARSC for download, which can only occur following G-WKS-1 approval. Prior to the fielding of GSE, G-WKS-1 will promulgate new FDR download policy via message traffic.

⇒ G-WKS-1 is exploring options to recapitalize the VFDRs in the rotary-wing fleet. Our goal is to achieve voice recording capability that is on par with the fuel endurance of one sortie, and flight data recording capability closer to the fixed wing standard of 25 hours. With the H60 Avionics SLEP, we are specifically targeting enhancement of FDR data to match the systems monitoring capabilities of the HH-65B.

⇒ A reminder that requests for VADR downloads are made through AR&SC in

consultation with G-WKS-1. Msg DTG 232036ZNOV98 (posted on the G-WKS-1 website) establishes procedures for using the HH60J/HH65 VADR's for non-mishap situations.

⇒ A review of the protected nature of VFDR data can be found in the Safety and Environmental Health Manual.

⇒ The VADR Download Process Guide can be found on the following website. http;//cgweb.eisd.arsc.uscg.mil/avi/vfdr/vfdrindex.html.

"G-WKS-1.COM"

⇒ G-WKS Website (http://www.uscg.mil/hq/G-W/gwk/gwks/gwks1/wks1.htm) 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:

- Safety & health manuals and instructions with the latest changes.
- Anthropometric measurements and related information.
- Aviation Safety presentations, safety standdowns 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).

Electronic AVIation Accident TRacking System (e-AVIATRS)

⇒ It's here! **E-AVIATRS** is working! http://webapps.mlca.uscg.mil/kdiv/Aviatrs/default.asp.

⇒ As the FY02 annual report was going to press, we gave the MLC programmers the "go-ahead" to start converting **AVIATRS** to the web-based **e-AVIATRS**.

⇒ The first mishap report was submitted to the new database on 21 November 2004.

⇒ **E-AVIATRS** went on line with minimal testing. The programming staff at MLC has been making changes and updates on a daily basis as the units have started using it.

⇒ The official change to the Safety and Environmental Health Manual (COMDTINST M5100.47) will be released soon. There were only a few changes to the mishap message format and the data being collected.

⇒ Requirements to report aviation-related injuries can be satisfied by entering a mishap report in either **e-AVIATRS** or **e-MISHAPS,** 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-MISHAPS**) will soon be linked, eliminating the need for duplicate reporting of ground mishaps, injuries and small boat mishaps and the confusion over which database to use to enter the mishap report.

⇒ **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.

⇒ **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 trend and tracking only.

⇒ Units are now asked 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 for non-text fields. Additional Factor fields have been added. These are "yes/no" fields that G-WKS-1 had been entering for each mishap in order to do quick searches.

⇒ Development of search programs, "canned" graphs, and report generators, as well as migration of legacy **AVIATRS** data to **e-AVIATRS,** 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 FY04. 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: In Sept 03, the Aviation Safety Division welcomed LCDR Steve Pruyn from Los Angeles. We said farewell to LCDR Val Welicka in May 2003, when he moved to a new job in G-OCA.