U.S. DEPARTMENT OF HOMELAND SECURITY

U.S. Coast Guard

MISHAP ANALYSIS BOARD (MAB)

HANDBOOK

U.S. COAST GUARD

Mishap Analysis Board Handbook

2018 Edition

Please provide comments on this handbook to:

Safety Program Management Division
U.S. Coast Guard
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INTRODUCTION

If you are reading this book in preparation to be part of a Commandant-appointed Mishap Analysis Board (MAB), the Office of Safety and Environmental Health (CG-113) offers a sincere thank you. Your efforts will help analyze this mishap in order to prevent a similar one from occurring in the future, making for a safer organization.

This handbook was created to aid you in carrying out your duties and responsibilities as a member of the MAB. The handbook is not policy, so please consider the guidance and advice provided by CG-113 at the time of the mishap the most up-to-date information. Since various sources of info on the MAB may not have been revised with the latest requirements and guidance; in the event of a conflict of guidance between this handbook and any Commandant Instruction, the Commandant Instruction/policy shall prevail. Please contact CG-113 if you have concerns about conflicting advice.

BOARD APPOINTMENT

The Unit PMB will commence and finish many of the initial actions while awaiting the arrival of the Commandant MAB. The MAB President and other members are not expected to be on scene for at least 72 hours.

You have been appointed to a **MAB**. This assignment will take priority over your primary duties, so inform your chain of command you will not be able to execute your responsibilities until further notice, and delegate work, as you will not be responsible for your primary duties while the MAB is convened. This applies to all MAB members. Explain to your family your new responsibilities.

The Unit PMB can give some idea of the local and mishap site conditions; this will help MAB members with packing gear and preparing. A CG-113 Advisor will be appointed to assist COMDT MABs; they are not a member of the MAB but are there for advice and to help the unit and the MAB gets the analysis going. CG-113 will schedule a conference call with the MAB members, the mishap unit, and the CG-113 staff to discuss the process, what is known and what is expected. **Take notes, but remember the CG-113 staff is just a call away and are ready to support the MAB**.

PRIOR TO YOUR ARRIVAL

Prior to your arrival, the unit will be executing their Mishap Response Plan (MRP), which contains checklists and templates for planned responses to a mishap. This is important, as these first steps will gather evidence that has a short fuse (like toxicology or getting fuel samples) and are an integral part of your analysis.

The mishap unit has three immediate duties; all have precedence over evidence collection and other activities.

1. Initiate emergency response (crash, fire, rescue, emergency medical, security).

2. Notify the operational chain of command

3. Inform next-of-kin of those injured

Initially the Unit Permanent Mishap Board (PMB) President will be in charge until relieved by the Commandant MAB President. The PMB President is not a seat-warmer, but has authority and responsibility to direct the unit's mishap response and Unit PMB until replaced by the MAB President.

NOTE: For Class A and B mishaps, the purpose of the PMB is to gather, preserve, and protect evidence. The PMB should not be attempting to analyze evidence or determine the causes; they should determine what evidence exists and preserve it. Gathering perishable evidence (weather/toxicology/etc.) is the priority.

PRE-ARRIVAL CHECKLIST

Ensure you have everything prior to your arrival:

Orders	
Hotel reservations (Stay in the same hotel)	
Transportation (Plane, rental car, etc.)	
Uniform items/civilian clothes (check on scene weather for requirements)	
Laptop	
Pens	
Notepad	
Water bottle	
Food	
Bug spray/sun block	

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THE FIRST 24 HOURS AFTER ARRIVAL

Section 1

MAB members should gather either at the lodging site or the work site before going to the mishap scene. This gives an opportunity for two very important events: A chance for the MAB as a group to get an **INITIAL BRIEF** by the CG-113 advisor and a chance for a **PASSDOWN FROM THE UNIT PMB**.

Initial MAB Get Together and Briefing by CG-113

- The CG-113 Advisor will give an overview to the MAB on the mishap analysis process, HFACS, deadlines and the MAR format. They will explain what the MAB is expected to accomplish and the functions of each member. This provides an opportunity to delineate tasking, establish the MABs purpose and avoid inefficiencies due to duplication of efforts. Most are doing a MAB for the first time and are new to their responsibilities.

- After these briefings the MAB President should let the MAB know the expectations regarding work schedule, etc.

- Do introductions and have each member list their background and experience. MAB duties or tasks should be distributed to each member to accomplish separately, but in a coordinated effort. Prioritize or redistribute tasks as needed. Organization will be key to the analysis.

- Encourage teamwork, but also allow members to work independently. Discuss the value of going to the gym/running, proper eating, etc. Strongly encourage maintaining personal exercise schedules. Establish your work schedule and crew rest.

- Have tasks pre-planned to ensure important items get accomplished. Do not rush into things; take time to consider downstream consequences of actions particularly pertaining to evidence.

- Do not dwell on the difficult or impossible; take this as a cue you need (external) help. Ask if you need assistance or aren't sure how to get things done, this is why the CG-113 advisor is on scene.

- Determine what needs to be done immediately, what has already been done, what can be done, how and by whom. Review the known circumstances, review the material received from the PMB and develop a game plan.

- After the brief, the members will meet with their PMB counterparts for more detailed discussion and to account for/collect all the evidence (i.e., impounded pilot/asset records, weather, initial interviews, maintenance training records, tool boxes, aircrew medical records, etc.). Have the PMB show the MAB the wreckage and lead an initial walk through of the mishap site, and then cut the ties. The PMB members should still be available if needed but will not be actively involved in the mishap analysis from this point.

- CG-113 knows how things work and has the big picture. Don't hesitate to call, they are the experts and can help locate/identify subject matter experts or institutions.

- MEDIA/PUBLIC AFFAIRS: Refer all queries from media entities to the unit command/Public Affairs Officer; District Public Affairs should be providing support to them.

Information quickly exceeds memory. Evaluate information. Is it authoritative, first-hand, without speculation? (The pass down is not a deliberation or discussion of what may have happened or why.) All members of PMB and MAB will attend the pass down meeting.

Permanent Mishap Board Pass Down

- What has been done, where the evidence collection process stands and who was responsible for certain aspects?
- Lay out what has and hasn't been accomplished per the unit MRP and why.
- Establish roles/responsibilities, who was where, who has been to the mishap site.
- Mishap context: mission, equipment, route, location, weather.
- Damage to asset and surroundings.
- Survivors and casualties (crew, passengers, ground and deck personnel).
- Agencies responding or on-scene.
- All rescue, salvage, and recovery activities that may have changed the condition of wreckage or position of fatalities. However, do not pass judgment on these actions.
- Get contact information for all PMB members, key unit personnel and anyone who worked on the initial response.

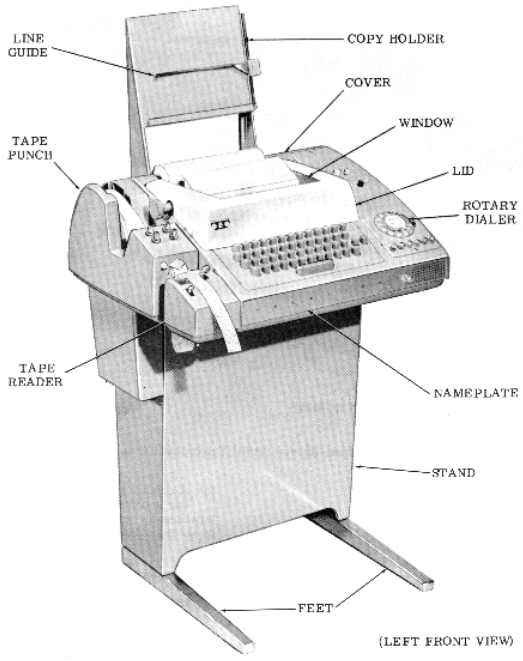
First 24 Hour checklist

PMB Passdown	
Toxicology	
Witness statements	
Oil / Fluid Samples	
Aviation – voice and data recorders	
Afloat – data and navigation recorders	
Mishap weather info/Weather Briefings	
Weight and Balance	
Flight plan	
Electronic charts	
Mission folder	
Flight schedule	
Pilot log books	
Medical records	
Personnel records	
Maintenance records	
Video evidence (CCTV)	
Toxicology	
72-hr histories	
Training jackets	
Ship logs	
RM briefing sheets	
Air Traffic Control tapes/VTS tapes	
Radio logs (DVRs)	
MISLE	
Photos	
Wreckage diagram	

Initial Messages

Message/Phone call	Method	Responsibility
MAB arrival message	**ADMIN OIX**	**MAB**
Progress Message (72 hour message)	**ADMIN OIX**	**MAB**
MAB Adjournment Message	**ADMIN OIX**	**MAB**

Note: Templates for these messages are contained in CG-113 SharePoint folder for this MAB. CG-113 can help release the message if MAB does not have connectivity to the CGOne network.



Automatic Send-Receive (ASR) Teletypewriter Set

Survivors

- Where are they?
- What is their condition?
- Have they had medical exams?
- Have toxicological tests/samples been taken?
- Who has talked to them?
- When will they be released by medical?
- When will they be available for a Critical Incident Stress Management (CISM) debrief? CISM debriefing should not take place until after the MAB has conducted their interviews, conditions permitting. Survivors must have a medical exam and toxicological samples taken.

Deceased/Remains

- Have remains/personal property been located?
- Have the remains been recovered?
- Has the Armed Forces Medical Examiner System (AFMES) been contacted regarding handling of human remains?
- Have toxicological test samples been taken?
- Has a Flight Surgeon (FS) or Medical Officer (MO) examined the scene?
- Positive identification?
- Are autopsies planned?
- Jurisdiction (military coroner/medical examiner)?
- Are there civilian casualties?

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Section 2

MISHAP SITE

Logistics

- What transportation do we have/need?
- Communications with mishap site. If an aircraft crash in a remote location, consider the need for employing "HAMMER ACE" to establish communications in remote or hazardous areas. Coordinate via CG-113 if needed.
- Nearest phone/work area/fax machine at mishap site.
- Local base support?
- Have crash site security, shelter, sleeping, clothing and food been arranged?
- Local maps, phone numbers and area listings (welcome aboard packets and local OPHAZARD briefs work well).
- The PMB should provide contact information for all PMB members, key unit personnel and anyone who worked on the initial response.
- Is there an on-base work area for the MAB? An ideal space is private and secure with CG workstations / internet.
- Take food, water and clothing sufficient to remain overnight (RON) and to endure weather (e.g., unexpected precipitation).
- Have communication from the site to base or some other command post (sheriff, police, fire, and ambulance). In some cases you might establish a command post off-site.
- If the mishap site is remote from a base, the MAB will probably be in commercial lodging; adjacent rooms make musters and passing the word easier. Obtain a meeting room in the hotel or reserve a room with a suite for daily meetings; if fees are involved, contact CG-113 for assistance/authorization.

Site Visit Planning

NOTE: Aviation mishap sites and afloat mishap sites each present unique hazards; MAB members should work together to assess and mitigate risk at the mishap site, under the leadership of the MAB president, prior to a site visit. District Safety and Environmental Health Officers (SEHOs) can assist in on scene hazard identification and mitigation.

- Where is it?
- Who owns the property?
- What is the general layout?
- Who is guarding it? How long will they stay?
- What is the local authority structure?
- Was there any civilian property damage?
- Will the wreckage have to be moved immediately?
- Who wants the wreckage moved/held in place?
- Was there any classified material or crypto equipment on the asset?
- Are munitions (including initiators/CAD/squibs) involved? What is the status?

NOTE: MAB members should not go to the mishap site UNTIL directed by the MAB President.

SITE VISIT CHECKLIST

Site access control (Media, TFR)	
Personnel accountability	
Communications	
Transportation	
PPE	
Cold/hot wx gear	
Food/water	
Shelter/heads	
Lighting	
Wreckage/gear storage or collection area	

INITIAL ON-SITE EXAMINATION

A risk assessment should be prepared and discussed before going to the site. Evaluate the surroundings, distribution and condition of wreckage. Determine whether wreckage is safe to begin work; fire out, ordnance and pressurized vessels made safe, fuel siphoned off. Proper planning requires everyone at the mishap site be aware of the potential hazards and take proper precautions.

The MAB should have proper PPE when visiting the mishap site.

No MAB member should presume to make decisions involving the mishap site (e.g., touching/ moving/ aligning wreckage) unless such actions have been discussed and previously cleared by the MAB President, the MAB Safety Officer (SO) and the MAB Engineering Officer/Member (EO). The SO and the EO are often the only ones trained in proper handling and recovery of evidence available at the mishap site. The SO and EO will control this phase.

MAB members benefit from a first-hand visit to the mishap site. Seeing accelerates and enhances comprehension and is essential to the analysis. However, if the site is remote or difficult to access, consider limiting the number of MAB members that require a first-hand visit.

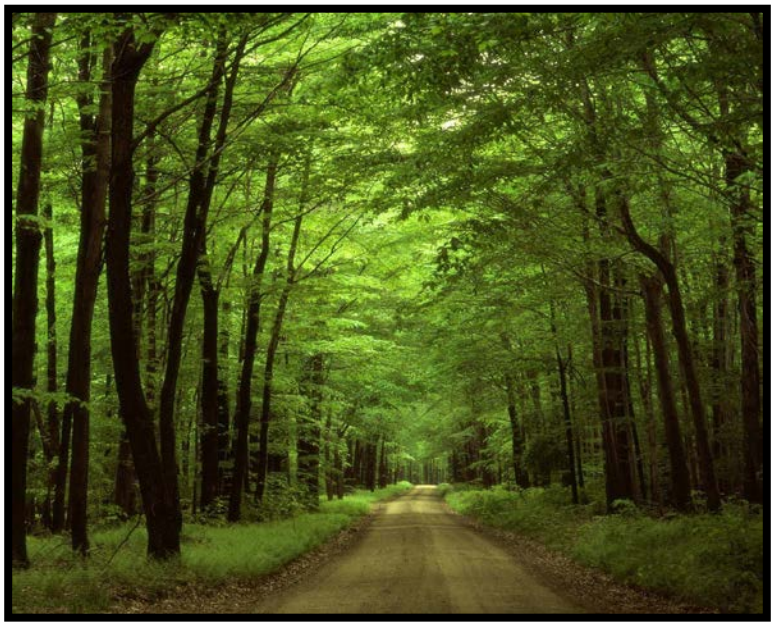
Considerations

- ✓ Did anything leave the asset prior to impact?
- ✓ Scratches and scrapes are important in establishing impact angle.
- ✓ Engines. Were they running?
- ✓ Systems. Were they operating? Electrical, hydraulic, etc.
- ✓ Instruments. Photograph before moving.
- ✓ Use an expert if instrument readings are important to analysis.
- ✓ Voice and Data Recorders. Do not tamper with or try to open voice and data recorder case, damage will occur. If voice and data recorder is separate from asset, document location.
- ✓ Avoid further damage to wreckage or unnecessary exposure to elements.
- ✓ Fire patterns. In-flight or ground fire for aviation mishaps.
- ✓ Are there any composite materials involved? What HAZMAT (fuel, oil, hydraulic fluid) or other hazards (ordnance, pressurized cylinders and/or tires, post-fire vapors, airborne particles) are present?
- ✓ Control access. Establish a control point and limit access to those who have a need.
- ✓ Identify, evaluate and control mishap site hazards.
- ✓ Locate major components.
- ✓ Identify and mark major pieces of wreckage.
- ✓ Check to see if anything major came off the asset upstream.

- ✓ Document the site.
- ✓ Photograph major components before moving.
- ✓ Protect and preserve the evidence, ground scars, pier damage, etc., until analyzed or photographed.
- ✓ Keep vehicles and people away so ground scars are left intact.
- ✓ Don't scrape, rub, clean, or put together (mate) pieces of wreckage.
- ✓ If fluid samples are necessary, get them right away.

Proper personal protective equipment (PPE) must be worn to protect against blood borne pathogens, composite materials and other potentially hazardous aerospace materials.

- ✓ Personnel safety is a priority.
- ✓ Do not stick your hands into dark places.
- ✓ Don't move wreckage unless necessary.
- ✓ If required to move wreckage, first: identify, diagram, tag and photograph.
- ✓ Bridle your curiosity to open or test components unless competent personnel are present.



- ✓ On sloping or forested sites, be wary of deadfalls: parts in trees; tree trunks/limbs severed but not fallen to ground; rocks precariously ready to tumble, etc.
- ✓ If possible bring an experience maintainer or other technical experts on the walk-thru. Their expertise is invaluable when trying to figure out which end is which.

- ✓ Consider your first visit a reconnaissance. Withhold hasty judgments: understanding will take time and evidence not at the mishap site. For the present, the concern is to exploit the wreckage as it lies.
- ✓ Information will be lost when you begin to disturb it.

- ✓ When the wreckage site has been exhausted, concerns will turn to removing the wreckage to accomplish what could not be done in the wild or what is better done under controlled conditions.

- ✓ Determine what will be needed to guard the site. Plot the scattered wreckage. Consider equipment and working parties needed to work the site and how to get both to the site.

DO NOT TOUCH or approach asset parts/equipment without proper PPE! Be aware of potentially toxic materials such as composite fibers that could be airborne.

DO NOT TOUCH or **PIECE** together any broken parts, this can alter the fracture surface, preventing adequate analysis of the part(s) in question.

- ✓ Patience! There is no hurry. Approach the mishap area from upwind. Enter only if cleared to do so by the on-scene command authority.

- ✓ Look before you step.

- ✓ Walk wide around the wreckage and ground scars, observing the mishap site from every angle.

- ✓ Look for indications of direction of travel and descent angle and then imagine the cockpit/console/bridge view.

- ✓ Take in the BIG picture and have the photographer do likewise.

- ✓ Avoid moving or altering any asset parts, life support equipment, personal items or other major components without first consulting designated technical personnel.

- ✓ Record the position of all switches and instrument gauges. Tag and identify all parts before moving.

- ✓ Satisfy yourself that the entire asset is present and/or accounted for; missing parts may be a good reason for you to expand the search back along the path of travel. If the

four corners of the mishap aircraft (nose, tail, wingtips) and the structure between are on site, bits and pieces (aileron, stores, turbine wheel, etc.) could -have departed before impact. For afloat mishaps, set and drift of floating wreckage will make accounting of all parts more difficult.

- ✓ Helicopters have more than four corners, so the process is challenging: blades usually fragment on contacting ground and can hurl hundreds of feet.

- ✓ If an aviation mishap is in salt water, make provisions to remove ASAP and apply anti-corrosion measures. Ensure parts that are wet/submerged and may contain electronic nonvolatile memory including navigation and voice data recorders, or black boxes, are kept submerged in water. Corrosion as a result of the drying process may destroy perishable electronic evidence.

- ✓ The safety analysis has precedence over other concurrent investigations; HOWEVER, the MAB must take care not to spoil evidence that others will also need to view.

- ✓ Disorganized, undisciplined handling of the wreckage disturbs evidence and leaves no record of condition as found.

AFTER THE INITIAL SITE VISIT

The entire MAB does not need to stay at the mishap site longer than is required to appreciate the big picture, make initial assessments and post security.

Once all have had a look, get down to business. Only one or two members need remain at the site to continue working and supervise the site. Consider who is better employed on the site and who has more urgent tasks elsewhere.

Post security and leave the site before dusk or make provisions for abundant artificial lighting.

Do not work a mishap site without light. Doing so poses high risk to personnel injury and evidence.

Allow time for departing personnel to find their way back to a road head before light fades. After touring the site, on the ride back, exploit your captive audience and what they found/saw.

Have someone take notes; this forms a list of things to do, things wanted but deferred, and future tasking. Pose questions.

- **What can be determined (speed, path of travel, attitude, configuration) from the lay of the wreckage, ground scars and degree/location of asset deformation?**
- **To what extent can the wreckage be examined from where it lies?**
- **What are the local engineering capabilities?**
- **What assistance is needed on site?**
- **What personnel, equipment or items will facilitate the following days' activities?**

PHOTOGRAPHY

Aside from documenting conditions as found, photographs can record the MAB's manipulation of the wreckage. It is not enough to tell someone, "Shoot this," and walk on. The photographer's product will be better if everyone who requests a shot also explains what the picture is supposed to show.

Specify as appropriate: close-up or wide angle, background (in-focus or not), light (more, less), viewing angle, other object in view for scale, anything to make a better exhibit. Obtain shots of anything peaking the team's interest, but ensure you have a before view of everything likely to be disturbed by manipulation (yours or others').

Shots of the cockpit/console/bridge (switches, levers, gauges) and engine control linkages (input and feedback mechanism) are essential. Photographs should show damage, impact areas, metal fractures, flight path, etc.

Shoot liberally. No one knows which photographs will be the best exhibits for a report, but the opportunity to capture may have passed. You cannot take too many photographs. With digital photograph, there is no reason to limit the number of photos or fear over photographing. Just make sure you have enough portable hard drives to store the data.

Place a North marker on the pictures to show direction. Adequately mark/label each roll, disc and electronic file folder so others will be able to easily find photos without having to open and shift thru all of the photos.

If necessary use something to show scale. Consider labeling the picture and identifying which component is in the picture (e.g., a sticky note reading "right propeller, blue blade).

Have an external flash unit available, especially if not using a professional photographer. "Fill in flash" may uncover details not seen in poor lighting or in shadow effects.

If taking digital photos, review each image as it is being taken. NEVER delete any incorrect exposure photos at the scene. Editing and organizing can take place later.

NOTE: "Staged" photographs indicate MAB deliberations and **are considered privileged**.

Maintain an adequate chronology/log of all the pictures, where and when they were taken, and relationship to other visual references, location and direction.

When photographing the mishap scene, always start at a distance and move toward closer objects to obtain desired details. Once at the center of the scene take photographs looking out from the center in a 360-degree view.

Provide a common reference point (person, pencil, ruler) on all pictures and show enough detail to provide orientation. This may require taking several pictures in sequential order.

Placing an object in a photograph for reference, perspective or measurements does not make a photo staged and does NOT make the photograph privileged.

Reassembling or reconstructing damaged parts or aligning parts to show fire patterns or impact marks are examples of **staged photographs** and possible privilege.

Depiction of cockpit/console/bridge indications for a given set of assumptions made by the MAB or described in witness statements are **staged photographs**.

Take pictures of any impact points (obstacles/objects) the asset or occupants may have struck before coming to the final resting point.

Develop a standard photo labeling and filing system so photos will be easy to locate and sort in the future.

Video photography can be useful, especially during salvage and recovery. Use a tripod when taking static pictures.

Label or keep a log of shots taken, to avoid "why did we take this?"

Use a ruler for size comparison or perspective.

Shoot good and bad components for comparison.

Use color photos to show discoloration, paint smears, etc. & black & white to show detail.

Take shots of curious, unknown damage.

NOTE: DO NOT include photographs of deceased personnel in MAR.

Consider using video as refresher for MAB viewing. Use with dialogue to keep memories fresh. Destroy after use, DO NOT send to CG-113 or leave at mishap units.

MAR photographs--include only those needed to tell the story. Crop to highlight area of concern.

Frequently back up pictures onto permanent storage media. If any single picture or image is marked as “classified,” the entire CD/DVD/digital storage device is classified.

Take several views of the major wreckage, asset parts, and other components, such as switches, gauges, circuit breakers, flight controls, fuselage skin and any equipment with unusual markings or damage.

Photograph any charred or burnt areas, impact points, fuel stains and soiled gauges.

Capture witness position or location from where the mishap was observed, preferably at the same time of day as the mishap. This may provide the best evidence of sunlight patterns, shadows and other potential contributing environmental factors.

Photograph all Aviation Life Support Equipment (ALSE) before removal from mishap crew (if possible) or wreckage.

WHO SHOULD PHOTOGRAPH?

- Professionals or use MAB members.
- SOs - they have been trained in mishap photography.
- Don't forget to manage the photographer.
- If possible or necessary, have a photographer detailed to the MAB for the first day or so. If one is not available, take your own photographs.

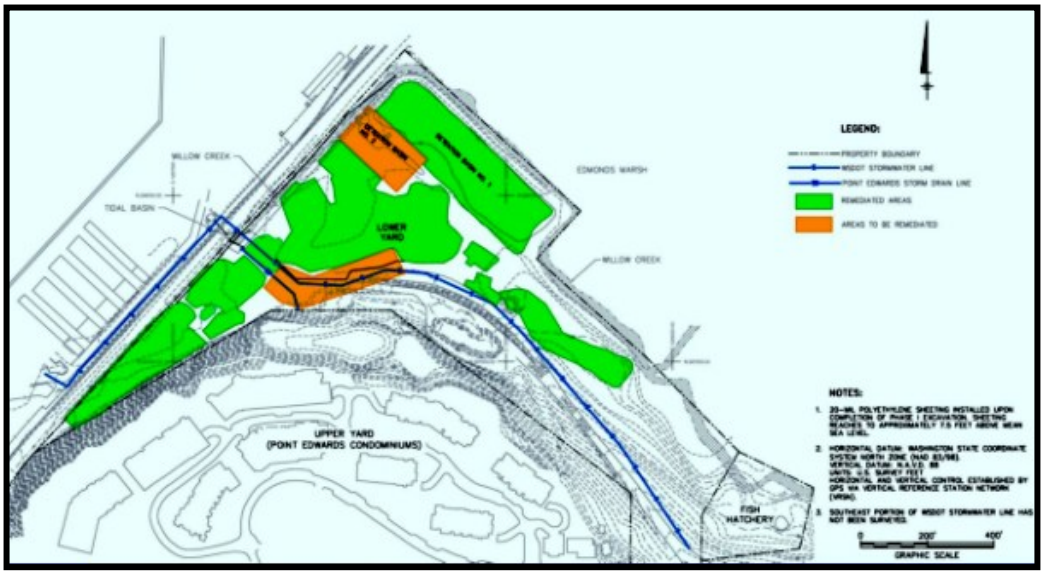
- It is not enough to tell someone, "Shoot this," and walk on. The photographer's product will be better if whoever requests it also tells the shooter what the picture is supposed to show.
- Specify as appropriate: close-up or wide angle, background (in-focus or not), light (more, less), viewing angle, other object in view for scale; anything to make a picture a better exhibit.

NOTE: Include only photographs in the MAR that aid in understanding of the mishap.

NOTE: All factual photographs will be provided to the Major Incident Investigation President. Consult with the CG-113 Advisor on process to provide these photographs.

WRECKAGE/MISHAP SCENE (AERIAL PHOTOGRAPHY)

- Overall area (may help with diagramming).
- Consider flying and videoing the flight path for aviation mishaps (same time of day with similar weather).



- Overhead shots to show general mishap site.
- Take shots of main wreckage along flight path.
- Take shots of main wreckage from asset cardinal headings.
- Include a pointer to indicate north.

Label witness position or location from where the mishap was witnessed.

PHOTOGRAPHY GUIDANCE

Review the following techniques when preparing for taking photographs of the mishap site:

• Establish systematic methods of taking photos (how can you establish a flow). Examples – start off the nose/bow work your way around clockwise, photograph the left side front to back then the right side (anything that makes a method to your madness).
• Consider perishable evidence that you might want to document with photos? Examples – weather conditions immediately following the incident, ice on the wing/boat immediately following the incident, marks in the mud or sand (especially below the tide line or if it is raining), switch positions, etc.

• **How can you document orientation?** Examples – longer range framed photo, followed by closer photos, and/or sticky notes, RH/LH tags, up or north arrows, etc. -Consider techniques to ensure photos have scale? Examples – rulers, boots, notebooks, pens (anything that is a known size – avoid things like tires that could vary in size).
• **When an aircraft / boat has impacted terrain / terra firma, what would you want to document with photos?** Ground scars, surrounding terrain, damage to vegetation (defoliation / tree strikes), hull dents, fracture points, etc. (this may give you clues to velocity at impact, attitude at impact, rotor / prop speed).
• **Remember:** Privilege comes with any type of MAB deliberation – putting pieces together, pointing, marking up pictures, etc.
• **Identify centerline of wreckage path.**
• **Identify parts – Tag or mark with grease/paint pencil.**
• **Identify part and its location along the wreckage path. Mark parts in succession or number their positions along opposite sides of the wreckage path centerline (i.e., 1L, 2L, 1R, 2R, etc.).**

PRIVILEGE AND PHOTOGRAPHY

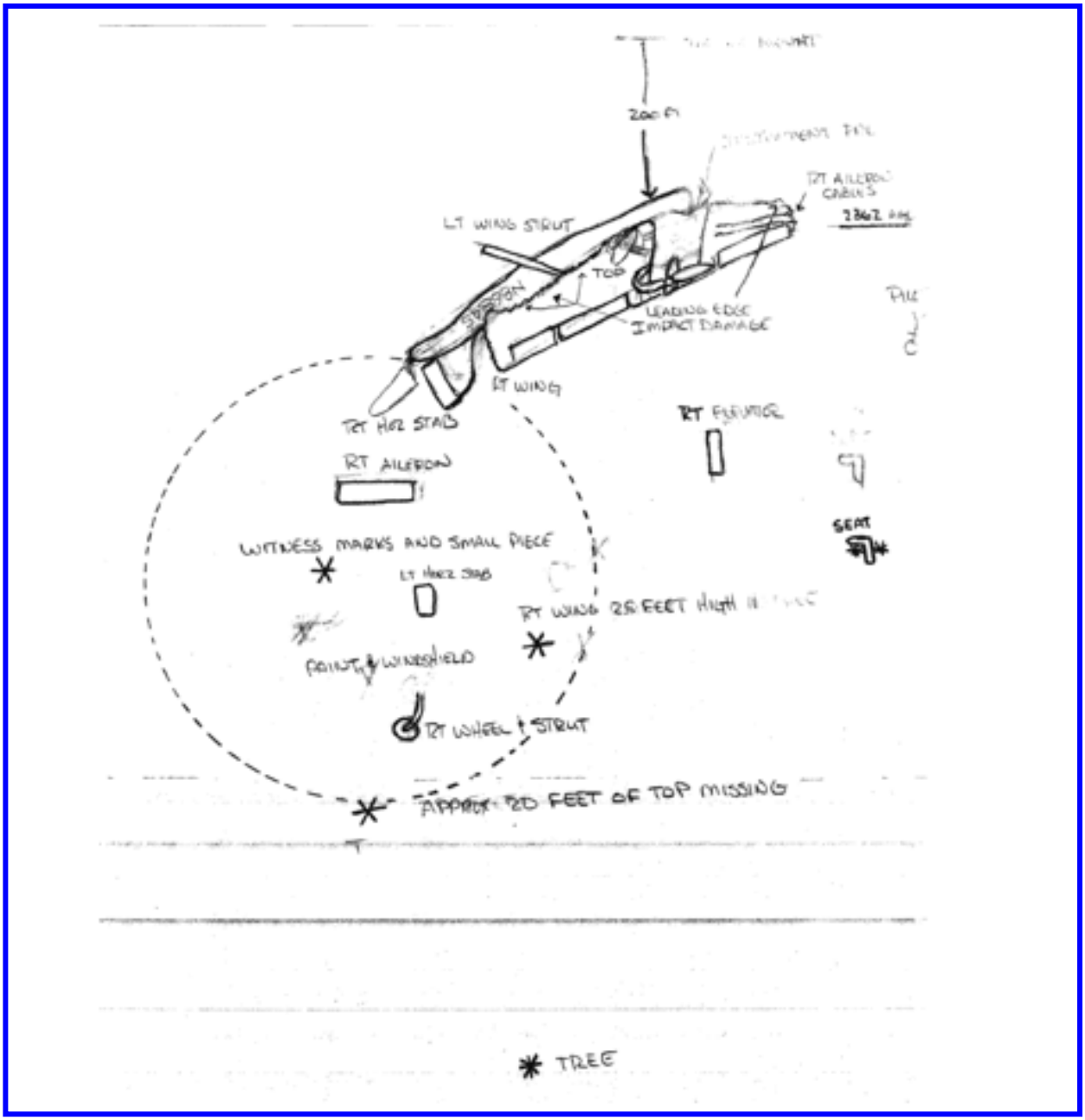
Factual (things as they are) = Non-privileged (releasable). Most mishap photos are factual.

Analytical (staged/deliberative) = Privileged (not releasable).

- Most mishap photographs, with the exception of staged photographs and those representing speculation or deliberations, are considered factual and non-privileged. They are real evidence that may be shared with analyses and labs or technical representatives used by the MAB.
- Photographs of injuries, fatalities and autopsy photographs are considered sensitive information and are not for general distribution.
- Photographs contained in the Medical Officer's Report are considered privileged.
- The placement of captions and markings on a photograph may show MAB deliberative process and thus, may make the photograph privileged.
- Factual captions simply indicating what is in the photo will not make the photo privileged.
- The MAB President should be aware the Medical Officer/Member may have reporting requirements beyond those imposed by the safety analysis. For these reports, photographs of deceased crewmembers may be required. Such reports are not privileged but carry with them their own handling/protection caveats.
- Control electronic files. The MAB owns all pictures.
- Reassembling or reconstructing damaged parts or aligning parts to show fire patterns or impacts marks are examples of staged photographs.
- Depiction of cockpit/console/bridge indications for a given set of assumptions made by the MAB or described in witness statements are staged photographs.

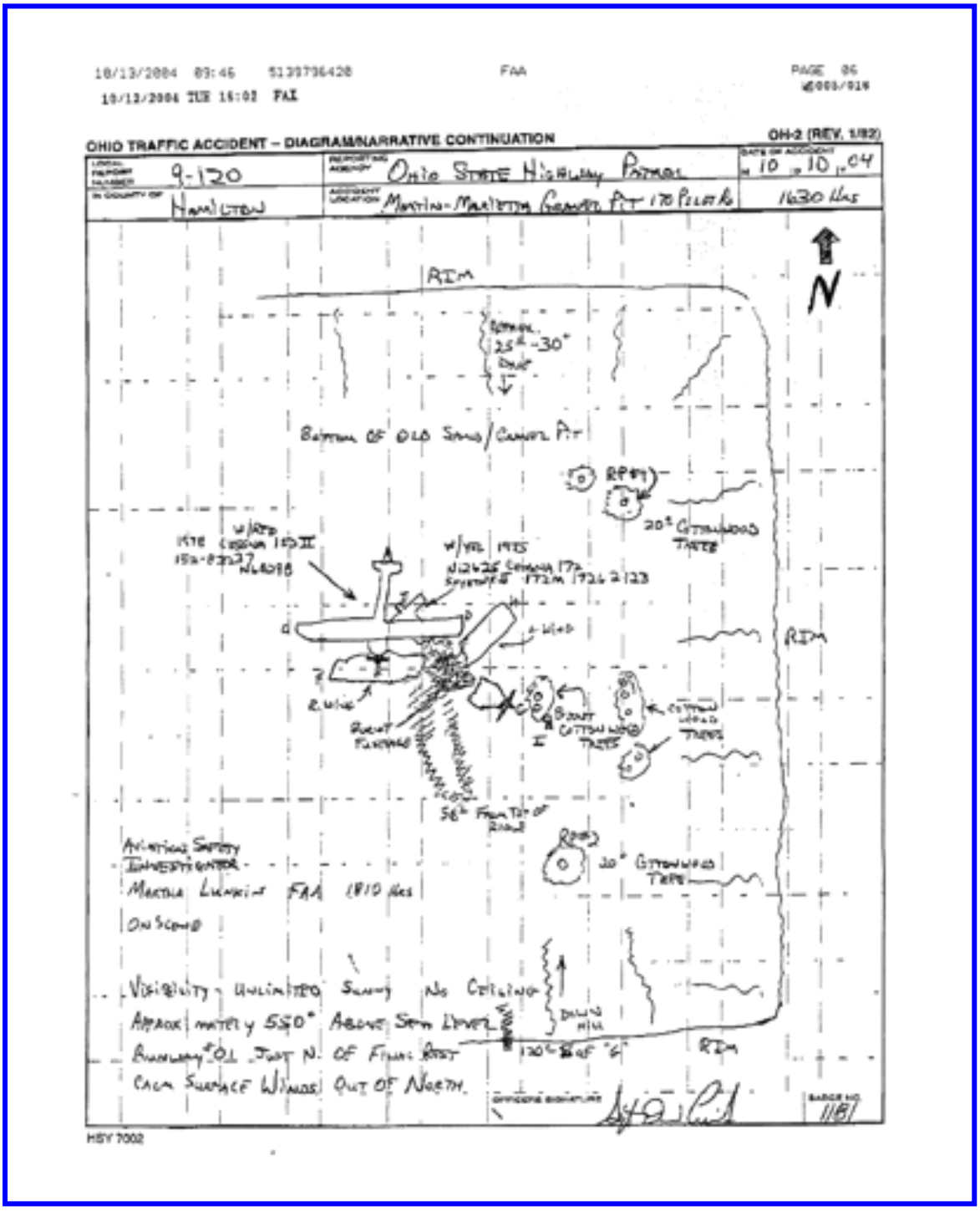
Important: The FS/MO controls copies of all prints and negatives of human remains

WRECKAGE DISTRIBUTION AND DIAGRAMS



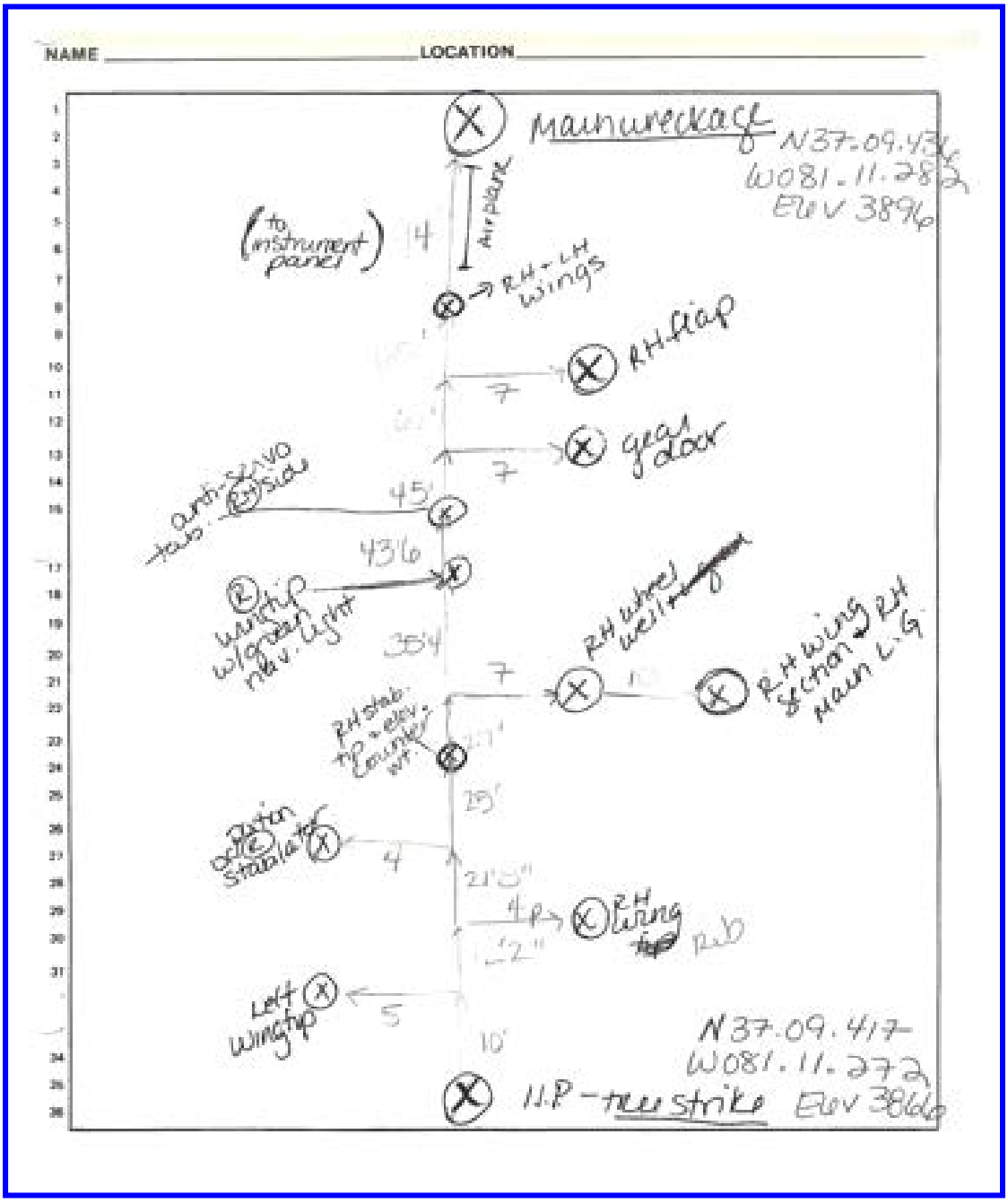
Wreckage diagram (aviation)

WRECKAGE DISTRIBUTION AND DIAGRAMS



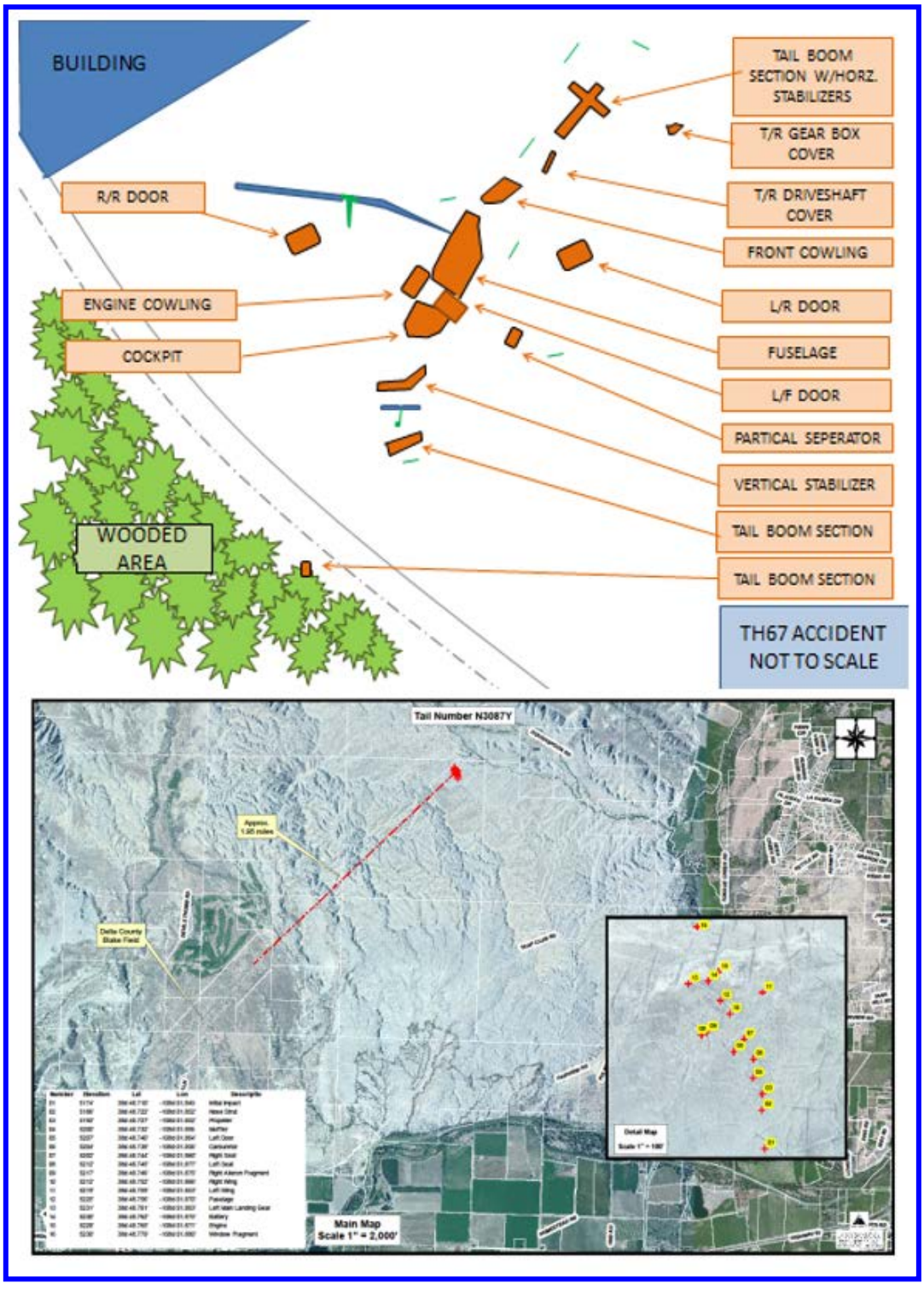
Wreckage diagram used by law enforcement (fixed wing aviation) (Source – Ohio State Highway Patrol)

WRECKAGE DISTRIBUTION AND DIAGRAMS



Wreckage diagram (with flight path)

WRECKAGE DISTRIBUTION AND DIAGRAMS



Computer generated diagram with map

MISHAP VOICE AND DATA RECORDERS

(See the Asset Flight Data User's Guide (PG-85-00-1560-A)

CG-113 coordinates analysis and animation of flight data and voice recorders. Contact CG-113 for download and animations from the cockpit/console/bridge voice and flight data recorder data.

The terms VFDR (Voice Flight Data Recorder), VADR, CVR, and FDR are often used interchangeably to include any mishap recording device on a USCG asset. The policies and handling procedures are basically the same.

VFDR DATA PRIVACY AND PRIVILEGE CONCERNS

NOTE: Raw flight data and animations made solely from flight recorder data are not exempt from public release, provided they do not contain privileged safety information (e.g., MAB opinions, speculation or conclusions).

NOTE: Cockpit voice recordings of mishap aircrew are not protected by safety privilege, but under USCG policy, they are not released to the public. Only those individuals with a need to know will be allowed to hear the actual cockpit/console/bridge voice recordings. Transcripts, however, are releasable.

Flight data retrieved from recording devices is factual information when presented in tabular or graph format (asset position information, engine stats, flight info, time data, heading info, etc.). Raw data downloaded from any recording device may be shared with other investigations.
Any animation produced purely from raw data is considered non-privileged; however, if the animation uses speculation or information derived from privilege safety material (i.e., crew statements, MAB deliberations), it becomes privileged.

If the animation also includes voice recordings, it may be protected by the Privacy Act. The sound of a person's voice can be safeguarded.

The Privacy Act safeguards the sound of the travail of a dying crewmember; this applies to the privacy of next of kin.

Transcripts of the **relevant portions** of the cockpit/console/bridge voice recorder are considered non-privileged and can be released (emphasis on the relevant portions only).

Portions of the recording not related to the mishap sequence (i.e., comments about the CO's or XO's management skills) are not released due to the lack of relevance, nor should they be transcribed.

While relevant portions of the cockpit/console/bridge voice recorders/transcripts are not exempt from public release, the actual cockpit/console/bridge voice recordings and the names of the individuals whose voices are captured may be safeguarded due to privacy concerns.

Relevant portions also means only the segment of the flight / mission pertinent to the mishap. The entire flight /mission from start to finish does not or may not need to be transcribed.

CG-113 does not recommend transcribing of the recording unless the MAB President deems it necessary as it is very labor intensive.

Inappropriate use of the cockpit/console/bridge voice and flight data recorder downloads will be handled in accordance with Article 92 of the Uniform Code of Military Justice.

VFDR DOWNLOAD AND REMOVAL

See the Asset Flight Data User's Process Guide for information on requesting downloads, shipping the recording unit, pulling the data cards and other guidance.

If the cockpit/console/bridge voice and flight data recorders are removed for download, a replacement recorder will be required to keep the asset in a Bravo Status. Only the Commanding Officer can authorize a flight without a mishap recorder.

When transporting the VFDR via commercial airlines, contact CG-113 for authorization letters and POC for bypassing airport screening. CG-113 will work with the TSA to get the VFDR through all the security checkpoints and onto the commercial flight. This usually requires multiple contacts along the intended route.

Figure 2-1 of the SEH Manual is only used for requesting the download of recorders by any investigation other than a Commandant appointed MAB.

TIPS AND TIDBITS

The VFDR data is not the "cure all", it is just another set of data. It seldom provides anything remotely like a "smoking gun", but it does provide lots of data. If looked at too early, it can complicate things and stop the MAB from looking at all available evidence. It may be useful to withhold the VFDR data from the MAB until after the evidence is collected, so the analysis efforts do not get sidetracked or tarnished by any preconceived notions from viewing the data.

VFDR data can help validate or dispute other evidence such as witness statements, switch settings, etc. Audio downloads can be used to check for ambient noises or to conduct frequency analysis.

MAB members are reminded that quotes and statements from the voice recordings shall not be discussed outside the MAB.

DO NOT tamper or try to open the VFDR unit as this can cause damage.

The VFDR shall not be read out loud or downloaded on scene.

If the VFDR is recovered in water, immediately pack it in water and do not allow it to dry out. Packaging may be accomplished by sealing the recorder (in water) inside a plastic beverage cooler. Rubbermaid® orange water coolers work great. See the Asset Flight Data User's Process Guide for additional information.

It is best to schedule a boardroom at the hotel or other space to listen to the VFDR as a group. Expect this to be a very emotional event; therefore, best to conduct it in a sterile environment where MAB members can egress and handle the mental download however they want/need. If audio is played back at the mishap unit and it is full of terrible stuff, there is the potential for MAB member reactions to be seen by unit members. Listening to the VFDR tapes is both time consuming and draining. Plan on it taking time and allow time for breaks.

SITE SECURITY

The unit SO should have a pre-planned brief for security personnel addressing:

Identification of personnel with authorized access to the site.

Limits of their authority.

Not disturbing wreckage that washes up (unless to stop it from washing out to sea again due to tidal action), asset wreckage or ground scars.

If they should be locating and flagging far-flung debris and photographing.

Site Security On base:

Crash/fire/rescue and medical squads respond to evacuate survivors and suppress fire, security responds to cordon the asset and restrict bystanders' access to waterfront or airfield. Military units will assist and possibly relieve with security. A municipal fire department will do its best with available equipment, but may or may not to be familiar with military assets.

Site Security Off base:

Local authorities: Police and Fire will likely arrive first (proximity) and have jurisdiction.

Responses to press inquiries: Any requests for statements by the media should be forwarded to the mishap unit or otherwise designated Public Affairs Officer (PAO).

Private guards: This might be required, depending on mishap site. The local police or sheriff will normally provide initial security off-base. They will expect you to provide your own security ASAP and not later than 12 to 24 hours. If the mishap site is located away from home unit/port, the nearest military facility may assist with security. Work with that base's safety officer and CG-113. The mishap unit should request local police or the nearest military installation security force stand guard pending the MAB's arrival. Consider the possibility of using USCG MSST, PSU, or Strike Team unit.

- Anticipate souvenir collectors.

- Anticipate a crowd. A disaster site is a magnet for the curious. Anyone on site who is not part of a solution is a hindrance, and a risk to both their safety and yours.

- Requests will come from press, government and military personnel who drop by. The site is yours to conduct an analysis; you are not obligated to run tours. Refer press to the unit PAO.

- Ask government officials and military personnel their jurisdiction/capacity and "What can you do for me?" This includes the mishap unit CO. If the visit has merit, provide escort, keep it short and do not disclose privileged information. Do not feel obligated to grant access just because of rank or organization. Personnel conducting concurrent investigations have a legitimate need for access to the site to view the wreckage. They should not disturb evidence without prior consultation and consent.

- Control access points to the mishap site – make a list of authorized personnel that have access and log them in and out of the access point. Consider the use of ID badges for visitors to the site.

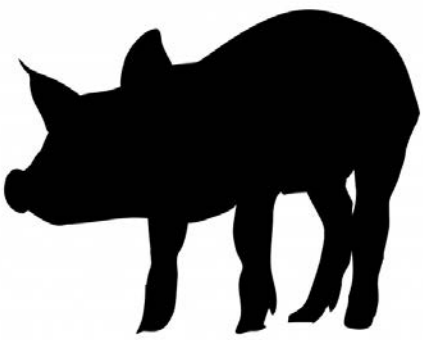
SCENE JURISDICTION

On Federal property - our wreckage and property.
On state property - our wreckage, but not our property.
On private property - our wreckage, but not our property.

If the asset is located on private property, cultivate the owner's cooperation. This includes waterfront property or shoreline that is not easily accessible through public spaces, so cooperation with the owner will be paramount.

A landowner can alleviate some security and crowd-control burden by making trespassers unwelcome. He can authorize cutting a fence or blazing a trail through his crops or he can tell you to hike around a quarter mile section for a less advantageous access. It pays to be nice to the landowner. The same applies when working with state/national agencies, Bureau of Land Management, and so forth.

Off base, be mindful of the nuisance created to land owners and their neighbors. Bring in a portable toilet. Don't litter, trample crops or bother livestock.



WRAP-UP OF MISHAP SITE VISIT

After visiting the site, bring everyone together to discuss as a group what each member saw or found. Confine discussion to what was observed or found at the site. Do not deliberate.

Determine what will be needed for the continuing field analysis. As discussed previously, you first exploit the wreckage where and as it is. Excavation, lifting, relocation and disassembly follow in due course...later.

Make assignments. Do not count on everyone going to the site daily. Once all members have seen it and have a common foundation, employ each according to his/her talents and availability.

Consider whether the MAB needs to be augmented with additional members or whether you need technical specialists.

Section 3

MANAGING THE MAB

Assigning Responsibilities

- Use MAR template table of contents.
- Outline report and designate writers.
- Meet daily and reassess assignments.
(Review Appendix A: *MAB members Description of Duties*)

Start by outlining the narrative of what happened and posting it in the MAB room where all can see and discuss. This outline will take shape as the analysis progresses and you begin determining the issues. The outline will help the MAB determine who will write each section. To avoid confusion and headaches later, the MAB President should assign sections/tabs during one of the early meetings. Assigning completion milestones is also helpful.

REFERENCE MATERIAL

Make sure you have latest version!

▪ Mishap Analysis Report (MAR) Part 'A' – found on CG-113's SharePoint
▪ Mishap Analysis Report (MAR) Part 'B' – found on CG-113's SharePoint
▪ Human Factors Analysis and Classification System (HFACS) Guide – found on CG-113's website.
▪ Safety & Environmental Health Manual COMDTINST M5100.47 (series)
▪ Coast Guard Air Operations Manual, COMDTINST M3710.1 (series)
▪ Boat Operator's Handbook
▪ Cutter Training and Qualification Manual COMDTINST 3502.4 (series)
▪ Operating Manual for the mishap asset
▪ Checklists for mishap asset (if applicable)
▪ Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series)
▪ Aviation Life Support Equipment Manual COMDTINST M13520.1 (series)
▪ Rescue and Survival Systems Manual COMDTINST M10470.10 (series)
▪ Coast Guard Helicopter Rescue Swimmer Manual COMDTINST M3710.4 (series)
▪ Shipboard--Helicopter Operational Procedures Manual COMDTINST M3710.2(series)
▪ Risk Management COMDTINST 3500.3 (series)
▪ Tactical Boat Operations COMDTINST 3120.18 (series)
▪ USCG MAB Flipbook - found on CG-113's website
▪ Shipboard Towing TTP
▪ Shipboard Anchoring TTP
▪ Underway Refueling TTP
▪ Coast Guard Medical Manual COMDTINST 6000.1
REACH OUT TO EXPERTS ON MAB FOR ADDITIONAL REFERENCE MATERIAL SUGGESTIONS

EVIDENCE FILING SYSTEM

NOTE: Set up a filing system and a master index as soon as possible.

- Clearly label each folder as to contents and add title and folder numbers to the index.
- Create a new file/ folder for each piece of evidence.
- Use a folder labeling system corresponding to the MAR Tabs for drafts.
- Consider assembling a second set of folders in a separate drawer for completed sections.
- Create folders for each MAB member's drafts or "working" documents.
- Keep draft and final typed sections in their respective folders.
- Establish separate folders (electronic and paper) for copies of MAB and PMB messages. Remember to print messages out in "full view".
- Create a folder for public affairs officer (PAO) public releases.

FILING METHOD SUGGESTIONS

- Use one drawer for original material and one for final drafts. This material is never removed from the office. It is copied and the copies are used when needed by the MAB members. The third drawer is for the use of the MAB members to keep their papers.

- Use separate drawers for non-privileged evidence and privileged evidence. Ensure the privileged drawer is well marked with privileged warning statements. The MAB may develop its own process.

- Establish an evidence filing and logging system as soon as the MAB convenes.

As evidence is collected, log and file it—**this is a priority.**

Brief the MAB on the filing system set-up being used and ensure they understand filed evidence must be initialed.

- This ensures all MAB members have seen all the evidence.

Evidence should **ALWAYS** be logged in and out. Positive control of evidence must be emphasized and can become a real problem without a plan.

SHRED BOX

Place an empty box in a prominent location in the work area for shredding privileged documents that are no longer needed. Make sure the box is marked as privileged safety information and has privileged warning statements in clear view.

Destroy extra or unneeded papers. **DO NOT** send leftovers and extras to CG-113.

ELECTRONIC DOCUMENT CONTROL

On the MAB shared/common drive, establish a "Draft/Working Documents" and a "Finalized/Completed Documents" folder.

- Establish a file naming process, to keep track of version or draft.
- Instruct members to use the "Draft" folder exclusively while working on documents. Once documents are completed, they can be moved to the "Finalized" folder.
- After documents have been moved to the "Finalized" folder, they should **NOT** be touched by anyone except the MAB President or Admin to preserve integrity and maintain accountability of what is being updated.

KEY CONTACT INFORMATION

It is vital for the MAB to have contact info for key units, local agencies, etc. that they will use regularly during the analyses.

Continuously add to and update the "Contacts List". Maintain a log of pertinent contacts to make it easy for other MAB members to get in-touch with the appropriate support personnel.

MISCELLANEOUS

Circumstances of the mishap and the mishap site will dictate additional supplies and resources. Depending upon the mishap site location, terrain and environmental conditions, "personal comfort" items will be required. The unit MRP kit should have the items needed for the unit's AOR and the unit will provide these to the MAB. Extra supplies will be needed depending on duration of analyses and size of MAB. Some of these items will/can be brought with the MAB members, if advised in advance.

If the MAB needs additional resources, they should go through the mishap unit – it is the mishap unit's responsi

ADMIN OR YN SUPPORT

It is best to get someone TDY vice using unit or local personnel for Admin support; personal life connections to the mishap unit or crew can, and will, interfere with execution of their duties.

The MAB's initial attention should be on obtaining or recording the evidence that is most perishable by human activity, frailty, or forces of nature. A safety analysis has precedence over other analyses for access to evidence, but the MAB has a duty to preserve evidence and account for changes resulting from handling and examination of the evidence.

Do not wait until the last minute to start working on the MAR. A best practice is to complete MAR Part A first and then move to MAR B as a group.

Note: MAR A shall be released to the Major Incident Investigation (MII) within 30 days, per the SEH Manual. Coordinate release through CG-113.

Some sections can be built, copied, and set aside early in the analysis. You might feel manpower-limited, so cover more territory by tasking members according to their topical expertise and availability.

KEY POINTS

- Fit the MAB to the mishap; keep it as small as possible, but as big as needed. If more members are needed, contact CG-113.
- Everyone supporting the MAB works for the MAB President, NOT their parent organization or the mishap unit.
- The MAB President works for CG-11.
- Be flexible.
- Remember you are dealing with limited-use, privileged information; be cautious of discussions outside the MAB workspaces.

- Keep track of ALL documents and evidence.
- Keep track of who owns evidence and where it needs to go once the MAB is finished.
- Do NOT retain documents that are not needed; this includes extra copies, working papers, notes, drafts, tape recordings, photos, and other documents.

INTERVIEWS AND WITNESS STATEMENTS

Section 4

- Were there witnesses?
- Who are they (names, addresses, and telephone numbers)?
- Will they be available?
- Who has talked with them?
- Do you need a translator?

The following information, outlined in the SEH Manual, is paramount:

★ Witnesses must not testify under oath.

★ The COMDT MAB must provide a list of all witnesses (including witnesses promised confidentiality regardless of whether the MAB received their respective statements to writing). The list should include telephone numbers and description of each witness's role in the mishap (e.g., crewmember, maintainer, observer, or NoK/family member) to aid in identifying witnesses the MII Board desires to interview.

★ If a MAB member ascertains that Coast Guard personnel questioned in the analysis might be guilty of criminal misconduct, or criminal activity might play a role in the mishap, he or she must stop the interview and contact Commandant (CG-113) immediately.

★ Do not accept written statements (see Note). COMDT MAB members must take verbal statements from individuals related to the mishap and write a summary. Verbatim transcripts of interviews must not be made.

NOTE: If you offer a member Confidentiality, then you can have the witness write a statement and it will be protected under the safety privilege.

- COMDT MAB notes based on witness interviews are deliberative and are protected under the Safety Privilege as described in the Safety and Environmental Health Manual. This information must not be shared with other investigative bodies.

NOTE: If you offer a member Confidentiality, you can then have the witness write a statement and it will be protected under the safety privilege.

- The COMDT MAB must not make any determinations regarding the fitness of participants to be returned to normal duties. MAB members must not participate in Aviator Evaluation Boards (AEB). It is the responsibility of the command and medical authority (Flight Surgeon or Medical Officer not assigned to the MAB) to determine whether a member is fit to return to duty.

WITNESS INTERVIEW PREPARATION

<u>Set up the environment</u>: **Seating arrangement (not an interrogation)** **Distraction management (quiet, comfortable, off the beaten path)** **Use of boat or aircraft models to aid witness** **Water for interview**
<u>Preparation</u>: **Known facts** **Names, dates, times** **Work schedules** **Charts and diagrams** **Vehicle info, engines, systems** **Unit and asset manuals** **Generic and customized questions**
<u>Plan</u>: **What key information is needed from this particular person** **Who will open, lead, and close the interview** **How the questioning will proceed** **How the interview will be documented** **Recommend person not asking questions take notes**
<u>Introduction</u>: **See canned intro on the next page** **Develop rapport** **Make the person being interviewed comfortable**
<u>Execution</u>: **Address barriers and concerns head-on** **Encourage the interviewee's active participation** **Ask open-ended questions** **Pause before asking follow-up questions** **Actively listen to the answers** **Do not interrupt** **Request detailed descriptions of key aspects of the event** **Ask for confirmation sources** **Resolve discrepancies**
<u>Note taking</u>: **Write down (or type) all relevant information said by witness** **Take notes in the order that questions were asked/answered** **Document what was said, not what you think (or know) is correct**

CANNED INTRODUCTIONS:

***If you feel that an offer of confidentiality **does not need to be provided** to ensure forthright discussions, then use the witness statement with the green banner. You could state:

Introduce yourself and your team.
We are part of the Mishap Analysis Board that is looking into the XXXXXXX (whatever the mishap was) and attempting to understand what factors contributed to this mishap. There may be other investigatory bodies that will want to talk to you following our discussion; however, these boards have an important but different focus and what you discuss with them will be considered factual and releasable outside of the Coast Guard. Our sole focus is to determine what caused the mishap, identify lessons learned, and generate recommendations to prevent a future mishap from occurring. Before we begin our interview, please read over the Witness Statement form. Prior to initialing and signing the form, please know that although this form states a promise of confidentially has not been provided and that your statements can be releasable, the MAB follows strict procedures to ensure that what we discuss will be considered privileged. Specifically, we do not accept written statements nor tape the interview unless an offer of confidentiality has been provided and only write down our personal notes to document the interview. By doing this, we are able to protect our interview notes, discussions, and all of our deliberative mishap analysis products from being factually releasable to other entities. This also prevents the material from being used in any punitive or administrative fashion. Do you have any questions? If not, please sign and initial all of the appropriate sections on the witness interview form.

CANNED INTRODUCTIONS:

***If you feel that an offer of confidentiality **must be extended** to ensure forthright discussions, then use the witness statement with the pink banner. You could state:

Introduce yourself and your team.
We are part of the Mishap Analysis Board analysis board that is looking into the XXXXXXX (whatever the mishap was) and attempting to understand what factors contributed to this mishap. There may be other investigatory bodies that will want to talk to you following our discussion; however, these boards have an important but different focus and what you discuss with them will be considered factual and releasable outside of the Coast Guard. Our sole focus is to determine what caused the mishap, identify lessons learned, and generate recommendations to prevent a future mishap from occurring. Before we begin our interview, please read over the Witness Statement form. Before you initial and sign the form, please know that we are offering you a promise of confidentially. This means that your statements, our interview notes, and all of our deliberative mishap analysis products are protected from being factually released to other entities. This will also prevent the material from being used in any punitive or administrative fashion. Do you have any questions? If not, please sign and initial all of the appropriate sections on the witness interview form.

PRIVILEGE AND CONFIDENTIALITY

Section 5

Safety privilege is based on a national defense need for rapid and accurate assessment of the causes of joint service (DoD and Coast Guard) mishaps to prevent a recurrence and maintain mission readiness. Safety privilege ensures non-disclosure of certain types of information outside of the mishap analysis process and creates restrictions on the handling and releasing of such information to support mishap prevention purposes only.

Failure to observe the prohibitions and mandatory provisions of this Section by military personnel may be a violation of Article 92, Uniform Code of Military Justice (UCMJ). Other UCMJ articles may apply to military personnel who use a privileged safety report as an implement to punish a military member. Violations by civilian employees may result in administrative disciplinary actions without regard to applicable criminal or civil sanctions for violations of related laws.

Privileged safety information refers to information that is exempt by case law from disclosure outside the military safety community. The military safety privilege is judicially recognized and protects the mishap analysis process.

The Commandant has determined that privileged information derived from any Coast Guard mishap analysis process is restricted to use for safety purposes and must only be disclosed to personnel who have a direct responsibility for mishap prevention.

The Coast Guard does not use privileged safety information as evidence for punitive, disciplinary, or adverse administrative actions, for determining the misconduct or line-of-duty status of any person, in aviator evaluation boards, to determine liability or liability in claims for or against the United States, or in any other manner in any action by or against the United States.

Privileged safety information contains two primary sources of information with specific characteristics and related collection and handling restrictions.

- Any information or products derived from the mishap analysis deliberative process.

- Witness statements taken under an authorized promise of confidentiality.

AUTHORIZED APPLICATION OF SAFETY PRIVILEGE

Safety Privilege asserted under this Handbook only applies during the post-mishap process.

- Safety privilege derived from the safety deliberative process applies only to members of a convened MAB or designated safety personnel (e.g., PMB, Safety Officer, FSO, etc.) engaged in mishap analysis activities.

- Safety privilege linked to witness statements taken under an authorized promise of confidentiality applies only when granted by a COMDT MAB President or other safety mishap board members specifically granted an exception for the same authority by Commandant (CG-113) under the provision of the SEH Manual.

IDENTIFYING PRIVILEGED INFORMATION

Privileged information and material includes:

Findings, evaluations, analyses, opinions, conclusions, recommendations in the final MAR and unit mishap reports; and other products of the deliberative process of safety investigators, mishap boards, endorsers and reviewers.
Drafts and final diagrams and exhibits if they contain information that depicts the analysis of safety/mishap investigators.
Notes taken by mishap investigators during interviews or in the course of their analysis, whether or not they are incorporated, either directly or by reference, in the final report.
Life science (biological) material that contains analysis by a mishap investigator or incorporate privileged safety information.
Photographs captioned or staged by the mishap board where such captions include speculation, opinions or conclusions, if the caption cannot be removed or redacted from the photograph.
Videotapes of simulated, computer generated or reenactments of the mishap are privileged if they are made with input from mishap board members or with knowledge of privileged mishap information.
Expert opinions and conclusions obtained by the mishap board.
Animations that incorporate privileged safety information.
Medical Officer's Report (MOR) which contains medical analysis. Some factual data enclosures (e.g., medical records, laboratory tests, etc.) are non-privileged.
The statements, reports or information given pursuant to an authorized promise of confidentiality, and any direct references to any such statements or information in a mishap report. Policy requirements and proper handling of privileged information derived from witness statements based on grants of confidentiality are provided in the SEH Manual.

IDENTIFYING NON-PRIVILEGED INFORMATION

Non-privileged information and material consists of factual evidence, including:

Pieces of wreckage and other recovered items.
Records, such as: charts, flight plans; weather reports and briefings; pilot aircraft and vessel log books; aircraft, vessel, shore facilities, vehicle maintenance records; hoist cam recordings; and weight and balance records.
Transcripts of tape recordings from control towers, flight service stations, and air traffic control centers radio transmissions.
Animations made exclusively from recorder data (including Military Flight Operations Quality Assurance data) are not privileged.
Photographs without captions or any other manipulations/staging's completed by the mishap analysis board. Photographs depicting a measuring device or object displayed with mishap evidence for the sole purpose of demonstrating the size or scale of the evidence are not considered privileged safety information.
Photos, videos, sketches, or reports documenting or depicting the mishap scene or wreckage, including flight deck videos and non-official videotapes and films made by individuals not assigned to a safety board.
Laboratory analyses (factual data, but not opinions, recommendations or conclusions).
Written witness statements provided to the MAB without the "Promise of Confidentiality."
72-hour histories provided to the MAB without the "Promise of Confidentiality."
Medical records and laboratory tests, but not the MOR or analysis made by the Medical Officer
Other factual data.
Transcripts of relevant portions of cockpit voice recorders.

Although the un-analyzed animation with voice data is NOT privileged, actual intra-cockpit voice communication has legal protection as private communication. This product is handled as FOUO and copies are NOT releasable to the public. All requests for access to intra-cockpit voice communications must be coordinated through Commandant (CG-LGL). Upon approval, Coast Guard members can use these products to assist with briefing interested parties such as family members, analysts, or investigators. The products can be viewed under supervision, but MUST NOT be copied or released.

GRANTS OF CONFIDENTIALITY

The grant or promise of confidentiality is used to encourage free and open disclosure of safety information during a safety analysis. Military and federal courts recognize that the information given under the promise of confidentiality is protected from release.

The goal of the safety privilege is to foster trust between witnesses and mishap analysis team members, thereby eliminating witness's fear of reprisal or embarrassment to themselves, their fellow service members, their commands/employers, or others. As witnesses are more forthcoming with information, mishap analyses can more accurately identify causal factors which leads to more realistically targeted mishap prevention strategies while, at the same time, prevents undue speculation regarding mishap causality.

Offers of confidentiality are made to any witness, analyst, manufacturer, or any other person who can provide information for mishap prevention purposes.

Confidentiality must only be offered in order to ensure forthright cooperation of the witness and must not be given on a blanket basis to all witnesses.

Safety privilege linked to witness statements taken under an authorized promise of confidentiality applies only when granted by a COMDT MAB President or other safety mishap board member specifically granted an exception for the same authority by Commandant (CG-113). Requests for exceptions for this authority (normally other MAB or unit PMB members) can be requested when a key witness refuses to provide information unless granted a promise of confidentiality. This exception applies only when seeking information involving complex systems, military unique items, or military unique operations or exercises. Requests for this exception must be sent in writing or email to Commandant (CG-113).

ADDITIONAL REQUIREMENTS FOR PROMISES OF CONFIDENTIALITY INCLUDE:

- All instances in which a witness provides information pursuant to a promise of confidentiality must be documented using the Witness Promise of Confidentiality Form. A Witness Promise of Confidentiality form can be found on the MAB CG Portal site, as well as from CG-113.

- Promises of confidentiality must be explicit and cannot be implied from the MAB President's status or function.

- Promises of confidentiality must be limited to the information provided for each instance that confidentiality is granted.

- The MAB must inform the witness that the promise of confidentiality applies only to information given to the MAB. If the witness provides a similar or identical statement to another investigative body, that statement, as a part of a non-safety analysis, is not protected from release by the safety privilege.

- If a MAB member suspects or discovers evidence of a potential felony, the safety analysis must stop and no further offers of confidentiality are permitted. The MAB must immediately contact Commandant (CG-113) who must instruct the MAB President to either cease or continue interviewing the individual after consultation with Commandant (CG-LGL).

- Handling Privileged Information Derived From Offers of Confidentiality. When an offer of confidentiality is made by an authorized representative, the following factors apply to the handling of resulting privileged information:

Confidential statements must not be released to the public.

Confidential statements must be used solely for safety and mishap prevention purposes and must not be used as evidence to support disciplinary or adverse administrative action.

Chain of command members are permitted to review the final report, including confidential statements and privileged material derived from the safety analysis deliberative process.

Confidentiality does not apply if a member intentionally deceives the board.

Confidential statements or privileged material derived from the safety analysis deliberative process can be used pursuant to a valid court order on behalf of a defendant in a criminal trial.

WRECKAGE RECOVERY / STORAGE

Section 6

It is critical during this stage of the process to:

- Avoid further injuries.
- Avoid further damage.
- The SO should be prepared to give a safety briefing to the recovery crew.
- Store wreckage indoors if further investigation is necessary and weather is a factor.
- Store wreckage away from unit, to avoid being a "reminder" to unit or a sideshow for the curious.
- Release wreckage to MII investigators, back to unit, SFLC or ALC, as appropriate. C-113 is the release authority and must be contacted to coordinate the release.

Wreckage should be treated like a crime scene. Leave it in place until documented and the MAB President has given the okay to move or disturb.

NOTE: Salvage and wreckage recovery will occur at different levels and various stages during the MAB process and will differ from mishap to mishap. These efforts will take place in increments and stop from time to time to allow the other stages to proceed. A mishap at the unit will proceed much differently than a mishap in the mountains or at sea.

Plan the recovery and then stay engaged (directly or with a proxy) at the site to supervise the execution. Remember, supervision is important since some of the work to be performed may be completed by personnel whose only qualifications are availability and their fitness for heavy lifting.

The MAB President, SO and EO will coordinate and work with HQ, the Unit and ALC.

Consider where to relocate the wreckage. This depends on the MAB's future intentions. A full layout (reconstruction) might occupy four times the floor space of an intact asset. A partial reconstruction or removal of engines or components for examination takes less space. Storage for packed boxes and chunks of asset takes the least space. A crane or forklift requires room to lift and space at the sides to maneuver. Once decided, arrange a secure space accordingly.

Recovery of damaged components whether from land or water should be attempted anytime the material is needed for a complete analysis. If you need the material, ask for recovery. When asking, use the term "wreckage recovery for analysis purposes," rather than "salvage."

Wreckage recovery, whether from a swamp, ice floe, desert, or from 10,000 feet of water requires close supervision by the MAB to minimize and document component damage.

Let HQ decide if recovery is not feasible because of cost or technology.

Consider videotaping any movement of wreckage to document damage from recovery efforts. The wreckage often gets moved several times.

Make sure you have updated photos of your asset; specifically, the location of VFDR and how to remove it. This is important for in-house recovery help as well as divers or commercial salvage help.

Take Your Time. The key to any wreckage recovery is not rushing off half-cocked. Do things at a measured, deliberate pace with adequate planning to assure a successful recovery.

Decide how to collect wreckage. Wreckage, including small parts, should be flagged or marked to make their locations more noticeable. The pickup process usually involves people for small parts and machines for heavy lifting. Boxes on pallets staged throughout the site facilitate pick up by hand and deposit without a long trot.

Whether you fill boxes according to location (crater, secondary impact site, periphery, etc.- or by types of parts (airframe, engine, controls, etc.) is a matter of choice. Objects too big for boxes can be palletized or lifted directly. Laden pallets and big objects may have to be lifted by rough terrain forklift, crane or by helicopter.

Transportation. Flatbeds for long, wide or tall pieces; stake beds suffice for the rest. If some disassembly is required, consider the decision carefully since doing so might separate items whose association must be noted before evidence is lost.

Remember to photograph and document before, during and after disassembly.

Avoid rush hour traffic.

It is helpful to line a flatbed with a big, throwaway tarpaulin and wrap it up-and-over the load before tightening the straps; this prevents small parts (it's all evidence) from becoming highway litter. The tarp will be junk when the job is done due to tears and leaking fluids.

Offload and place boxes and objects to facilitate access for further work. For example, make room to maneuver, locate and stage hoists, toolboxes, engine stands and so forth.

Think things out. Do not try to move wreckage or perform other recovery ops on the fly—no matter how much you are being pressured. Once the evidence is moved or destroyed--it is gone.

Hopefully, sources of flatbeds and cranes were thought of when developing the unit Salvage Plan or MRP, not after the mishap.

Recovery is usually a long and frustrating process. Be prepared to spend more time with recovery efforts than you thought possible. Expect delays and setbacks.

Beware of people (especially your contemporaries) offering to help. Everyone wants to help, but this doesn't mean they have the authority to obligate their organizations or personnel to help. Find a supervisor. Ask permission from the right people.

The MAB is not authorized to issue contracts for the USCG, use proper procedures; this is where HQ can help.

The fuel samples should be treated like other evidence and kept locked up in a lockable, flammable storage locker.

Stay in contact with CG-113/CG-41/CG-45; keep them updated on recovery efforts and other activities.

HAZMAT: Have a marine pollution response team or HAZMAT cleanup crew on standby. Be aware of fuel and water mixture if pulling the asset out of the water. Where will the asset drain? How will you contain it? Be prepared to take care of any fluids leaking out of the asset. It must all be contained and cleaned up.

WRECKAGE CONTROL AND DIAGRAMMING THE WRECKAGE

Approach wreckage control in much the same manner as other evidence collected by the MAB. A simple Excel spreadsheet, maintained throughout the MAB, can eliminate confusion and misplacing of wreckage.

It may be necessary to move some or all of the wreckage expeditiously from locations such as highways, runways, or populated areas.

NOTE: As outlined in Chapter 2 of this manual ("WRECKAGE DISTRIBUTION AND DIAGRAMS"), a detailed diagram is required to capture where asset pieces came to rest and is useful for displaying the boundaries of scorching and debris scatter. Ensure a diagram is complete prior to moving wreckage, if at all possible.

In all cases where the wreckage must be moved before the MAB arrives, try to obtain immediate aerial photography as close in as possible before the wreckage is moved. This may be the only documentation of the actual condition of the mishap scene and collateral damage.

Take Notes--Don't Trust Important Facts To Memory

For mishaps where structural integrity is in question or where the collision pattern strongly suggests that it is a possible cause of the mishap and/or crash-related injuries, the diagram requires more detail.

If diagrams are being used simply for orientation purposes, the diagram just needs to show the relationship of the asset to the

surrounding terrain. Include topographic or structural features if their positions have a strong relationship to the mishap.

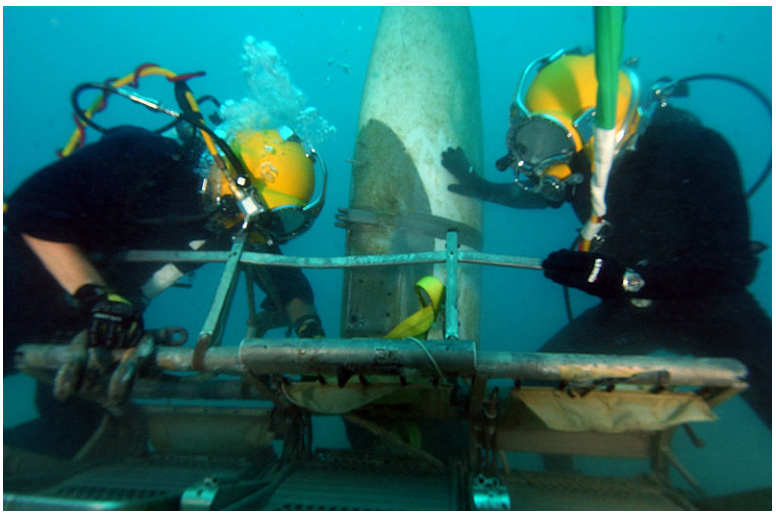
Keep tabs on the location and status of all wreckage/parts sent out for analysis; always obtain an estimated time of return. Use a "Disposition of Parts for Analysis" log to track all parts, equipment, etc. sent for evaluation.

Convey to the organizations and individuals doing the analysis that all parts sent **MUST** be returned to the MAB. This should be included in writing in the letter sent with the wreckage. Don't forget to include in the letter who and where the analysis should be sent.

Provide a written inventory of components sent for analysis or tear down to the MII President. The written inventory should include the exact location, a primary contact and a phone number.

It is not necessary to return wreckage or evidence disassembled for analysis to its original state. However, labels, markings, rulers and other identifying or quantifying information must be removed from the wreckage/evidence prior to transfer to the MII. Labels denoting location of pieces in the debris field in reference to a grid map can remain.

RECOVERY/SALVAGE OF SUBMERGED WRECKAGE



The following discussion presumes underwater recovery has merit for mishap analysis purposes and is approved. There are instances where, despite the absence of wreckage, enough is known from other evidence to form with high confidence the Findings and Cause(s) and forego recovery. Examples of

such evidence are crew/eyewitness statements, radar data, taped communications, flight data recorders, obvious damage to vessel, facility condition, or known defective equipment (NAVAID malfunctions, fuel sample from delivery point).

Keep in mind not every asset will be recovered even for a MAB. Sometimes the depth of the wreckage will prelude recovery, other times cost is prohibitive, and still others the equipment will not be available. But rest assured, CG-113 and CG-41/45 will have started working with the other services or agencies to coordinate the recovery operations. The process can be slow.

A perfunctory request that fails to present a persuasive case that the asset (or selected portion) is essential for the investigation may be denied. The MAB must sift through all available evidence and decide whether it has sufficient evidence to explain the mishap or if it needs more.

Finally, ask if it is likely the wreckage will provide answers to the questions the MAB has not yet resolved? If yes, continue.

There must be a successful search before there can be a recovery attempt. Wind, current, bottom conditions, impact angle, velocity, or asset fragmentation can complicate a search.

Location, accessibility and water depth determine what will be required for recovery and who can do it as well as if it can even be accomplished.

RECOVERY/SALVAGE REQUEST

As MAB President, submit your request, justification and amplifying information to CG-113. A telephone call will get this discussion started, but the actual request should be in a separate message or a mishap progress message.

Reasonable effort will be made to recover crew/passenger remains incidental to wreckage recovery, but the basis for wreckage recovery is not recovery of remains, it is to recover the wreckage. There must be a solid, valid need to have the wreckage recovered.

The following four questions are the exclusive basis for justifying recovery/salvage.

- **Is wreckage necessary to determine cause?**
- **Is wreckage a hazard to navigation?**
- **Is an item of national security interest at risk?**
- **Is there an environmental concern?**

Since a MAB opens the discussion by its request and is closest to the sources of information, be prepared to address factors that others will need to consider before mounting a recovery operation.

- **Wreckage position (pinger, sightings, floating debris).**
- **Site conditions/accessibility (depth, bottom topography).**
- **Asset's entry aspect (incident speed/angle, breakup).**
- **Water temperature/date of immersion (corrosion).**
- **Equipment/ordnance requiring special handling.**
- **Remains presumed to be in asset.**

Since most units lack the equipment or personnel trained to accomplish water recovery, the MAB will be asking for assistance outside normal USCG operations. The MAB must justify the merit of the wreckage recovery. Others responding to the request will attempt to determine the following: the difficulty, likelihood of success, assets available/required, expense, funding sources, etc.

COMDT (CG-113 and CG-41/45) will weigh the merit and expense.

If your request is approved, count on participating in the wreckage recovery. Do not presume the wreckage will just show up at your hangar door. You must now begin to plan for the operation.

You have collected a list of names, numbers and office codes in the course of requesting and rationalizing the recovery operation. These are your new pen pals. Keep them informed. Coordination is essential in preparing for recovery and the ultimate offload and shipment of wreckage.

PLANNING FOR RECOVERY

Due to the dynamic nature of recovery planning and operations, MABs will need to consult with a variety of aviation and afloat resources with the expertise to execute the recovery safely (ALC or SFLC systems/structural engineers, MAB members, component manufacturers, etc.). For underwater recovery, recommend consulting CG-721 Office of Specialized Capabilities for Coast Guard diver assistance/oversight.

The SO and EO can handle issues that arise. One or both should be present during the operation and bring reference materials (manuals, pictures, diagrams, parts lists). Be prepared to work closely with the SME or organization tasked; this may be contractors, military, other federal agencies, civilian, etc.

The following is list of details that will need to be resolved. It is not all-inclusive, but helps to give you an idea of the scope of recovery ops.

- **Recovery vessel port location.**
- **Probable sailing date.**
- **Berthing available for MAB, engineers, tech reps.**
- **Message release authority for MAB member.**
- **Alternate communications (E-mail, INMARSAT phone).**
- **Provision to store/evacuate remains, if recovered.**
- **Decontamination/wet storage for components with nonvolatile memory.**
- **Ship's crane capacity if handling intact, heavy asset.**
- **Drawings to show lifting points and equipment location.**
- **Offload location for recovered wreckage.**
- **Critical parts diagram or description; use nomenclature listed on the component's label.**

If there is an airfield nearby, divers will benefit from a brief familiarization with a static asset. Show them what parts of high interest look like, where they are located, hazards to avoid, etc.

If divers will use asset-peculiar parts (lift fittings or straps) and tools (specialty fasteners, torque busters), make them available in time to hold school on their installation and use.

If the asset has fragmented, a diver will see many loose "black boxes." A rudder actuator may look like a gear actuator. A TACAN box may not be marked "TACAN", it might be labeled "ABC-1234." Be prepared to add color, dimension or other descriptors to help discriminate trash from treasure, plot the wreckage and fetch the prize you want.

Underwater camera equipment. Know where to get the equipment as well as the personnel who know how to operate (check with the divers). Having the ability to look at the underwater pictures during the evaluation dives may be essential to making decisions.

Remember, divers and commercial recovery personnel will need to know all the hazards on the asset or at the mishap site. Be prepared to give divers and any other personnel taking part in the recovery a brief on the asset and hazards (both site and airframe specific).

Have photos of all compressed gases and flammable materials on the asset, flares, float bottle, fire extinguisher, engine extinguishers, and/or blow down bottle. The Salvage Plan should contain this information.

The MAB ashore or its representative afloat will be asked again and again how much of the asset is needed for the analysis. Until there has been a significant development, the answer is the same as originally requested and approved: all of it. In most cases, the reason for undertaking recovery is the need for as much wreckage (evidence) as can be found **BUT** be reasonable, you don't need every single piece; you are looking for what caused this event and what will prevent future mishaps. Don't waste time on "nice to have" or other components you know you don't need.

If investigators already have clues as to possible mishap causal factors, this will allow for a recovery focused on select components (an engine, a transmission, a fire location). When this is possible, the MAB should build a prioritized list of items it wants and another list of items it considers of little use for analysis. This is high-stakes poker. If hypothesis A does not pan out, it may be hard to develop an alternate hypothesis with parts on the ocean floor.

Return engagements are rare. Therefore, be wary of yielding the wreckage opportunity; prioritize what you need. In general, only collect, only interview, and only document what is needed. This applies to wreckage photos, videos, and statements. You don't need the tail section if you know fuel wasn't flowing.

Section

7

COORDINATING WITH OTHER INVESTIGATIONS

(Major Incident Investigation, FAA/NTSB)

The MAB President coordinates with the MII President regarding the initial view of the mishap site and provides factual information to the MII as soon as possible.

- **DO NOT** release MAB analysis, findings, causes, recommendations or witness statements.

- **DO NOT** release videotapes of simulated, computer-generated animation or re-enacted portions of the mishap flight if they involve analysis or deliberations.

- **DO NOT** release the Medical Member's analyses.

- Whenever an MII investigation is convened, provide all non-privileged evidence to the MII. Evidence transfer should be in writing. The MII board will be responsible for final disposition of all material released to them, unless other arrangements are required.

- The MAB President shall provide factual (non-privileged) information to the MII as it becomes available, but not to the detriment of the safety analysis. This information includes logs, directives, non-staged photographs, and pre-mishap medical records. Also provide recordings/transcripts of air-to-air, air-to-ground, ground-to-air voice transmissions, as well as cockpit/console/bridge voice recorder (CVR) and flight data recorder (FDR) tapes from the time of the mishap.

- Tapes of aircrew conversations are not protected by the military safety privilege, but under USCG policy and the Privacy Act, they are not released to the public because they are private in nature. Full transcripts are releasable, but shall not contain Personally Identifiable Information (PII). Coordinate this process with CG-113. . Only those individuals with a need to know will be allowed to hear the actual CVR recording.

NOTE: IAW the Privacy Act, all USCG analyses/investigations are bound to protect privacy information. If the CVR tapes will be transcribed, limit the transcript to portions relevant to the mishap sequence. Deletions should be indicated. Videotapes of simulated, computer-generated animation or re-enacted portions of a mishap flight are always privileged if they were made with the involvement of MAB members or personnel with knowledge of privileged mishap information. Do not release to the MII. An animation, simulation, or reenactment, with crew voices, not otherwise privileged, speculation or pre-decisional, can be provided to the MII or other USCG investigation. For fatal mishaps, under USCG policy, audio recordings of the mishap crew are not releasable outside the USCG due to the privacy interests of the surviving family members. Provide original films and videotapes depicting the actual mishap sequence to the MII. This includes videotape recordings of the heads-up display (HUD). For non-official videotapes or films made by individuals, make copies for both the MII and the MAB and return tapes to original owners.

It will be necessary to communicate with those in charge of the other boards to arrange their access to evidence and factual information. An OIX message with information about sharing non-privileged information with other boards should be released, working in collaboration with CG-113.

CG-113 will notify the appropriate USCG offices, programs and other agencies to ensure proper action is taken. The President is the focal point for communication concerning the board's progress and the only conduit for external release of information, unless he approves otherwise.

Try hard to route calls and inquiries to CG-113, use them as a clearinghouse. We try to protect the MAB and unit---let us. Usually if you tell callers to contact CG-113, they go away. Those with a true NEED to know will know and use proper protocol. It is usually those without a need to know who come directly to you. Do

not worry about offending them. Our goal is to protect the MAB from outsiders and outside pressure.

Not every inquiry merits an immediate or personal reply. It is sufficient to inform CG-113 of your progress and needs for assistance. Everyone else can read the mishap message.

SHARING MISHAP INFORMATION WITH OTHER INVESTIGATIONS

The safety analysis has priority and shall initially control access to the scene, witnesses and evidence per COMDTINST M5100.47 (series). All other investigations are done independently and apart from the safety analysis. Despite this separation, the safety analysis shall provide factual information to the other investigations as soon as possible.

Other investigations will be given access to factual information and documents not derived from privileged safety information or witness interviews.

Factual information includes all non-privileged materials; logs, directives, un-staged photographs; recordings of air-to-air, air-to-ground and ground-to-air voice transmissions at the time of the mishap; flight data recordings; and all pre-mishap medical records.

NOTE: Where possible, other boards should provide the MAB with a list of documents needed. Do not release analysis, findings, recommendations, comments or references to witness statements or other materials prepared by or for the MAB.

Ensure you document materials and information given to the other investigations. CG-113 should be consulted prior to any release and the Coast Guard Legal Advisor who assists MABs will review the material prior to the release to ensure no privileged info is provided to any non-MAB entity.

NOTE: Witnesses shall not be interviewed by other boards or receive CISM until released by the MAB.

NOTE: In those cases where a mishap member requests or needs CISM, help should not be withheld. An attempt should be made to have the individual write a statement first to use as personal notes to reference in subsequent interviews.

Provide original films and videotapes depicting the actual mishap sequence to the MII. This includes videotape recordings (VTR) of the heads-up display (HUD).

Do not sanitize or otherwise edit copies of film and videotape depicting the mishap sequence. Provide "as is." Include written instructions on disposition of film or videotape when the analysis is complete.

Tape or video of simulated, computer-generated, or reenactments made by or for the MAB are privileged and cannot be shared.

NOTE: CG-113 handles all FOIA requests for the MAR or material associated with the safety analysis.

PAO Support---Provide PAO with a "small bag" of non-privileged, unvarnished facts: Who (unit, **NOT** individuals), What, Where, When. When possible, a simple photograph or two of the mishap site can be used to "de-fuse" the media frenzy for pictures.

CVR tapes and transcripts are not privileged. The actual tapes are protected by the Privacy Act. Videotapes of simulated, computer-generated, animated or re-enacted portions of a mishap flight are always privileged if they were made with the involvement of the MAB or personnel with knowledge of privileged mishap information. Do not release or share.

If the recorded voices of the mishap crew are incorporated into an otherwise non-privileged animation, simulation, or reenactment video, the video can be provided to the MII.

NOTE: Cockpit voice recordings of mishap aircrew conversations are not protected by the military safety privilege, but under USCG policy, they are not released to the public.

For fatal mishaps, under USCG policy, a video with recorded voices of the mishap crew is not releasable outside the USCG due to the privacy interests of the crewmembers and the surviving family members.

NOTE: In all cases, **ONLY** those with a need to know will be allowed to hear the actual voice recording of the CVR. Transcripts, however, are releasable – consult with CG-113 prior to release.

FACTUAL, NON-PRIVILEGED, MEDICAL INFORMATION

Medical information is treated the same as any other information. It can be shared with other USCG investigations unless it is privileged. Medical information is protected from release outside the USCG, Health Insurance Portability and Accountability Act, and Privacy Act restrictions.

Information is not privileged merely because it is medical information. Non-privileged examples include:

- Toxicological reports.
- Coroner's reports.
- Autopsy protocols (but not photographs).
- X-Rays.
- Laboratory reports.
- Death certificates.
- Photographs not sensitive in nature and not revealing the deliberative process.
- Opinions and conclusions of the cause of death by persons outside the MAB (coroner, hospital, doctor, etc.).
- Descriptions of injuries.
- Physical exams including those conducted before and after the mishap.

NOTE: The FS/MO controls all copies of prints and negatives of human remains. The MAB President should be aware the Medical Member might have reporting requirements beyond those imposed by the safety analysis. Such reports are not privileged but carry with them their own handling caveats. The Medical Member shall personally provide copies of post-mortem photographs to the MII.

NOTE: Statements made to a MAB during the physical exam pursuant to a promise of confidentiality are privileged.

THE NATIONAL TRANSPORTATION SAFETY BOARD (NTSB) AND FEDERAL AVIATION ADMINISTRATION (FAA)

The NTSB

The NTSB is an independent agency with statutory authority to investigate air, rail, highway, pipeline and maritime mishaps. The NTSB's charter in aviation applies to any asset mishap (major damage or severe injury) in U.S. jurisdiction, but in practice is reserved for civil registry asset operating under the Federal Aviation Regulations (FAR). Accidents involving only military asset (operated by the federal government) are investigated by the respective service.

The FAA

The FAA, under the Department of Transportation, controls the national airspace system and certificates assets. The FAA has no investigative authority in its own right, but is likely to be involved in military mishaps because it provided services or had radar coverage of the mishap locale. An agreement between NTSB and FAA permits NTSB to delegate certain mishaps to the FAA for analysis. NTSB does so where there is possible risk to flyers and passengers in commercial and general aviation.

CIVIL AND MILITARY AVIATION MISHAP

For a mishap involving civil and military asset, it is conceivable there could be three concurrent government analyses: NTSB, Commandant's MAB and MII Manual. The NTSB analysis would have precedence over the military safety analysis for access to evidence. CG-113 will coordinate the safety analysis efforts in accordance with USCG, NTSB and FAA regulations governing mishap analyses.

NTSB/FAA INVOLVEMENT IN A MISHAP

By law, military authorities must provide for participation by the Secretary of Transportation and NTSB in a military mishap analysis that may involve a duty of the Secretary. In practice this can mean FAA attendance in a mishap analysis involving any FAA service or function. The NTSB will have an interest if the circumstances can apply to civil aviation and professional or recreational mariners.

Participation may be extended to the NTSB whenever military authority considers it could contribute to aviation safety. See joint instruction Participation in a Military or Civil Aircraft Accident Safety Investigation. (COMDTINST 5100.28A, AFI 91-206I, OPNAVINST 3750.16C and AR 95-30).

- Coast Guard retains jurisdiction in USCG mishaps with FAA/NTSB involvement.
- Circumstances where the NTSB or the FAA participation may be appropriate include:
    1. Mishap involving a military asset, component or equipment with civilian equivalent, or an operation applicable in civil aviation.
    2. An FAA function is involved. Consider the FAA involved if any of the following apply:
        - Performance of an FAA employee or designee.
        - FAA certification of a civilian crewmember.
        - FAA design or airworthiness certification.
        - Navigation or airport facility established, operated or maintained by FAA or another agency for FAA.
        - FAA rule, regulation or order applicable to airspace use.
        - FAA air traffic service (clearance, instruction, advisory); air-ground or point-to-point message transmission; weather observations and reports.
        - Notices to Airmen; airport advisory and flight service.
        - FAA approach control function delegated to a military facility.
        - Operation under an FAA waiver or exemption.
        - FAA regulation and non-military publications.
        - FAA standards for obstruction clearance, flight inspection, lighting or markings at airports and along airways.

FAA ASSISTANCE

In most mishaps, the FAA is simply a resource for information. If the aircraft was or could have been visible on radar, the FAA is a potential source of information regardless of filing, flight rules or squawk. If the crew attempted contact or was handled by the FAA, additional information is possible: taped radio/telephone communication, pilot reports, and more.

Navigation Aid (NAVAID) status and area weather are also available.

The involved Air Traffic Control (ATC) facility can provide radar and audio/voice recordings/tapes, their own set of standard operating procedures, etc. This material may all be useful to your analysis, but the logistics of obtaining it can be cumbersome. Assistance in obtaining such evidence can be provided by CG-113. But **YOU** must get the ball rolling. Request tapes immediately; recording media are recycled after 15 days and temporary notes (asset routing slips, PIREPs) are discarded.

FAA personnel may provide statements and interviews; follow protocol for such requests. The following is a list of items obtainable from FAA:

- Taped communications of:

  1. Airman-to-Flight Serve Station telephone weather brief and filing via radio.

  2. Airport Automatic Terminal Information Service (ATIS), clearance, ground, tower, approach, departure, en route.

  3. Internal/external communications of controllers/supervisors.

- Facility status (runways, taxiways, NAVAIDS).
- Notices to Airmen (NOTAMs)..
- Statements by controllers/supervisors on duty during mishap.
- Weather observations (hourly/special).

- Replay radar tape (visual).
- Tabulation of radar file (on paper) for analysis/simulation.
- Depiction of control sector (airspace) boundaries/altitudes.

A request for the above information does not require FAA participation. However, if the MAB is thinking an FAA service or function may be a possible cause, the MAB President should make appropriate notifications to initiate FAA participation.

The concept of privileged safety information is not practiced in NTSB analyses or in FAA proceedings. However, when personnel of these agencies are admitted to a military safety analysis, they and their agencies are bound to observe and comply with the confidentiality of information obtained under promise of non-disclosure. In practice, NTSB/FAA participation differs little from the use of engineers, technicians or manufacturers' representatives. Personnel other than those appointed to the MAB are not included in witness interviews, deliberations on privileged info, or creation of the MAR.

INTERAGENCY MISHAP INVESTIGATION

See joint instruction Participation in a Military or Civil Asset Accident Investigation (COMDTINST 5100.28A, AFI 91-206I, OPNAVINST 3750.16C and AR 95-30).

CG-113 will provide the NTSB and the FAA opportunity to participate according to each agency's involvement or interest. The agencies will indicate their intentions (decline or participate) and, if appropriate, identify personnel assigned to the analysis.

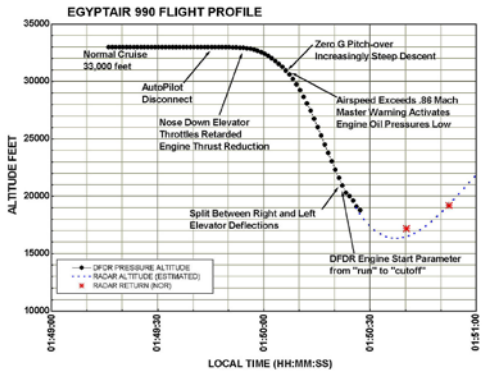
In a mishap involving classified matters, USCG authorities must identify access levels so NTSB and FAA headquarters can assign personnel with appropriate clearance. Official notification from the NTSB and the FAA of agency personnel clearances and presentation of agency credentials will constitute evidence of clearance.

Messages from the MAB President during an interagency mishap investigation should include the NTSB and FAA Headquarters as INFO addresses.

The MAB President will supervise and direct NTSB or FAA participants and their activities during the course of the analysis. NTSB and FAA representatives may be expected to support the MAB with access to agency personnel for interviews, information, and records.

As soon as the MAB determines there may have been an FAA function involved in the mishap, the MAB President should notify CG-113. The Safety Division will consult with the NTSB and FAA to determine whether they may have interest in the analysis.

NTSB and FAA representatives may be expected to pass to their agencies information applying to civil aviation. An FAA participant in a military safety analysis may not take part in an FAA enforcement action in connection with the mishap. This does not preclude the agency from taking action on violations of FAR. Other agency personnel would be appointed to conduct such actions.



Privileged documents (witness statements, MAB analysis, deliberations, conclusions or recommendations) may not be provided to NTSB or FAA participants. Copies of non-privileged documents used by the MAB may be provided to NTSB and FAA participants as the MAB President sees fit.

NTSB or FAA personnel who assist a MAB are not entitled to a copy of the MAR, nor should the MAB include their agencies as addressees. Only CG-113 can authorize release of a MAR or portions of the MAR.

If during an analysis, the MAB identifies a hazard requiring immediate action on the part of civil aviation, the MAB President shall contact CG-113 immediately for proper handling and coordination with NTSB/FAA.

A conclusion in a MAR attributing cause to another agency or recommendation of corrective action by another agency may be released externally only by CG-113.

TECHNICAL ASSISTANCE

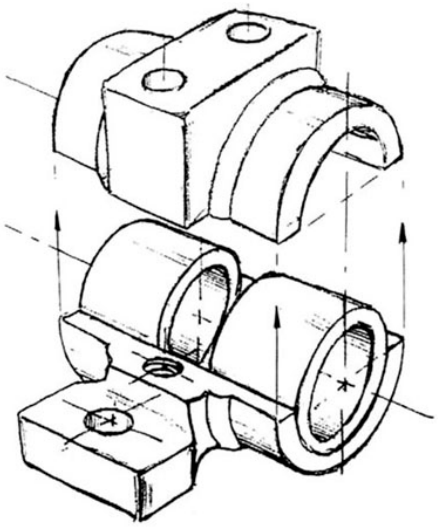
Section 8

MAB members are well trained in their respective fields; the typical MAB is capable of successfully investigating the majority of the asset mishaps with only a small amount of technical and engineering assistance.

Assistance is available from other military services, agencies and organizations on an as need/as available basis. Requests should be made through CG-113.

WHAT TECHNICAL ASSISTANCE IS

Modern assets are extraordinarily complex systems. In the past, a course in crash dynamics, structures and failure mode analysis was enough to analyze wreckage and failed components without further assistance. Today, time-tested "tin-kicking" skills are still essential to the analysis, but frequently expert help is also required.



Circumstances surrounding a mishap may require the services of professionals or specialists to interpret damaged instruments or fire patterns, evaluate egress and life support equipment, assess breakage patterns in composite materials, and so forth.

Technical expertise can be provided in virtually any technical discipline imaginable. This expertise may reside within the USCG, within DOD, another government agency (e.g., NTSB), or a contractor.

Prime contractors and subcontractors who supply asset and specialized components to the USCG are often well equipped to analyze the failure of their equipment. It is often in the USCG's interest to solicit this type of assistance during an analysis.

Consider asking for help when:

- Technical expertise or teardown facilities are not available within the USCG.
- Teardown or analysis will require the use of trade secrets or proprietary information.
- Contractor participation will ensure prompt correction of deficiencies or materiel defects (e.g., through promulgation of an immediate change document or other process that has mishap prevention or operational enhancement value).

WHEN TO ASK FOR IT

The key is knowing when you have reached the limits of your expertise and when to ask for help. Get the support you need/want. If you decide you need assistance, ask for it pronto. A telephone call is usually sufficient to bring subject matter experts to your location. Requests for equipment, materials or personnel should be conveyed in a supplemental mishap message.

What is needed will depend on circumstances of the mishap. Most mishaps require people at the mishap site to assist the MAB with reading the wreckage and to accomplish the recovery.

Don't waste your time trying to determine whom to call—this is a job for CG-113.

Use as much generic help as you can from the mishap or host unit, when practical, and then determine what specialized knowledge you're likely to need and go ask for it. Virtually all major mishaps need some sort of technical assistance so requests are expected.

However, moderate your desire to bring in hordes of "hired guns." Calls for assistance should be just that--a request for technical specialists to *assist* the MAB with the analysis of a mishap, not conduct it.

MAB members who have received formal safety training have all of the basic tools needed to successfully carry out much of the analysis.

As a general rule, identify problem areas and request assistance in these areas.

Do not immediately request assistance for areas having a low probability of being factors. For these areas, allow things to settle down and see if they still appear to be areas needing analysis or if they can be ruled out.

It is not necessary to bring an engine specialist to the scene if it is obvious the asset crashed because of an unrelated system. Similarly, detailed examination of wreckage and collision-damaged components may be completely unnecessary if it can reasonably be concluded crew performance caused the mishap and their performance was not degraded by malfunctions or defective equipment.

However, be aware that systems may have to be analyzed to prove they were in fact functioning properly.

The bottom line -- use good judgment in asking for help, but don't hesitate to do so if you're faced with conditions or circumstances exceeding the MAB's corporate expertise.

Generally, it's appropriate to bring in technical assistance at any point in an analysis, but considering the reasons stated prior, the sooner the better. Contractors, particularly those in the military sales business, are usually more than eager to participate the moment they're asked. Make sure they will represent the best possible solution to your investigative challenges before requesting their assistance.

HOW TO GET IT

Get the support you want. If a task requires professional or specialty equipment, do not make do with amateurs and inadequate tools. Assess the risk of injury to personnel or damage to evidence before settling for less.

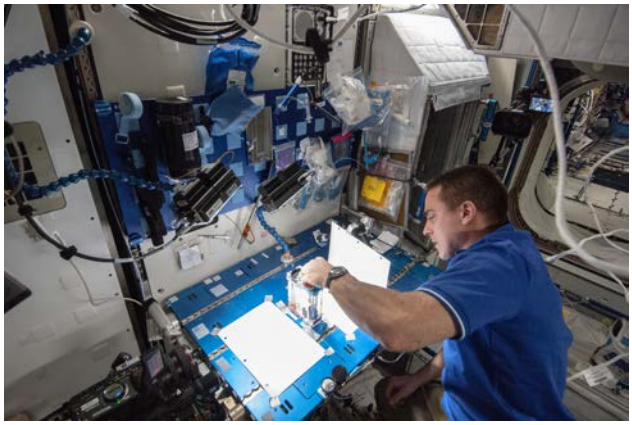
Make the system work for you. The Commandant has appointed you to find the cause(s) and is willing to help. Also, the chain of command and operational community want you to find the causes and are willing to help. They cannot, however, read your mind. Make your needs known to the people who can deliver assistance.

CG-113 has probably encountered a similar problem and has sources for solutions.

Ask early before evidence is disturbed. It may take time to muster travelers to the site. Technical consultants may want or need to see evidence as found, if possible.

Requests for technical assistance should be made to CG-113 and CG-41. The CG-113 Advisor is the MAB liaison to request technical assistance.

The quality of help obtained varies directly with the amount of information relayed. Be as specific and informative as possible when making a request for technical assistance.



MAB Presidents and members must refrain from unilaterally involving experts or others they might be familiar with regardless of the source (DOD, FAA, NTSB, other government, etc.).

Check with CG-113 before involving **ANY** outside help. It is never good idea to try this on your own; HQ is there for support. This will avoid duplicate efforts and make sure proper protocol, contracting procedures and channels are used. Serious legal problems and financial claims can result due to possible infringement on existing USCG contractual obligations.

Technical assistance may be on the way whether you asked for it or not. ALC, SFLC, and HQ work closely with major contractors/manufacturers. It is likely the manufacturer(s) found out about a mishap and assembled an appropriate response team before most of the MAB were even notified a mishap had taken place.

Remember: The MAB is in **NO WAY** obliged to grant contractors (or other uninvited "visitors") access to the mishap site or wreckage/components.

Normally, contractor representatives will not respond to a mishap unless their participation has been requested through USCG HQ and HQ will notify the MAB President of anyone they have sent to the site.

HOW TO USE IT

The MAB President sets the basic guidelines for the outside expert's participation in the mishap.

▪ **They are expected to share all information developed.**
▪ **The SO is in complete charge of the mishap site.**
▪ **Only that portion of privileged information necessary for them to assist will be divulged.**
▪ **The MAB President is in control of the analysis and can send anyone home who is not playing by the rules.**
▪ **The MAB, and only the MAB, is responsible for determining the causes of the mishap and for making recommendations.**
▪ **Technical experts may be knowledgeable in their field, but they may not have mishap analysis experience nor will they have a complete picture of the mishap.**

All you normally want from these experts is a factual listing of their findings, nothing more. Remember, this will be considered non-privileged information (no conclusions, opinions, etc.), as long as the MAB did not ask for specific questions to be answered.

The MAB analyzes the facts and make conclusions. The MAB may discount the experts' findings/reports if not supported by other information.

Immediately upon arrival, technical experts must be briefed on how their contribution to the analysis will be used. Non-disclosure Agreements" shall be signed by all advisees.

Regardless of whether or not the experts are government (military or civilian) or non-government employees participating under technical engineering contracts, their *releasable* reports must be limited to observations and determinations based upon those observations and other generally accepted engineering data/analyses.

For ***non-releasable*** reports, additional information such as proprietary data and opinion may be included as well. Regardless of the type of report

written, technical experts should interact with MAB members because their information is ultimately integrated into the overall report.

Technical experts have a pronounced "halo effect." Most have participated in more analyses than the average MAB member. The MAB President needs to stay in control and be aware of the tendency to defer to technical experts, particularly when they stray away from their area of expertise (e.g., an expert in intra-cockpit/console/bridge communications suddenly begins to offer up theories on spatial disorientation or operational procedures).

Technical experts can offer insight into the specifics of material or human behavior, but it's up to the MAB to take the information and apply it to the mishap.

Use technical assistants appropriately, but respect the limits of their expertise or qualifications. Avoid the appearance of impropriety in evidence access, handling or custody. No contractor or corporate representative should have unescorted access to the mishap site or wreckage. Always have an escort for technical experts/manufacturer representatives admitted to the mishap site or wreckage layout. This can be a MAB member or unit member.

Do not leave technical experts or anyone not assigned to the MAB or recover/salvage team to putter among wreckage or evidence while the MAB is elsewhere.

Technical assistants are not permitted access to privileged information. This does not mean you must stay in a separate hotel, travel separately or sit apart at dinner. It simply means: Be discrete! The content of the MAB's privileged interviews or discussions may not be shared in wholesale or piecemeal; the MAB's speculations on causes should not be shared beyond what is needed to explain to the technical rep what is wanted of his or her expertise.

TO WRAP UP

CG-41, CG-45, CG-711, CG-731, CG-751, or support is available for coordinating assistance from other services or agencies, technical assistance, laboratory analysis, exceptional funding requirements, etc.

Technical Experts and others assisting the MAB are not members of the MAB and not a part of the deliberations. They work for the MAB President, not their parent organization. This applies to USCG/DOD military and civilians, as well as, contractor and manufacturer representatives.

The MAB President will decide if a technical expert should be included in deliberations. It may be necessary in order to formulate findings and viable recommendations.

The MAB President must ensure a "Non-Disclosure Agreement" for protection of privileged data is prepared and signed by all non-Coast Guard help and technical assistance personnel that were provided access to privileged information. This is not required of USCG civilian employees since they are already covered by USCG privilege.

Remember, the assistance provided may only be as good as the guidance provided; there is still a requirement to have MAB participation.

The MAB President sets the pace and tone of the analysis, but not how the experts do their jobs; however, they can keep the experts on schedule and require regular updates.

If the MAB President is not satisfied with an expert's report, return it. Do not release experts until all MAB members have reviewed the report and all questions have been satisfactorily addressed.

Once the expert's report is accepted by the MAB and signed by the author, no part of an expert's report can be changed. It is up to the MAB to make the contents and findings a coherent part of the MAR.

The MAB may reject an expert's conclusions if they can defend doing so; however, a rejected report should still be included in the appropriate section of the MAR with a detailed explanation as to why the report or conclusions were dismissed.

Technical reports can be written for any part of the MAR. Technical experts must provide a written report (signed paper copy and electronic copy) detailing the results of their work. They should summarize their observations,

analysis and calculations based solely on physical evidence and other factual information. No specific report format is required.

The MAB President will thoroughly review all technical reports to ensure they do not contain privileged information.

Technical experts can be asked to provide analyses and conclusions regarding privileged information; however, this specific portion of their report would become privileged. Conclusions may address causes of observed or documented conditions, but will **NOT** address the mishap causes. This does not preclude stating opinions based on observations.

Recommendations relating to preventing the observed conditions may be included, but they will **NOT** address preventing the mishap.

If technical experts or laboratories provide conflicting reports, both must be included in the MAR. The MAB must provide rational explanations as to why one report was determined to be applicable while the opposing views were discounted.

Contractors, contractor representatives and other technical assistants may not retain copies of any privileged reports they prepare for inclusion in the MAR. Any report they may be required to prepare for their employers regarding the mishap analysis must be produced as a totally separate and different entity. Such reports shall use only factual information gathered during examination of physical evidence. These company reports must not contain any privileged information or conclusions derived from MAB discussions or analysis.

NOTE: Government or military personnel from the USCG, other services, agencies or foreign military may request or be requested to observe the analysis as non-MAB members (they are not a part of the deliberations nor a part of drafting the MAR).

An observer or technical representative is not a member of the MAB. The MAB President controls the extent of an observer's access to an analysis; they are seldom included in interviews or deliberations.

Contact CG-113 for guidance on using or obtaining observers.

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MAB ADJOURNMENT

Section 9

DISPOSITION OF MAB DELIBERATIVE DOCUMENTATION

Carefully control privileged documents and evidence once the MAR is finished and the MAB has adjourned, this generally means destroy or dispose. Overall, if it isn't going into the MAR, get rid of it. This includes:

- Witness statements and interviews (written or recorded).
- Diagrams and other exhibits developed for or by the MAB.
- Anything acquired from contractor representatives under a promise of confidentiality.
- Drafts of the report or papers indicating MAB analysis, deliberations, or conclusions. These are MAB working documents and should be disposed or destroyed and not retained.
- Shred all notes, working copies, drafts, audio and video tapes, unused photographs, etc. **DO NOT** leave left over/unused documents, tapes, photographs or other materials with the mishap unit or send to CG-113, unless requested.
- Privileged photographs, films, and videotapes (including annotated, staged, reconstructed, or simulated reenactments of possible or probable scenarios developed by or for the MAB).

COMPUTERS, LAPTOPS AND ELECTRONIC STORAGE DEVICES

Remove all files and analysis information/data stored on computers, laptops and hard drives. Consider reformatting "loaner" computers and laptops used by the MAB to prevent the inadvertent compromise of privileged safety information residing on the hard drives. Consider destroying portable electronic storage device and consider destroying CDs and DVDs.

Delete all emails.

NOTE: Captions and markings that are speculative or indicative of the deliberative process are privileged but not the photograph. Photographs annotated with arrows, circles, rulers or other markings may or may not be considered privileged.

NOTE: Audio and video recording of witness interviews are considered MAB working documents and should be disposed or destroyed when the MAR is finished and the MAB adjourns. DO NOT ship to HQ or leave with mishap unit.

DISPOSITION OF OTHER EVIDENCE

Disposition of autopsy reports/photographs and toxicology results shall be handled IAW the Medical Manual COMDTINST M6000.1 (series) or other governing document. Contact CG-1121.

Other MAB members, mishap crewmembers or unit personnel shall not retain any material.

Asset logs and records should be passed with custody of the wreckage.

Service, health and training records and logbooks for missing or deceased personnel should be returned to the record holder for proper disposition and handling.

Return all original documents and records to their proper custodian for proper disposition.

NOTE: If there is a need to retain any document for briefing purposes, place such documents in a folder marked *"MAB analysis materials"*. The MAB President shall retain and safeguard the material until the Final Safety Message is released and then it shall all be destroyed.

DISPOSITION OF WRECKAGE AND EQUIPMENT

Turn wreckage and other (factual) evidence over to CG-113 when no longer needed.

Ensure that the legal investigation or other boards know the wreckage is available and acknowledges custodial responsibility. Notify CG-113 and the mishap CO of the transfer.

Keep USCG equipment damaged beyond repair until all investigations indicate it is no longer needed. Contact CG-113 for disposition.

Return usable personal equipment or protective gear from the mishap crew to the issuing authority as soon as possible after all investigations have completed their examinations. Clearly mark the item to indicate involvement in a mishap to ensure necessary inspections are accomplished prior to reissue. Government issued clothing and flight equipment worn by deceased crewmen is not to be stored with wreckage nor released as personal effects and shall be destroyed after all investigators have completed their examination.

SITE RELEASE

When the MAB is finished with the wreckage at the mishap site, the site will normally be released to the MII President or other board. If the MII has no need to view the mishap site, the site may be released to the mishap unit or other authority for cleanup, restoration, and recovery. Contact CG-113 prior to releasing the site.

A FEW LAST WORDS

Immediately notify CG-113 if any MAB members receive a subpoena or request to produce any information, documents, or witness information regarding the MAB or mishap for any purpose.

Don't rush to get home. Once the analysis is complete and the MAR is signed, don't travel tired. Stay an extra night and get some rest!

Ensure that all MAB members understand they shall not discuss the results of the mishap analysis outside the MAB proceedings without authorization by CG-113. Remember, privileged safety information can be used only for mishap prevention purposes.

FEEDBACK AND QUESTIONS

Please let us know if you find any deficiencies in the MAB Handbook or associated documents. To improve the product, we need your feedback. Please email your comments or suggestions to CG-113.

APPENDICES

MAB Membership Description of Duties

MAB President

Info for MAB President

▪ **Commanding Officer of MAB.**
▪ **Organize first day meeting.**
▪ **Introductions and background.**
▪ **Review MAB member's abilities and strengths.**
▪ **Organize and oversee MAB tasking.**
▪ **Overall supervision of the analysis.**
▪ **The SO and the MAB President must blend the separate perspectives of the MAB members into a unified, complete portrayal of the mishap.**
▪ **The MAB President will establish that all initial interviews with USCG personnel and witnesses are under the MAB's domain. The President will release personnel to talk to other investigators (i.e., MII) when no longer needed.**
▪ **Divide and assign tasks quickly to get maximum coverage early in the MAB process. The SO member may be the only trained interviewer.**
▪ **Log the hours the MAB works daily.**
▪ **Become the main MAB interface with mishap unit and CG-113.**
▪ **It will be a long, intensive work effort. Don't feel pressured to "solve" the mishap quickly. It is not unusual to be on scene for two weeks or longer.**
▪ **Arrange off-unit storage and protection of wreckage. The unit and possibly CG-41 / CG-45 will help with funding for recovery and security. This may already be in progress as a normal result**

of the unit's Salvage Plan or Mishap Response Plan.
▪ **Ensure command understands the Critical Incident Stress Management (CISM) assistance options. The mishap unit CO is normally the one to request this assistance. CISM assistance is available through the mishap unit's District Work-Life staff in accordance with COMDTINST 1754.3.**
▪ **Witness interviewing takes priority over CISM/CISD (Critical Incident Stress Debriefing) counseling procedures, whenever possible.**
▪ **Following the initial collection of data and while waiting for lab reports, tear down analysis, etc., DO NOT wait around the mishap unit for information to arrive. There is little that can be accomplished. Consider recessing and reconvening when appropriate.**
▪ **Ensure witnesses are informed and understand the "Witness Statement Promise of Confidentiality Advisory Form". See COMDTINST M5100.47 (series).**

Maintain tight control of MAR and associated documents. MAB members, with the exception of the MAB President, are not authorized copies of the MAR.

NOTE: All messages sent via Admin OIX will need to be reviewed by CG-113 before release.

Safety of operations information should be released ASAP. Confer with CG-711/731/751/41/45/113, as appropriate.

A mishap can have a disruptive effect on everyone, regardless of experience, but can greatly affect those who have never been exposed to the confusion and emotions of a major mishap.

MAB members may not realize how physically, mentally, and emotionally draining an analysis can be. Some may have problems coping. Be alert for warning signs such as alcohol or smoking in excess, lack of sleep, loss of appetite, and absences for long periods of time for no apparent reason, obsessive behavior, forgetfulness and other signs of sensory overload.

You may need to remove a person from the analysis. Make it clear there is no stigma associated with removal, but is in the best interests of the individual and the analysis.

MAB members should also be honest with themselves when evaluating how they might have been affected by a mishap.

Consider whole days off after several long stressful days.

The mishap unit is responsible for the legal analysis and recovery message. If purchases or expenses are incurred that cannot be handled by the mishap unit's supply and procurement, contact CG-113. Expenses not previously approved in travel orders cannot be charged to individual travel cards or claimed on MAB member's travel claims.

Work with the legal or fact-finding analysis to share access to non-privileged material. Share what you are doing to collect evidence for analysis, and how each body might be duplicating efforts.

Encourage MAB members to take part in the memorial service; avoid giving the perception of an "us against them" mentality.

Use of Employee Assistance Program (EAP) for mishap analysis: CG-111 (Office of Work-Life) manages EAP for the Coast Guard, including the recordkeeping process, which is private from the Command and part of the HIPAA. Should a MAB have a question regarding medical treatment, the flight surgeon or other representative may NOT reach out directly to the EAP provider. Instead, the MAB shall provide specific questions to CG-111, who MAY engage with an EAP provider. The provider and CG-111 would balance the request and MAY provide specific information to the MAB for the intended purpose of safety prevention only, not blame or administrative action. Records themselves shall remain protected for only CG-111 and EAP use, and shall NOT be given to a MAB for analysis. **Bottom line: CG-111 is arbiter to balance privacy and safety learning. The MAB can't go direct to EAP for information.**

NOTE: Salvage is not the MAB's responsibility, but ensure photographic/ video documentation takes place.

Safety Officer (SO)

The MAB SO or the PMB/Unit SO (until the MAB SO arrives) will work with other members to:

▪ **Ensure site security is being maintained.**
▪ **Ensure proper care of survivors and/or remains.**
▪ **Ensure wreckage is not moved, until authorized by the MAB President.**
▪ **Perform initial walk through. Make rough sketch or wreckage diagram.**
▪ **Identify hazards - mark them or make them safe.**
▪ **As time permits, begin second phase of walk through taking notes.**
▪ **Assist in identifying, locating witnesses and taking statements.**
▪ **Get weather observation from nearest weather facility.**
▪ **Provide MAB training as needed. CG-113 Advisor can assist.**
▪ **Assess mishap site security/logistic needs. Coordinate with appropriate local personnel.**

As the mishap analysis proceeds, the SO will:

▪ **Coordinate the analysis at the mishap site.**
▪ **Assist Engineering Member, as needed.**
▪ **Supervise photography, may assist or actually do the photographing.**
▪ **Coordinate collection and compiling evidence and**

testing of theories.
▪ **Prepare messages for President to release.**
▪ **Coordinate/oversee preparation of the mishap analysis report.**

Advise MAB President on privileged nature of mishap data, statements, evidence, etc. SO will assist with collection or determination of the following information:

▪ **Weather.**
▪ **Impact point.**
▪ **Explosive and fire patterns.**
▪ **Design deficiencies.**
▪ **Violations.**
▪ **Facilities and lighting.**
▪ **Communications and navigational aids.**
▪ **Copies of Recorded Communications.**
▪ **Oversees the diagramming, photographing and documenting of the mishap site.**
▪ **The SO assists the President and coordinates the efforts of other MAB members, technical experts and support personnel within the scope and parameters set forth by the President.**
▪ **Works with the CG-113 Advisor to ensure proper investigative procedures are used, and the MAR is prepared in accordance with COMDTINST 5100.47.**

NOTE: To succeed at these diverse tasks, the SO must not devote too much attention to a single aspect of the investigation. Other members may be experts in their fields, but their expertise generally does not extend to the process of investigating.

Tips for the SO

The SO may be the only trained "investigator" on the MAB.

Assist the MAB President by suggesting courses of action, member responsibilities, and initial organizational efforts, if appropriate.

Ensure MAB members follow proper interviewing techniques. Let the witnesses talk; try to put them at ease. Do not "lead" the witnesses with one-sided questions.

DO NOT make verbatim transcripts of interviews, summary notes are sufficient in all but a very few cases. If you do record an interview, destroy the tapes once the MAR is signed by the MAB members.

When complete with the MAR, make two electronic word files and two PDF files of the MAR. One set to be forwarded to CG-113, via the CG-113 SharePoint site, and one kept as backup until CG-113 confirms receipt.

Act as the cheerleader and coach of MAB when necessary.

"Naval Flight Surgeon's Pocket Reference to Asset Investigation" is a useful reference.

The MAB SO is the go-to person. The CG-113 Advisor will be there to help, but the MAB President will rely on the MAB SO to make sure things get done, as well as to explain things like "privilege", the MAR format and "HFACS" to the rest of the MAB.

Use the first 15-30 min of each workday to outline desired group/individual objectives for the day. This can be before heading out for the day, since not everyone will be going to the same location each day, especially in the beginning.

Contact Info

During your first meeting, have members provide general and contact information [full name, home/unit mailing address, home organization, supervisor and phone numbers (local, cell, home and work, hotel room numbers, etc.)].

Post Members cell numbers near the phones in the MAB room. Print out a list of contact information for each MAB member to carry. As support and technical personnel join the team, add their contact info as well.

Miscellaneous

SO (MAB or unit) – be prepared to give a safety briefing to the recovery and salvage crews. Stay in contact with CG-113 to update them on the recovery process and other activities.

Take pictures to capture the evidence and tell a story. If using a non-MAB member, explain what is needed and what you are trying to accomplish with the photo.

The determination to return a pilot involved in a Class A mishap to the cockpit/console/bridge is not made by the MAB. The MAB makes no determinations regarding the fitness of participants to return to duties. The CO makes this determination, with medical consultation to ensure a member is fit for full duty.

MAB members should avoid contact with members involved in the mishap along with any family members except when conducting interviews and other analysis proceedings.

In some cases it is helpful for the MAB President to meet with the mishap crew and other unit members to explain how the analysis process works.

- Specific information regarding the analysis must not be presented during informational briefings to participants, colleagues, or others.

Designate one member to keep track of media coverage and periodically brief the MAB.

DO NOT TALK TO THE PRESS! Let PAO handle the media.

Unit SO/Admin Support

Many of these items should be completed by the Unit SO or other unit personnel. If admin support is assigned to the MAB they will perform these tasks. Otherwise, once the MAB has convened, these duties fall to the MAB SO. Delegate when you can.

• **Establish necessary contacts with unit personnel for support and assistance.**
• **Create a list of important POCs and other key telephone numbers.**
• **Ensure the availability of office supplies and other equipment.**
• **Identify local POCs for office equipment and supplies, communications and computer support, transportation, etc.**
• **Arrange for items such as foul weather clothing through the local supply department.**
• **Maintain a log of documents and evidence.**
• **Maintain a filing system to account for all evidence, statements and MAB proceedings (electronically and physically) to ensure security and prevent loss.**
• **Set up a system/method to log in and out all documents and evidence.**
• **Ensure administrative and logistical support is provided to the MAB.**
• **Act as control point for all incoming telephone calls and message traffic.**
• **Assist with the compilation, reproduction, assembly, and distribution of the formal report. Facilitate a smooth hand-off of factual material and evidence to the MII.**

If the mishap site's location is inaccessible, it may be necessary to arrange a regular or on-demand shuttle service. The CG-113 Advisor can help. Work with the MAB President to obtain release of all such "reserved" transportation assets at the earliest opportunity.

NOTE: Work with the unit supply department or CG-113 when acquiring or purchasing supplies and items to support the MAB. **DO NOT** charge expenses to a personal government travel card or travel orders. This is in violation of USCG regulations.

Engineering Member

Most of these tasks should already be accomplished by the PMB Engineer. MAB Engineering Member will relieve the PMB and continue the tasks. The SO can help.

▪ **Ensure wreckage is not moved.**
▪ **When the time comes, supervise wreckage recovery.**
▪ **Supervise wreckage recovery and shipment to the Aviation Logistics Center (ALC), Coast Guard Yard, repair facility, or laboratory, as directed.**
▪ **Supervise shipment of parts and components for teardown or analysis.**
▪ **Ensure constant chain of custody is maintained for all components shipped for analysis.**
▪ **Collect and impound all related maintenance records (paper and electronic).**
▪ **Supervise review of engineering records.**
▪ **Technical orders (status).**
▪ **Asset Engineering and Materiel Report.**
▪ **Product Quality Deficiency Reports.**
▪ **Technical and Engineering Evaluations of Materiel.**
▪ **Weight and Balance.**
▪ **Evaluate training, experience and supervision of unit maintenance personnel.**
▪ **Obtain samples (fuel, oil, hydraulic, oxygen) from mishap asset and ground servicing equipment. Label and mark (indelibly) samples with the source of the sample (Engine #2, Tail #XXX, etc.).**
▪ **Impound GSE, toolboxes and other maintenance equipment used on the mishap asset.**

▪ **Protect essential parts from the elements.**
▪ **Direct removal, re-assembly, teardown report, etc., of suspected components upon completion of photographic documentation.**
▪ **If required, request maintainers qualified on the mishap asset assist in locating/identifying asset parts.**
▪ **Document and gather evidence regarding flight controls, structures, power plants, fuel and oil systems, electrical, electronics, instruments, hydraulics, pneumatics, etc.**
▪ **Collect and review other appropriate publications and directives.**
▪ **Assist President and SO.**
▪ **Prepare engineering associated messages and reports.**

NOTE: The role of the Engineering Member in every mishap analysis cannot be overstated. You have the daunting task of completely recreating the mishap asset maintenance and servicing records and helping to inventory the wreckage itself.

The Engineering Member is normally a maintenance officer with experience in the mishap asset. Your chief function is to assemble as much information as possible regarding the history of the mishap asset, its most recent servicing, as well as, the qualifications of the individuals who most recently worked on it.

The Engineering Member evaluates the mechanical condition of the mishap asset. You may also be called on to comment on depot quality assurance, possible design deficiencies, depot management, as well as overhaul, acquisition, or modification philosophies. Further, you will work with the Medical Member to consider human performance / medical factors affecting maintenance personnel. You will be expected to objectively assess all factors, both human and mechanical that may have affected the mishap. Topics considered may include:

- Issues of training, perception, attention, perceived stress, fatigue, excessive heat or cold, possible drug use, and life styles.
- Issues like supervisory concerns, communication, peer influences, and various personal and community factors.
- Ergonomic concerns may be identified as possible factors in the mishap. Inadequate strength or inappropriate tool design to properly accomplish a task are examples.

In coordination with Stan Member and technical experts, record and take lots of photos of cockpit/console/bridge switch and circuit breaker positions and instrument indications. Ensure none were intentionally or inadvertently changed. Read through maintenance records; ask about the personality of the asset, any quirks, and nuances.

It is important not to get caught up in a complicated sequence of events or malfunctions that don't matter (does it matter if the brakes were working when the asset is upside down?) The MAB's tasking is to uncover all of the factors that contributed to this mishap in order to prevent similar mishaps. All ground support equipment, toolboxes and equipment used to service the mishap asset should be impounded as soon as possible. If mission requirements dictate their early return to operational status, the PMB Engineering Member is responsible for ensuring they are fully inspected and all discrepancies documented for the MAB.

GSE or other maintenance equipment found with significant deficiencies that would normally result in their removal from service will be physically impounded and not examined further until after the MAB arrives.

Tips for the Engineering Member

Assume a mechanical failure caused the mishap. Eliminate all mechanical causes by inspection and/or analysis of appropriate parts.

To the extent possible, prove each system was operational at the time of impact.

Ensure fuel, oil, and hydraulic samples are examined.

Discuss with MAB President the need for additional CWO/CPO maintenance expertise.

Coordinate parts analyses through CG-41/45 using existing contracts to the greatest extent possible.

Critical parts when shipped to contractors should be accompanied, as appropriate. This can be a MAB member or an ALC/SFLC representative.

An extensive salvage report is not required for the MAR. A simple description of damages and associated costs is sufficient. CG-41's/45'S required Salvage Report is a separate document and not part of the MAR. **DO NOT** duplicate the effort.

Assist the Flight Surgeon/Medical Officer as appropriate.

Examine asset records in detail.

Produce an itemized list of destroyed parts and dollar values. ALC/SFLC can assist.

Remember to stay engaged with the MAB throughout the analysis. The mishap did not occur in a vacuum and neither should any part of the analysis process. The Engineering Officer's report is not a stand-alone document.

Flight Surgeon/Medical Officer/ Medical Member

(Most of these actions should already be accomplished by the PMB.)

▪ **Supervise care of survivors.**
▪ **Ensure all mishap crewmembers receive a medical examination and provide toxicology (blood and urine) samples.**
▪ **Written statements taken from all personnel regarding survival equipment and egress.**
▪ **Document all injuries of crewmembers, passengers and others involved in the mishap.**
▪ **Determine who has jurisdiction over the fatalities.**
▪ **If no survivors: proceed to location of remains, take samples, and prepare for autopsy.**
▪ **Once remains have been located and transported to a specific location, contact AFMES.**
▪ **Prepare 72-hour history of mishap crews.**
▪ **Obtain medical/dental records of mishap crew.**
▪ **Complete Medical Officer Report (MOR) – this template is on the MAR SharePoint site. Many of your tasks are done in coordination with other MAB members.**
▪ **The Medical member is responsibility for the post-mishap medical history, examination, care and toxicological testing of mishap crewmembers.**
▪ **Ensure human remains are photographed, preserved and documented.**
▪ **You will act as liaison between local medical authorities, coroners and military investigators, including AFMES personnel, if assigned.**

Tips for the Medical Officer

Ensure aircrew and dependents receive required care and/or counseling (keeping in mind MAB interviewing requirements take precedence).

Assume custody of body fluid samples.

Work with the MAB member responsible with investigating life support systems and survival gear, to thoroughly examine this equipment. Lessons can be learned even if the equipment was not critical to the mishap.

HFACS—Work with the MAB as a team.

Standardization /Training Member

The Stan Member will be responsible for looking at the following issues, as required:

▪ **Crew rest.**
▪ **Mission.**
▪ **Mission planning.**
▪ **Required publications (Charts, NOTAMS, Notice to Mariners, etc.).**
▪ **Commanding Officer's/Officer in Charge's Standing Orders, Night Orders.**
▪ **Crew briefings.**
▪ **Preflight/Pre-underway checks.**
▪ **Flight and personnel records.**
▪ **Flight, Float or Sail Plan.**
▪ **Weather.**
▪ **Flight violations.**
▪ **Airfield or pier side facilities and lighting.**
▪ **Communications and navigational aids.**
▪ **Assist MAB President and SO with review of supervision issues.**
▪ **Assist SO in obtaining copies of recorded communications.**
▪ **Determine and draft statement of damage to private property.**
▪ **Assist the Engineering Member by recording and photographing cockpit/console/bridge switch and circuit breaker positions and instrument indications.**

▪ **Assist other members in identifying, photographing, and tagging significant parts, especially switches, controls, warning and caution displays, and instrument panels.**
▪ **Collect and impound training records for mishap crew and others that played significant roles with the mishap asset, crew or sortie.**

Additional duties or requirements:

▪ **Assist SO with security.**
▪ **Assist SO and President in identifying and interviewing witnesses.**
▪ **Investigate crew qualifications, currency, proficiency and training.**
▪ **Obtain and screen training records.**
▪ **Assist with the administrative details of the MAB.**
▪ **Ensure crew logbooks and training jackets are up to date.**
▪ **Ensure mishap crew was current in mission assigned.**
▪ **Look at the Unit as a whole in regards to training and currency.**
▪ **Be observant for** trends in record review.
▪ **Analyze crew use of proper procedures and appropriate maneuvers.**
▪ **Assist other members with MAB activities as needed.**
▪ **The Stan Member (officer or enlisted) should be qualified in the mishap asset type. Their main function is to assemble as much factual information as possible regarding the history of the mishap sortie and the qualifications of the mishap crew or others with significant involvement.**

Life Support Equipment (LSE) Member

(For mishaps involving a life support component).

An LSE member will be assigned to a MAB any time there is a death or a mishap involving crew equipment, egress, or survival. The LSE Member works closely with the Medical Member in many areas.

Your expertise in identifying malfunctions in egress, survival, or rescue equipment is invaluable. If any such deficiencies found, regardless of their ultimate contribution to the mishap sequence, contact CG-113, and CG-41/45 immediately.

You are the expert and are responsible for investigating personal equipment, egress, survival, and rescue issues. This includes training in subjects such as physiological issues, personal equipment use, survival, egress procedures, and rescue.

Additional Primary Members

- Engineering CWO or CPO.
- Additional SO (with previous MAB experience).
- Surface Operations member for ship helo or boat ops mishap.
- Weapons/Aviation Gunner/Explosive Specialist.
- CG-113 may appoint or the MAB President may request additional assistance.

These members can be designated as primary members or non-primary depending upon the circumstances and needs of the MAB. As primary members, at the MAB President's discretion, they may be included in MAB deliberations and if deemed necessary by the MAB President, they may sign the MAR. They should not be retained on site for longer than needed.

HFACS Specialists

CG-113 has HFACS specialists who will be available to provide training and walk the MAB through the HFACS process. This can be done on-site or via teleconference. Schedule this early in the analysis.

Additional Support/ Non-Primary Members

Administrative (SK, YN) assistance and Subject Matter/Technical Experts.

Individuals with special areas of expertise can be assigned to the MAB, when required.

The MAB President may request additional assistance through CG-113. These are support personnel working for the MAB and while invaluable and important to the mishap analysis, they will not be involved in deliberations or interviews and will not sign the MAR. These personnel will only be on site while needed and not for the entire duration of the MAB.

CG-113 Advisor

A CG-113 staff member will be sent to assist during the initial setup of the MAB and provide technical assistance during the first few days of the analysis.

- **The CG-113 Advisor is on site to provide assistance to the unit and the MAB. You are not to assume control of the MAB. You are to help facilitate the**
- **The CG-113 Advisor does not sign the MAR.**
- **The Advisor will be on scene until the MAB is established and functioning or until MAB President feels like the Advisor is no longer needed on site.**

The Advisor may not know the answer, but they do know who to call to get the answers. They should rely on the wealth of knowledge back in the CG-113 office.

- **Most MAB members have never been a part of a MAB or stationed at a unit where a major mishap occurred. They will behave accordingly and will need the Advisor's advice and guidance.**
- **The CG-113 Advisor is available to give "refresher training" in analysis processes and MAB procedures.**
- **The Advisor has ready access to technical assistance the MAB may need and can advise the MAB President on the most suitable types of assistance and sources of outside help.**
- **Consider reviewing the MAB Handbook Checklists with the MAB members.**

The following are items that the CG-113 Rep may discuss with the MAB members. This should be considered a starting point, not all inconclusive. Each mishap will involve different topics and areas.

General Introduction to the MAB

Qualities of a successful MAB member:

An open mind.	**A capacity for hard work.**
Team member/worker.	**Common sense.**
Integrity.	**Faith that the cause can be determined.**
Curiosity.	**Perseverance.**
Knowledge.	**Tact.**

There is no rush to complete the analysis. The field is anxiously awaiting the final results, but a thorough analysis is more important. There is time to do the analysis carefully and correctly.

Expect a long, hard effort. Major mishaps will take weeks of concentrated investigative effort, plus the time to analyze and produce the MAR. It is not a vacation. It may be some of the most intensive, yet important work you do in the USCG. Be prepared for long days and hard work.

Impress on the MAB their importance as mishap investigators. Their past performance identifies them as top performers and why they were selected.

Do not let personal prejudices influence the MAR. You might think you know what happened, but guard against this mindset; it might prevent the MAB from investigating all possibilities.

Do not deliberate until the information gathering stage is complete.

Advise MAB members to keep the prime objective in sight – to prevent a future mishap.

NOTE: The Promise of Confidentiality is granted on an individual basis. It is not automatically offered to all witnesses. There is no "blanket privilege".

Impress on them the importance of the Progress Messages for getting the word out and keeping others informed. See COMDTINST M5100.47, Chapter 3.

The role of the CG-113 Advisor is supportive in nature will facilitate the MAB's analysis and deliberations and can help conduct witness interviews, if requested by the MAB President. The CG-113 Advisor is a conduit for HQ assistance in a variety of ways.

Safety, especially at the mishap site, is a must.

Refer all press inquiries to the assigned Public Affairs staff/member. MAB members are not to act as official USCG spokesmen. EVER!

HFACS—explain what it is and how to use it. HFACS is not just the Doc's job; it takes the entire MAB. Review and discuss often.

Take sufficient breaks to remain mentally fresh and ensure the MAB sets a work day schedule that will not lead to MAB burnout. Encourage Members to maintain a regular workout routine.

The decision to convene a legal analysis rests with the MII convening authority (District or Area). Such a decision is not based on the contents of the MAR. It is not the job of the MAB President to conduct or request a legal analysis.

Go over the MAR format with the SO and MAB President (admin support, if provided). See CG-113 MAB Portal site for templates; bring a sanitized MAR to show the MAB a representative example. Bring copies (disc) of the sample format.

MAR CHECKLIST

This form can be used to track the sections of the MAB needs to build for the MAR

MAR Section	Item	Factual/ Privileged	Draft/ Complete	POC
Part A	Mishap Description			
Part A	Mishap Information (Classification, Type/Opmode)			
Part A	Mishap Narrative			
Part A	Mission Data			
Part A	Crew and Passenger Outcome (injuries/fatalities)			
Part A	Mishap Weather			
Part A	Damage Summary			
Part A	Property Damage Estimate			
Part A	Wreckage Summary			
Part A	Maintenance Information			
Part A	Aids to Navigation			
Part A	Mishap Crew Information (Designations, Qualifications, Assignment History)			
Part A	Unit Response to Mishap			
Part A	Media Relations Information			
Part A	Mishap Unit PMB			
A Appendix	MAR References			
A Appendix	MAR Acronyms			

A Appendix	Diagrams/ Inventory			
A Appendix	Non-Privileged Photographs			
A Appendix	Non-Privileged Voice and Data Recorder			
A Appendix	Non-Privileged Video			
A Appendix	Engineering Reports			
Part B	Unit Norms			
Part B	Weather and Environment			
Part B	Mishap Timeline			
Part B	Aerodrome & Ground Facilities			
Part B	Tidal information			
Part B	Communications			
Part B	Duty Schedule / Mission Information			
Part B	Medical and Social Factors			
Part B	Engineering Systems Analysis			
Part B	Electrical Systems			
Part B	Engine			
Part B	Weight and Balance			
Part B	Damage to Asset			
Part B	Other Damage			
Part B	Causal Factors(rejected then Accepted)			
Part B	Additional Findings			
Part B	Recommendations			

B Appendix	Privileged Photographs			
B Appendix	Flight Schedule			
B Appendix	Flight Planning Documents			
B Appendix	Radar Printouts			
B Appendix	Radio / Tower Tapes or transcripts			
B Appendix	Aircrew Logbooks			
B Appendix	Asset Logbooks/Maintenance Records			
B Appendix	Asset Performance Information			
B Appendix	Communications Transcripts / Summaries			
B Appendix	Interview Summaries / Statements / Notes			
B Appendix	Witness List (not statements)			
B Appendix	Animation, simulations, computer animations			
B Appendix	Summary of Duty Logs			
B Appendix	Survival Aspects			
B Appendix	Notice to Mariners			
B Appendix	Tear Down, Lab Reports, etc.			
B Appendix	Documents and Logs			
B Appendix	Manuals / SOPs			
B Appendix	Training Jackets / Qualifications / Currency			
B Appendix	Classified Material / Crypto Issues			

B Appendix	Flight Orders / Cross county			
B Appendix	30-60-90 day reports			
B Appendix	Weapons log			
B Appendix	Fuel truck logs			
B Appendix	Deployment work up paperwork			
B Appendix	RM matrix			
B Appendix	Video tapes from by standers, networks, etc.			
B Appendix	Asset Fluid Samples			
Medical Officer's Report (MOR)	Autopsy			
MOR	Medical Records			
MOR	Death Certificate			
MOR	Biological Fluid Analysis			
MOR	FAST Analysis			

REFERENCES AND ABBREVIATIONS

AFME	Armed Forces Medical Examiner http://www.afmes.mil/assets/docs/toxguidelines.pdf
AIM	Administrative Investigations Manual, COMDTINST M5830
AIROPS Manual/3710	Aviation Operations Manual, COMDINST M3710.1 (series)
ALC	USCG Aviation Logistics Center Elizabeth City, NC
ALSE	Aviation Life Support Equipment
ARFF/CFR	Asset Rescue and Fire Fighting/Crash Fire Rescue
ATC	Air Traffic Control
ATC Mobile	USCG Aviation Training Center Mobile, AL
ATTC	USCG Aviation Technical Training Center Elizabeth City
AUXAIR Op Policy Manual	Auxiliary Operations Policy Manual, COMDTINST M16798
Aviation Life Support Equip Manual	COMDTINST M13520.1 (series)
Aviation Medicine Manual	COMDTINST M6410.3
BBP	Blood borne Pathogens
BAL	Blood Alcohol Level
CAD	Cartridge Activated Device
CAMI	Civil Aeromedical Institute
CSB	Commandant Safety Board
CFR	Code of Federal Regulations or Crash Fire Rescue
CG-111	Office of Work-Life, CG HQ
CG-112	Office of Health Services, CG HQ
CG-1121	Operational Medicine, CG HQ
CG-113	Office of Safety and Environmental Health, CG HQ
CG-1131	Safety Program Management Division, CG HQ
CG-41	Office of Aeronautical Engineering, CG HQ
CG-711	Office of Aviation Forces, CG HQ
CG	Center of Gravity
CGIS	Coast Guard Investigative Service
CISD	Critical Incident Stress Debriefing, see COMDTINST 1754.3 (series).
CO	Commanding Officer
CSE	Confined Space Entry
CVR	Cockpit Voice Recorder
CY	Calendar Year
DCS	Decompression Sickness
DOD	Department of Defense
EAL	Electronic Asset Logbook
EAP	Employee Assistance Program
eAVIATRS	e-**AV**iation **I**ncident and **A**ccident **TR**acking **S**ystem, electronic Aviation Database
E-MISHAPS	USCG mishap database for non-aviation mishaps
EMS	Emergency Medical System (Service)

EO	Engineering Officer
EOD	Explosive Ordnance Disposal
EOR	Engineering Officers Report.
FAA	Federal Aviation Administration.
FAM	Final Action Message
FAR	Federal Aviation Regulations
FDR	Flight Data Recorder
FE	Flight Engineer or Flight Examiner
Flight Surgeon's Guide	Naval Flight Surgeon's Pocket Guide for Asset Mishap Investigation http://www.safetycenter.navy.mil/aviation/AirMed/FSGuide.htm
Flight Surgeon's Website	Flight Surgeon/Medical Officer Mishap Investigation Guide http://www.uscg.mil/hq/cg1/cg113/docs/aviation_general/mishap_analysis/mor/Medical Officer's Mishap Guide.pdf
FLIR	Forward Looking Infrared Radar
FMS	Flight Management System
FOIA	Freedom of Information Act
FS/MO	Flight Surgeon or Medical Member
FSM	Final Summary Message
SO	Flight Safety Officer
FSS	Flight Service Station
FY	Fiscal Year
GMT	Greenwich Mean Time (also known as Zulu, Z, or UCT time)
HAZMAT	Hazardous Material
HFACS	Human Factors Analysis and Classification System http://www.uscg.mil/hq/cg1/cg113/docs/ergo_hfacs/hfacs.pdf
HIPAA	Health Insurance Portability and Accountability Act of 1996
HQ	Headquarters
HUD	Heads Up Display
IAW	In Accordance With
JOAP	Joint Oil Analysis Program
JPC	Joint Pathology Center. Replaced AFIP http://www.uscg.mil/hq/cg1/cg112/cg1121/docs/pdf/Mishap_Toxicology_Guidlines.pdf
ICAO	International Civil Aviation Organization
ICD	International Classification of Diseases
LASER	Light Amplification by Stimulated Emission of Radiation
Laser Hazard Control Policy (USCG)	COMDTINST 5100.27 (series)
LOA	Letter of Agreement
LOX	Liquid Oxygen
MAB	Mishap Analysis Board
MAR	Mishap Analysis Report
Medical Manual (USCG)	COMDTINST M6000.1 (series)
MFR	Memorandum for Record
MOR	Medical Officer's Report

MOA	Military Operations Area
MOU/MOA	Memorandum of Understanding/Memorandum of Agreement
MRP	Unit's Mishap Response Plan
NAS	National Airspace System or Naval Air Station
NATO	North Atlantic Treaty Organization
NAVAID	Navigational Aid
NBC	Nuclear, Biological, and Chemical
NIOSH	National Institute for Occupational Safety and Health
NOTAM	Notice to Airmen
NSN	National Stock Number
NTSB	National Transportation Safety Board http://www.NTSB.gov
NTSB Investigation Handbook http://www.NTSB.gov/doclib/manuals/MajorInvestigationsManualApp.pdf	
OCR	Optical Character Recognition
ORM	Operational Risk Management
OSHA	Occupational Safety and Health Administration
PAO	Public Affairs Officer
PAX	Passenger
PII	Personally Identifiable Information
PLAT	Pilot Landing Aid Television
PMB	Unit's Permanent Mishap Board
POC	Point of Contact
RM	Risk Management COMDTINST 3500.3 (series)
ROE	Rules of Engagement
SME	Subject Matter Expert
SOP	Standard Operating Procedures
Survival Equipment Manual	Rescue and Survival Systems Manual, COMDTINST M10470.10
SEH Manual	USCG Safety and Environmental Health Manual, COMDTINST M5100.47 (series)
Ship/Helicopter Operations Manual	COMDTINST M3710.2 (series)
TAD	Temporary Assigned Duty
TBD	To Be Determined
TOX	Toxicology
UCMJ	Uniformed Code of Military Justice
VFDR	Voice Flight Data Recorder
VFDR User's Process Guide	Asset Flight Data User's Process Guide (PG-85-00-1560-A)
VTR	Videotape Recording
WGBT	Wet-Bulb Globe Temperature

Witness Advisory Form	Witness Statement Promise of Confidentiality Advisory Form,
WSO	Weapons System Officer
XO	Executive Officer

Telephone Numbers and Websites

Phone numbers and websites change; this checklist is updated often but may not have the latest numbers. Check the websites and don't hesitate to contact CG-113 for assistance. CG-113 may have POCs that are not listed.

USCG National Command Center	**1-800-372-2100**
CG Critical Incident Number	**1-800-DAD-SAFE**
Safety Program Management Division COMDT (CG-113)	**202-475-5200//5197/5198/5199**
U.S. Air Force Safety Center (AFB Kirkland, NM)	**505-846-0550**
	http://www.afsec.af.mil/
U.S. Army Safety Center (FT Rucker, AL)	**334-255-2660/9552**
	https://safety.army.mil/
U.S. Navy Safety Center (Norfolk, VA) (24 Hours)	**757-444-3520 (follow instructions)**
	http://www.safetycenter.navy.mil
U.S. Marine Corp Safety Center (Washington, DC)	**703-604-4362/4169/4168/4221/4147**
	http://www.safety.marines.mil/
Environmental Protection Agency (EPA)	**See HOTLINE website**
	http://www.epa.gov/epapages/epahome/hotline.htm
FAA Operations Center	**202-267-3333 (24-hour)**
NTSB Communications Center	**202-314-6000**
NTSB HQ—2190 L'Enfant Plaza SW, DC	**http://www.NTSB.GOV**
NTSB Electronic Phone Book	**http://www.ntsb.gov/about/contact.html**
Army Aeromedical Research Lab (USAARL)	**1-888-386-7635/334-255-6920**
	http://www.usaarl.army.mil
Armed Forced Institute of Pathology (AFIP)	**See Joint Pathology Center**
Armed Forces Medical Examiner	**302-346-8648**
CHEMTREC (Chemical Transportation Emergency Center)	**1-800-424-9300, or 703-527-3887 (24-hour)**
Civil Aeromedical Institute (CAMI)	**405-954-6826 (Human Factors Research)**
http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/cami/	
EOD East Coast Watch Center	**757-462-8452**
EOD West Coast Watch Center	**619-437-0720**
Hammer Adaptive Comms Element (ACE), Langley VA	**Coordinate thru CG-113; not always free.**
	hammerace@robins.af.mil
	478-222-5785 (0630-2359 EST)
	478-327-2612 (after hours)
Joint Pathology Center (JPC)	**855-393-3904**
	http://www.jpc.capmed.mil/
National Response Center (HAZMAT only)	**1-800-424-8802 (24-hour)**
Naval Aerospace Medical Institute (NAMI)	**850-452-2741**
See NMOTC website for NAMI contact directory.	
http://www.med.navy.mil/sites/nmotc/Documents/NMOTC Contact Directory.pdf	
Naval Medicine Operational Training Center	**850-452-4554**

(NMOTC)	**850-450-1366 (Command Duty Officer)**
	See NMOTC website for Navy Medicine Operational Training Center contact directory.
http://www.med.navy.mil/sites/nmotc/Documents/NMOTC Contact Directory.pdf	
Naval Medical Research Unit-Dayton (NAMRU-D)	**937-938-3931/3872** **NAMRUDInfo@wpafb.af.mil**
Occupational Safety & Health Administration (OSHA)	**http://osha.gov/**
	http://osha.gov/html/oshdir.html
E-AVIATRS website	**https://hswl.uscg.mil/aviatrs/**
CG-113 website	**http://www.uscg.mil/safety/cg113/default.asp**
USN Flight Surgeon Pocket Guide **http://www.public.navy.mil/navsafecen/Documents/aviation/aeromedical/duties/Pocket_Ref.pdf**	
Navy Salvage Operations (mostly helos)	**202-781-1731**
	202-781-3889 (24 hour)
	NAVSEASYSCOM (Mike Herb) Code 00C
Main POC, works w/ CINCPAC & CNO to mobilize resources or initiate commercial salvage contract.	
USAF Salvage Operations (C130/Fixed Wing)	**505-853-2615**
Kirtland AFB, NM (POC: Randy Rushworth	
84th Radar Evaluation Squadron (84thRADES)	**801-777-3712**
Hill AFB, UT	
	84RADESworkflow@hill.af.mil
NORAD Air Defense Sectors	**Western: 253-982-5611** **Eastern: 315-334-6311**
Air Marine Ops Center (AMOC)	**1-866-247-2878**
Video Enhancements	**Defense Computer Forensics Lab**
	Linthicum, MD
	410-981-0100 (410-925-2010 - 24 Hour)
	http://www.dc3.mil/digital-forensics/about-dcfl
	National Air & Space Intelligence Center
	Wright-Patterson AFB, Dayton, OH
	937-656-2742
MAAF (USAF Mishap Asset Animation Facility)	**Call CG-113 before contacting**
	Kirtland AFB, NM (POC: Dale Carter)
	505-846-3746
Underwater Recovery (ROVS)	**Contact CG-113 or CG41.**

NOTE: For Radar Tracking--Local unit should have AOR contact info or contact CG-113.

Mishap Analysis Board Go Kit Contents

Item	Present
Pelican © case	
Digital camera	
Scanner	
GPS Unit	
Digital projector	
Data Locker	
Non-standard laptop (as required)	
Laser finder	
Mobile Hotspot	

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