



Columbia Accident Investigation Board Procedures and Guidelines

PROCEDURES AND GUIDELINES FOR ACCIDENT INVESTIGATING AND REPORTING

Effective Date: March 28,2003

Expiration Date: Upon delivery of final report of findings and recommendations

Columbia Accident Investigation Board Procedures and Guidelines

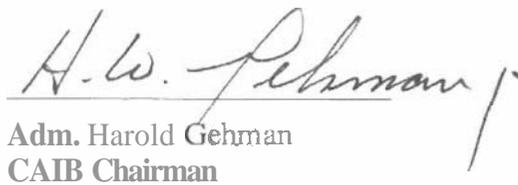
APPROVAL:

Original Signed By:
Signature on File:

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Theron Bradley
Executive Secretary

Original Signed By:
Signature on File:

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Adm. Harold Gehman
CAIB Chairman

REVISIONS TO
Columbia Accident Investigation Board
Procedures and Guidelines

The Columbia Accident Investigation Board Procedures and Guidelines are revised as needed to accommodate new situations that were not anticipated at the time the guidelines and procedures became effective. Such revisions are documented on this page.

- REVISIONS -

Columbia Accident Investigation Board Procedures and Guidelines Manual
Effective Date: March 28,2003

Date

Page Revised

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PREFACE

On February 1, 2003, the Space Shuttle Columbia (STS-107) began its reentry into the Earth's atmosphere at the end of its 16-day research mission. At approximately 9:00 am EST, NASA's Mission Control Center in Houston, Texas, lost communication with the Space Shuttle. Shortly after the planned landing time, 9:15 a.m., NASA declared a contingency and activated its Space Shuttle Contingency Action Plan. As part of the contingency plan, NASA's Office of Space Flight activated the standing Mishap Investigation Team, which immediately deployed to southeast Texas, where a large debris site had developed. The Office of Space Flight also established a Headquarters Contingency Action Team in Washington to oversee all aspects of the early investigative and reporting requirements.

At 5:00 p.m. the NASA Administrator, Mr. Sean O'Keefe, activated the standing International Space Station and Space Shuttle Mishap Interagency Investigation Board. The following morning, February 2, 2003, he formally chartered the Board as the Columbia Accident Investigation Board. In his letter to the Board's Chairman, he asked the Board to determine the facts independently as well as the actual or probable causes of the Shuttle accident, and to recommend to NASA preventative or other appropriate actions to preclude recurrence of a similar nature. Although the Space Shuttle Contingency Action Plan prescribes that the Board use standard NASA mishap investigation procedures and guidelines, the Administrator waived those standards, and authorized the Board to pursue "whatever avenue you deem appropriate" to conduct the investigation.

The Board has chosen to make use of the ongoing NASA investigative activities, and to interface with those activities through a NASA Task Force Team, later designated the Columbia Task Force (CTF), as prescribed by the Administrator's charter. The Mishap Investigation Team (MIT) and other investigation working groups, under the guidance of a Mishap Response Team (MRT), used standard NASA procedures for mishap investigations including the impounding of all relevant data and hardware, privileged witness statements, public release of information, as well as data and wreckage recovery and analysis. The Board developed a set of guidelines similar to those used by NASA and military aircraft mishap investigations, but with some tailoring to address the high public profile of this accident and need for independence of the Board. The Columbia Accident Investigation Board (CAIB) charter is included as Appendix B. As the investigation progressed, NASA modified the organization structure of the MRT to more closely align with the CAIB structure and investigative paths. This realignment is reflected in the decision to change the MRT to the NASA Accident Investigation Team (NAIT). The charters for the CTF and NAIT are provided in Appendices C and D respectively.

PURPOSE

The Columbia Accident Investigation Board (CAIB) guidelines provide procedures the Board will use to investigate the Columbia accident, to report its findings and recommendations, and to release accident information to the public. The Appendices contain the Board charter as well as key procedures and protocols used by the Board in its dealings with NASA investigation working groups, independent consultants and observers, witnesses, and the public.

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CHAPTER 1. Responsibilities

1.1 The Investigation Board

The Columbia Accident Investigation Board (CAIB) is composed of a chairman, executive secretary, members, consultants, observers, advisors, and support staff. During the initial formative stages of the Board, NASA will provide an ex officio member from the Office of Safety and Mission Assurance (OSMA) to help coordinate and advise the startup process. The chairman, executive secretary, and Board members are federal personnel. Only the chairman and members are voting members for purposes of findings, recommendations, and other accident-related deliberative matters. Board members shall not have any vested interest in the outcome of the investigation.

In carrying out its responsibilities, the Board will:

- a. Conduct the investigation in accordance with these guidelines and the protocols and procedures in the Appendices.
- b. Determine the facts, as well as the actual or probable causes of the Columbia accident in terms of primary cause(s) and contributing cause(s), and recommend preventative and other appropriate actions to preclude recurrence of a similar accident. The investigation will not be conducted or used by the Board or NASA to determine questions of culpability, legal liability, or disciplinary action.
- c. Use as appropriate the established NASA investigative support structure including the CTF, NASA Accident Investigation Team (NAIT), working groups, and supporting facilities to conduct the investigation. This includes staff advisors as required for expertise in such areas as public affairs, legal, medical, safety, and security.
- d. Define membership, support staff requirements, and investigative roles and responsibilities of internal working groups as appropriate to the accident investigation as well as employ the services of expert support from any necessary source outside of NASA or the U.S. Government. Only technically qualified individuals with the necessary expertise will be permitted to participate in the investigation. The CAIB working group structure is provided in Appendix E.
- e. The Board will obtain and analyze whatever evidence, facts, or opinions the Board considers relevant by relying on reports of studies, findings, recommendations, and other actions by NASA officials and contractors or by conducting inquiries, interviews, hearings, tests, and other actions it deems appropriate. In accordance with NASA contingency plans, all elements of NASA will cooperate fully with the Board and provide, through the CTF, any records, data, and other administrative or technical support and services that may be requested.
- f. Impound (and release from impoundment) property, equipment, and records to the extent that it considers necessary.

- g. Document and report findings in terms of primary **cause(s)** of the accident, contributing **cause(s)** as well as significant observations. Every finding will be supported by facts and discussion in the body of the report and supplemented by background information in Appendices.
- h. Develop recommendations for preventative and other appropriate actions based on agreed to facts and findings. A finding may warrant one or more recommendations or it may be standalone. However, no recommendation will be standalone. Every recommendation will be substantiated by one or more findings.
- i. Submit to NASA, the Administration, the Congress, and the public a final report of the results, findings, and recommendations of the Board.

1.2 Chairman

The Chairman of the CAIB is in charge of the investigation. Once the Board is assembled, trained, and ready, the Chairman will formally relieve the NASA Headquarters Contingency Action Team (HCAT) of its interim responsibilities for the initial accident investigation activities. The Chairman is responsible for conducting the investigation and the final report of results. The Chairman will use the Board members, support staff, external experts, and NASA working groups (through the CTF) to **carry** out these responsibilities.

1.3 Board Members

Board members consist of the standing members of the International Space Station and Space Shuttle Mishap **Interagency** Investigation Board and other members selected by the Chairman to expand the knowledge base appropriate to the nature of the accident.

1.4 **Ex-Officio** Member

NASA provided a senior manager **from** the **Office** of Safety and Mission Assurance (OSMA) as an ex officio (non-voting) **member** during the early transition phase of the investigation. The primary role of the ex officio member was to enhance the initial orientation of members and to coordinate the establishment of the Task Force Team. Once the transition was complete, the ex-officio position was eliminated.

1.5 Executive Secretary

The responsibilities and authorities of the Executive Secretary are specified by the Board and includes:

- a. Acting as a technical liaison between the Board and NASA during initial phases of the investigation, and participating in the technical review of Board findings of fact and conclusions.

- b. Recording Board activities, including arranging to have minutes of the Board's meetings, hearings, and press availabilities **recorded** and made available internally and publicly as appropriate.
- c. Establishing processes for the management and **execution** of Board infrastructure activities, such as travel, legal support, medical support, library services, public affairs, budget manager, and so on.
- d. Coordinating the schedule for Board activities.
- e. Overseeing the composition and activities of the matrixed staff (*i.e.*, those providing support for the Board as a whole.)
- f. Establishing and **maintaining** composition and activities of the specialized support staff, including advisors and observers, as requested by the Board.
- g. Provide liaison **between** the Board and external groups including stakeholders and governmental representatives as directed by the Board Chairman.
- h. Track and control Board documents, both incoming and outgoing, to facilitate later cataloguing, use, and retrieval.
- i. Provide liaison between Board members and NASA as **requested** by the Board Chairman.

In executing these **responsibilities**, the Executive Secretary is expected to establish and be assisted by specialized staff, including subcontractors, volunteers, and NASA standing elements as appropriate.

1.6 Support Staff

1.6.1 Flight Surgeon: The Board flight surgeon will coordinate and consult with the NASA medical staff as they work with the Armed Forces Institute of Pathology and the local coroner or medical examiner to determine jurisdiction and arrange for the flight crew autopsies.

1.6.2 Independent Analysis and Support Team: The Board shall establish an independent group of technical experts to assist CAIB members and working group staffs in providing an integrated and, where necessary, independent assessment of potential causes, contributing factors, and major issues related to the accident. These tasks include assisting CAIB members in defining lines of investigation **requiring** involvement of experts outside the direct NASA sphere of influence, and in particular, for the current Space Shuttle Program (SSP). In some cases lines of **questioning** and investigation will be based on unsolicited input from parties external to the CAIB. This task also involves placing assigned experts to provide advice and counsel to the CAIB on a **limited** number of important NASA investigations, analysis, and testing that the CAIB determines are critical to the investigation.

1.6.3 General Counsel: The General Counsel will provide legal advice to **the** Board on matters relevant to their investigation, will propose or concur in processes having potential legal implications (e.g. FOIA per Appendix F and interviews per Appendix G), and will provide an interface for legal matters with NASA, other agencies, and the public.

1.6.4 Public Affairs Officer: The Public Affairs Officer will provide an interface with the public through preparation and release of approved press releases, conduct of public hearings, receipt of public suggestions and comments, and interaction with media as appropriate.

1.6.5 Budget Manager: The Budget Manager will develop a budgeting and actual **tracking/reporting** system for the Board. Budget control authority rests with the Board Chair.

1.6.6 Astronaut Office **Representative**: The Flight Crew Operations Directorate (FCOD) will provide an experienced astronaut for use as a technical consultant to the Board.

1.6.7 NTSB Representatives: The CAIB will receive support from the National Transportation Safety Board (NTSB). While not directly involved in the investigation, **deliberations** and findings of the CAIB, NTSB investigators support the CAIB strictly in an advisory role principally in regard to the process of conducting an aircraft accident investigation. **Specifically**, NTSB investigators will advise the CAIB in the areas of debris tracking, wreckage reconstruction, organization structure, documentation **process**, database development, and the processes involved with investigations of human factors, operations and technical aspects.

1.6.8 Department of Justice Representatives: The Department of Justice, Civil Division, **Office** of Litigation Support (OLS) is providing document management support to the CAIB. Support is being provided through the DOJ contract for Automated Litigation Support; Aspen Systems is the contractor for the **CAIB** support project. The DOJ **library/archiving** process is described in Appendix H

1.6.9 General Administrative **Support Staff**: The Board shall **agree** on establishment of appropriate general **administrative** staff functions under the direction of the Executive Secretary. These staff members may include persons from other Government agencies, the general public, subcontractors, or NASA (non-sensitive administrative staff **positions** only). This staff will establish and execute various administrative processes in support of the **Board**, as described in Appendix I.

1.6.10 Specific Support Personnel: Various additional support personnel will be brought in through out the investigation to provide specific assistance to the Chairman and other Board members and to the sub-teams by which they may choose to conduct the investigation.

1.7 Observers

1.7.1 NASA Inspector General: The NASA Inspector General may observe any Board proceeding with the exception of privileged witness interviews or deliberations during which those interviews are discussed. The primary purpose of the NASA Inspector General in his observations

is to assure NASA, the Congress, and the Administration that the Board is acting in an independent **and** unbiased manner in its investigation.

1.7.2 Other Observers: At the discretion of the Board **Chairman**, other observers may be invited to witness certain fact finding and non-deliberative Board **proceedings**.

1.8 **Non-Federal Employees**

Non-government **personnel** may serve as observers, advisors, or consultants and may be included in Board deliberations at the discretion of the Board Chairman. However, under no circumstance will non-Federal employees be allowed to read or listen to privileged witness testimony, or to be present when privileged witness testimony is discussed by the Board in its deliberations.

CHAPTER 2. Implementing the Accident Investigation Process

2.1 Safeguarding the Site and Collecting Initial Evidence

2.1.1 Accident Site: Preserving the accident site and any **evidence** is the first action necessary for a successful accident investigation. The NASA Mishap Investigation Team (MIT), along with local safety personnel, security personnel, or emergency response personnel, shall take immediate action to prevent further injury to personnel **and/or** damage to any **property**, and safeguard (or impound) appropriate records and equipment that may be involved in the accident, using pre-established procedures and mishap contingency plans. In supporting the Board's investigation, the MIT will use established NASA mishap investigation procedures for handling and preservation of evidence as well as wreckage site safety and security. They will supplement their procedures with appropriate military and National Transportation Safety Board techniques as appropriate, and they will be guided by a set of protocols established by the Board for special handling of impounded data and testing or release of impounded hardware. These protocols are listed in Appendices J, K, and L.

2.1.2 Initial Written Statements: The MIT, security personnel, emergency response personnel, or safety personnel may **either** request initial written statements from all persons (who are able) who were involved in or **witness** to the accident, or document verbal accounts from such persons, as soon as possible **after** the site is secured and emergency actions taken. Where members of the public may have witnessed the accident, appropriate measures will be taken to publicize the investigation for purposes of maximizing the amount of reliable testimony.

2.2 Conducting the Investigation

2.2.1 Initial Activities: Once the Board is constituted, the first action is to quickly familiarize members with their roles and responsibilities and to provide them with the appropriate information on the Space Shuttle Program elements, as well as the facilities and tools **they** will need to conduct a proper investigation. The Executive Secretary, supported by the NASA OSMA **ex officio** member, will facilitate these activities. When ready, the Board will assume responsibility from the NASA HCAT for the actions of the NASA investigation personnel as well as the accident and wreckage assembly sites and control of all evidence associated with the accident. The Board chairman may release the site(s) or evidence for activities other than those supporting the investigation.

2.2.2 Steady State Operations: **The** accident investigation Board is responsible for investigation of the accident. Safety, emergency response, security, and other personnel will turn over all initial evidence gathered at the scene of the accident. NASA will support the Board through the CTF with records, data, and access to NASA personnel and facilities as requested. The process to request information from the CTF is provided in Appendix M. **The** CTF will also arrange for any necessary administrative support, including, but not limited to, meeting rooms, clerical help, information technology support, etc. as requested. The CTF charter is included in Appendix C, and the organizational relationship between the CAIB, the CTF and the NAIT is shown in Appendix N.

2.2.3 Analysis Techniques: The Board will use structured analysis techniques (**fault** tree analysis, systems engineering, logic diagrams, **etc.**) to collect and organize all available data, construct a **timeline** of events, conduct witness interviews, and analyze the accident occurrence to **determine** what happened, when it happened, and why it **happened**. The NAIT will work to a fault tree closure process which is described in Appendix O.

2.2.4 Witness Statements: The Board will use standard NASA safety investigation privilege in its dealings with witness statements. These statements will be restricted to Board members and limited "need to know" government **investigative** support staff. The statements will only be used by the Board to aid in finding the accident cause factors and to develop recommendations. At the completion of the Board's activities, all witness statement **records** (written and recorded) will be transferred to NASA for proper long-term handling. Appendix G provides guidelines for obtaining eyewitness accounts and witness testimony. **Included** in the guidelines is the clause that should be **read** and explained to all witnesses at the start of their formal interview.

2.2.5 Report Writing. The Board will adopt a **modified** NTSB model of report writing across working groups. After a complete **the identification** of issues, working groups will be required to produce factual and analytical reports, which **document** the closure of each topic. This process is described in Appendix P.

2.2.6 **Library/Archiving:** The Board will maintain a comprehensive collection of documents and media associated with this investigation. For electronic and hardcopy documentation, **the** Board will develop and maintain a central database system at the Regents Park III facility. This full-text database system will provide a secure electronic repository for CAIB-generated documentation, as well as documentation provided by the CTF. Documentation received in other media, (**e.g.**, videotape, audiotape, **etc.**) will be securely stored by the CAIB. Copies of this media will be maintained in a central location accessible to all CAIB **members**.

All appropriate Board documentation and work product will be captured for submission to the National Archives and Records Administration (NARA). Representatives of the Board will **review** all documentation prior to its submission to NARA as a means of safeguarding privacy and national security documents and information. This preparation will include **the review** of all documents for Freedom of Information Act (FOIA), Privacy Act, International Trade in Arms Regulations (ITAR), and Export Administration Regulations (EAR) compliance. This process is outlined in Appendix H.

2.2.7 Information Technology (IT): Information technology tools will be utilized to facilitate both administrative and investigation functions. An Information Technology Management Plan (ITMP) will be developed by the Executive Secretary and CTF IT personnel. **The** interfaces between these systems are described in Appendix Q.

CHAPTER 3. Reporting the Results

3.1 Formal Reporting

The Board will record the results of its investigation, including findings and recommendations, in a formal report to NASA. The report will be made available to the President, the Congress, and the public coincidentally with its release to NASA. All members of the report will be asked to sign the report or submit a signed minority report.

3.2 Immediate Notification

3.2.1 Recommendations: Should the investigation reveal a matter of immediate concern to ongoing NASA operations, either because of a negative effect on the investigation itself, or a safety issue affecting NASA or contractor employees or the public, the Board will immediately notify NASA.

3.2.2 Potential Criminal Activities: If the Board finds evidence of criminal activity during the conduct of the investigation, the Chairman will notify NASA so that the appropriate Agency law enforcement organization can coordinate its activities with the Board.

3.3 Interacting with the Public

The Board will inform the public of the progress of the investigation in as open and forthcoming a manner as is practicable. During field trips, the Board will make members available to the local and national press for comments relating to its activities. The Board will hold a formal press conference once a week to allow each of the members a chance to bring the public up to date with the latest investigation activities. The Board may also release new factual information when it becomes known depending on its importance. The process to interact with the public is described in general terms in Appendix R.

3.3.1 Public Hearings: The Board will provide access to the public in the form of open hearings at least twice per month. During these hearings, which will be held at various places around the country, public citizens will be allowed to formally present information, theories, or concerns to the Board in a public setting. The Board may also use these hearings to present for the record certain facts and findings prior to release of the final report.

3.3.2 Public Inputs: The Board will provide the public access to factual and process information by way of a public website (<http://www.caib.us>). The website also allows the public to send inputs to the Board. A toll free number (1-888-703-CAIB) was established for the public to provide recorded messages for the Board. Mail and e-mail inputs addressed to the Board and staff are also accepted. The process to disposition these inputs from the public are described in Appendix S.

3.3.3 Freedom of Information Act: The Board will react to Freedom of Information Act (FOIA) requests in an expeditious manner as prescribed in Appendix F.

3.4 Congressional Access to CAIB Information Systems

The Columbia Accident Investigation Board is committed to continuing to provide the American public with detailed insight into the progress of its investigation. The Board conducts public hearings and regularly scheduled press briefings and immediately releases newly discovered information to the public. In addition, the Board has committed to allowing Congressional access to the Board's database at the Board's offices in Houston.

However, the Board also has a countervailing obligation to the families of those who were lost in the accident and to witnesses who have entrusted the Board with information on the condition of confidentiality. To meet this obligation, the Board must control access to some of the information in its database. Additionally, only a portion of the Board's information is available through remote access. Accessing only that partial information has the potential to lead to inferences that are incomplete and out of context. Therefore, the Board can allow Congressional access to the Board's database only at the Board's offices in Houston where the Board is available to provide relevant background, context and explication.

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Appendix A: Glossary of Terms

Associate Administrator (AA): An Associate Administrator (AA) is in the chain of command throughout program formulation, approval, implementation, and evaluation. The AA ensures **program** accomplishment, balancing institutional and program needs, and ensuring effective external relations and outreach. The AA for space flight specifically exercises institutional management authority over the Johnson Space Center (JSC), Kennedy Space Center (KSC), Marshall Space Flight Center (MSFC), and Stennis Space Center (SSC).

Contingency Action Plan (CAP): The Agency Contingency Action Plan (CAP) for Space Flight Operations (SFO) delineates the pre-planned contingency response to a **SFO** mishap. It covers actions to be taken by the NASA Administrator, the Associate Administrator for the Office of Space Flight (ANOSF), NASA Headquarters, OSF Field Centers, and the Office of Space Flight (OSF) Programs and associated contractor personnel. NPG 8621.1 defines the six mishap categories in that a contingency response is required and the CAP for **SFO** covers the response to each of these mishap categories. In the case of a high-visibility, mission-related Shuttle mishap the NASA Administrator may activate the International Space Station and Space Shuttle Mishap Interagency Investigation Board. Board activation is anticipated for events involving serious injury or loss of life, significant public interest, etc.

Columbia Accident Investigation Board (CAIB): Chartered by the NASA Administrator from the standing International Space Station and Space Shuttle Mishap Interagency Investigation Board. The CAIB assumed responsibility from the Headquarters Contingency Action Team (HCAT) for the actions of the NASA investigation personnel as well as the accident and wreckage assembly sites and control of all evidence associated with the accident.

Code of Federal Regulations (C.F.R.): The CFR is a codification of the general and permanent **rules** published in the Federal Register by the Executive departments and agencies of the Federal Government.

Columbia Task Force (CTF): Serves as the formal interface between the Board and NASA and facilitate all other contact with the Agency that the Board determines to be necessary and appropriate.

Department of Justice, Civil Division: The Civil Division of the Department of Justice represents the Government in a wide variety of large civil litigation, including contract claims cases, frauds, **aviation/admiralty** torts cases, challenges to government programs, patents, environmental and toxic tort claims, as well as other areas. The Office of Litigation Support (OLS) provides automated litigation support **services** to Civil Division attorneys in support of these cases, including support for document production and discovery, creation of **large** databases of evidentiary documents, and pretrial and trial support.

Freedom of Information Act (FOIA): Process by which information is released through timely responses to requests, thorough documentation of all records requested by and released to third parties, and publication of those records through a readily available internet web site. Process outlined in the 14 Code of Federal Regulations (C.F.R.) Section 1206.

Headquarters Contingency Action Team (HCAT): Established by the Office of Space Flight; used to oversee all aspects of the early investigative and reporting requirements.

Independent Analysis and Support Team (IAST): Established by CAIB; provides integrated and/or independent assessment of potential causes, contributing factors, and major issues related to the accident.

Mishap Investigation Team (MIT): Standing NASA team deployed by the Space Shuttle Program, reports to Mishap Response Team; activated by Office of Space Flight.

Mishap Response Team (MRT): Reviews and concurs on requests for release of NASA hardware and facility assets that have been impounded to preserve evidence related to Columbia accident. Also reviews and concurs on initiation of testing on debris recovered. Recommends release action to the CAIB.

NASA Accident Investigation Team (NAIT): Serves as the Agency leadership for accomplishing all relevant assessments, inspections, analyses, and tests necessary to support the identification of the root cause for the Columbia mishap. The NAIT will implement a structure, which correlates directly with the CAIB's areas of emphasis (i.e. Materials, Operations, Engineering, etc.)

National Aeronautics and Space Administration (NASA): NASA has remained at the forefront of exploration and discovery as the world's preeminent organization for space and aeronautics research and development.

NASA Policy Document (NPD): NPD's are policy statements that describe "what" is required by NASA management to achieve NASA's vision and mission.

NASA Policy Guidance (NPG): NPG's are the "how to" instructions; they provide required procedures as well as guidelines to implement NASA policy.

National Transportation and Safety Board: The National Transportation Safety Board is an independent Federal agency charged by Congress with investigating every civil aviation accident in the United States and significant accidents in the other modes of transportation -- railroad, highway, marine and pipeline -- and issuing safety recommendations aimed at preventing future accidents.

Office of Safety and Mission Assurance (OSMA): The Office of Safety and Mission Assurance (OSMA) assures the safety and enhances the success of all NASA activities through the development, implementation, and oversight of Agency wide safety, reliability, maintainability, and quality assurance (SRM&QA) policies and procedures.

Office of Space Flight (OSF): The Office of Space Flight provides many critical enabling capabilities that make possible much of the science, research, and exploration achievements of the

rest of **NASA**. This is accomplished through the following **programs/projects**: International Space Station (ISS) Space Shuttle Program (SSP), and Space and Flight Support (SFS).

Orbiter Vehicle (OV): The Space Shuttle system consists of four primary elements: an orbiter spacecraft, two Solid Rocket Boosters (SRB), an external tank to house **fuel** and **oxidizer** and three Space Shuttle main engines. The Orbiter Vehicles were built by **Rockwell** International's Space Transportation Systems Division, located in Downey, California.

Space Transportation System (STS): NASA coordinates and manages the Space Transportation System (NASA's name for the overall Shuttle program), including intergovernmental agency requirements and international and joint projects.

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Appendix A: Columbia Accident Investigation Board Charter

1. GUIDELINES

In the case of a high-visibility, mission-related Shuttle mishap, the NASA Administrator may activate an International Space Station and Space Shuttle Mishap Interagency Investigation Board (the Board). Board activation is anticipated for events involving serious injury or loss of life, significant public interest, and other serious mishaps. The Board should consist of at least seven members, and be supported by the OSF at NASA Headquarters and technical consultants, as the Board deems appropriate.

2. ACTIVATION

The recommendation for the NASA Administrator to activate this Board will normally be made at either the Associate Administrator (**AA**) for the OSF-directed Mishap Response Teleconference or **as** a decision at the Administrator's HCAT meeting **and/or** teleconference. For this case, the NASA Administrator has determined effective at **10:30** a.m. February 1, 2003, to convene such a Board and to name it the Columbia Accident **Investigation** Board.

3. MEMBERSHIP

Chairman of the Board
Admiral Harold W. **Gehman** Jr. USN (Ret)

Board Members
Maj. General John Barry USAF, Director, Plans and Programs, HQ USAF Materiel Command
Brig. General Duane Deal USAF, Commander, USAF 21st Space Wing
Dr. James N. Hallock, Chief, Aviation Safety Division, Department of Transportation
Maj. General **Kenneth** W. Hess USAF, Commander, HQ USAF Chief of Safety
Mr. Scott **Hubbard** , Center Director, NASA Ames Research Center
Dr. John Logsdon, Director of the Space Policy Institute, George Washington University
Dr. Douglas Osheroff, Physics Department Associate Chair, Stanford University
Dr. Sally K. Ride, Professor University of California at San **Diego**
Mr. Roger E. **Tetrault**, retired, former CEO **McDermott** Inc.
Rear Admiral Stephen **Turcotte** USN, Commander, Naval Safety Center
Mr. Steven B. Wallace, Director of Accident Investigations, FAA
Dr. Sheila **Widnall**, Professor of Aeronautics and Astronautics, MIT

4. BOARD SUPPORT

Standing Support Personnel Reporting to the Board

Executive Secretary for Management: Mr. Steven Schmidt
Executive Secretary for Administration: Mr. David **Lengyel**

Additional Support Personnel. The Board may designate consultants, experts, or other government or non-government individuals to support the Board as necessary. In addition, the Board may **substitute** non-NASA personnel at the discretion of the **Chairman**.

Columbia Task Force Team Support. Within 72 hours of activation of the Interagency Board, the **AA/OSF**, the **AA/SMA**, the NASA Field Center Director or NASA Program AA (Non-OSF or Non-mission related), and the NASA Chief Engineer will meet to select and recommend Task Force Team members to the CAIB Chairman. Upon approval by the Board and appointment by the NASA Administrator, the Task Force Team members will convene and meet with the appropriate working group team leads. The Task Force Team may to the extent that the Board deems appropriate:

1. Be the formal interface between the Board and the activated working groups;
2. Monitor, collect, document, and file the reports of the working groups activated to support the mishap investigation;
3. Provide the Board members with requested information and reports from the working groups; and
4. Assist the Board in the preparation of interim and final reports.

5. **CAIB RESPONSIBILITIES**

The Board will:

1. Conduct activities in accordance with the policies and procedures adopted by the Board.
2. Schedule Board activities, interim Board reports, and submission of the final Board report, as the Board deems appropriate.
3. Determine the facts, as well as the actual or probable causes of the Shuttle mishap in terms of dominant and contributing root causes and significant observations and, recommend preventative and other appropriate actions to preclude recurrence of a similar mishap. The investigation will not be conducted or used to **determine** questions of culpability, legal liability, or disciplinary action.
4. Use the established NASA support structure of working groups, NASA Field Center support, and supporting facilities to conduct the investigations, as the Board deems appropriate. The Board may use non-NASA support, as it **deems** appropriate.
5. Activate the working groups appropriate to the mishap.
6. Obtain and analyze whatever facts, evidence, and opinions it considers relevant by relying upon reports of studies, findings, recommendations, and other actions by NASA officials and contractors or by conducting inquiries, hearings, tests, and other actions it deems appropriate. In so doing, it may take testimony and receive statements from witnesses. **All** elements of NASA will cooperate fully with the Board and provide any records, data, and other administrative or technical support and services that may be requested.
7. Impound property, equipment, and records to the extent that it considers necessary.
8. Release mishap information and mishap investigation reports, as the Board deems appropriate.
9. Develop recommendations for preventative and other appropriate actions. A finding may warrant one or more recommendations or may stand-alone.

10. Provide a final written report at such time and in such manner as the Board deems appropriate which upon its completion will be immediately released to the public.

February 1, 2003

Revised: February 18, 2003

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Appendix C: Task Force Team Charter

The CAIB has established the following Charter for the Columbia Task Force (CTF). The Task Force will:

1. Serve as the formal interface between the Board and NASA and facilitate all other contact with the Agency that the Board **determines** to be necessary and appropriate.
2. Establish appropriate processes and procedures to assure the ability of the Board, through the Task Force Team, to control every aspect of the investigation into the Columbia accident, including recovery of remains and debris, preservation and impoundment of evidence, and performing and documenting required testing and analysis.
3. Monitor, collect, document, file and make **fully** and immediately available to the Board all data and analysis collected or generated by all the various working groups supporting the mishap investigation.
4. Provide timely, accurate and complete responses to all requests by the Board for information and reports.
5. Make available to the Board any other support and assistance that the Board determines necessary to **enable** the timely preparation of interim and final reports of the results of the Board's investigation.
6. Assure full and timely cooperation by NASA personnel with any persons or entities outside of NASA that the Board may retain to provide support, analysis or other assistance to conduct the investigation.
7. Assist the Board in making factual information appropriately available to the public in a timely and orderly manner as it becomes reasonably available while assuring that the Board's investigation is not prejudiced by premature public speculation concerning what conclusions might be drawn.
8. Rely on the NASA Administrator to direct the CTF, NAIT, all working groups supporting the mishap investigation, and all other NASA employees to fully support **the** Board's investigation as the agency's highest mission priority.

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Appendix D: NASA Accident Investigation Team Charter

1. Authority

In accordance with the Associate Administrator, Office of Space Flight, William F. Readdy's letter, dated March 18, 2003, the NASA Accident Investigation Team (NAIT) is hereby established.

2. Membership

Chairman of the Board: Brock R. Stone, Deputy Director, Johnson Space Center (JSC)

Group Chairmen:

Group 1 – Materials - James Kennedy, Deputy Director, Kennedy Space Center (KSC)

Group 2 – Operations – Brock R. Stone, Deputy Director, JSC

Group 3 – Engineering – Frank Benz, Director, Engineering, JSC

Member Representative:

Shuttle Program

Shuttle Processing

Flight Crew Operations

Mission Operations

Engineering Directorate

System Integration

MSFC Projects

Space & Life Sciences

SR&QA

Orbiter

3. NASA Accident Investigation Team Responsibilities

The NAIT will:

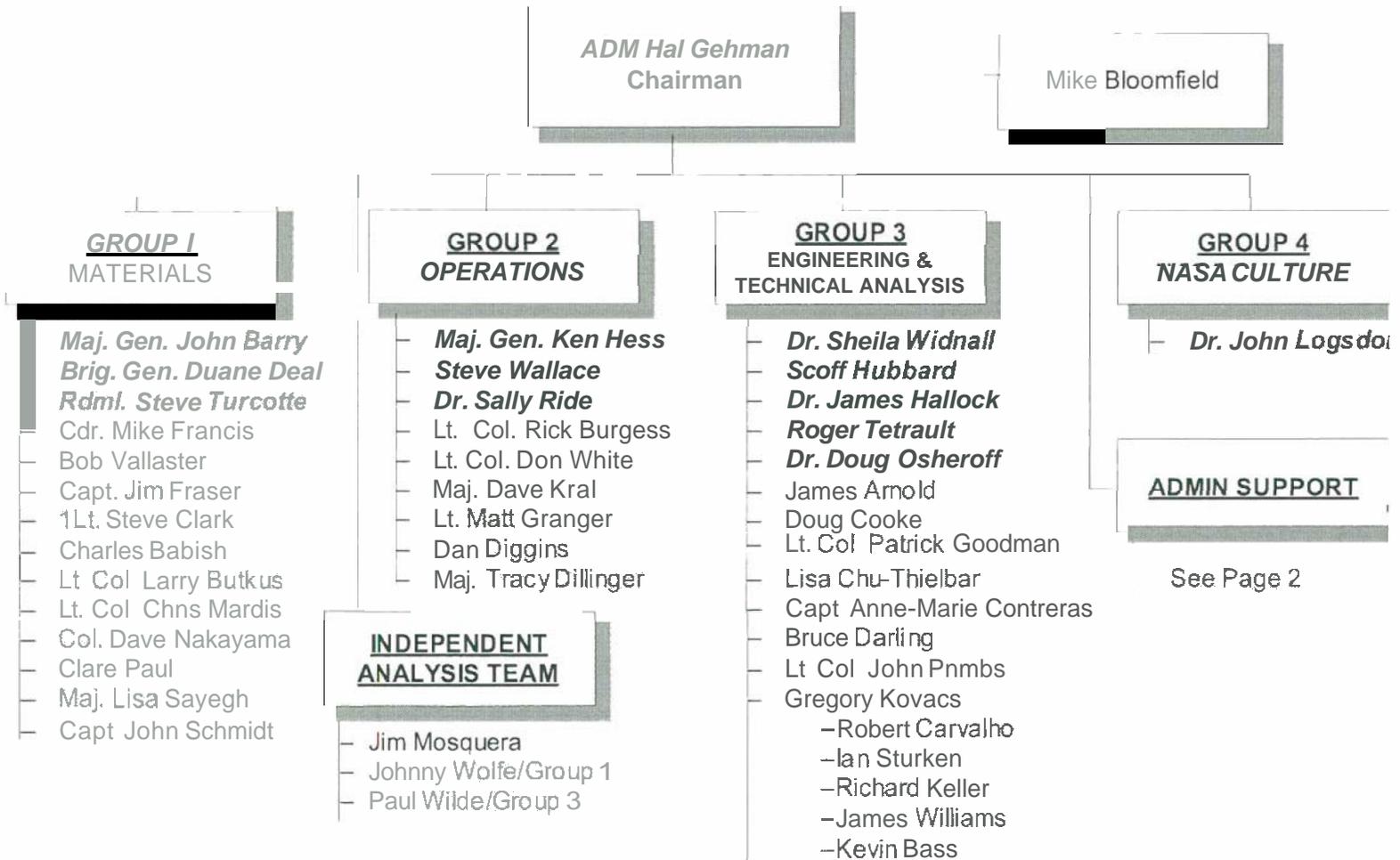
1. Serve as the Agency leadership for accomplishing all relevant assessments, inspections, analyses, and tests necessary to support the identification of the root cause for the Columbia mishap. The NAIT will implement a structure, which correlates directly with the CAIB's areas of emphasis (i.e., Materials, Operations, Engineering, etc.)
2. The NAIT will work closely with the Columbia Task Force (CTF) to ensure successful **integration** with the CAIB.
3. The NAIT will have direct communication with the CAIB; however, the CTF will still be responsible for action tracking and **configuration** management of all products.
4. The NAIT will utilize existing MRT processes and procedures to accomplish action reporting, facility and hardware release, test approval on impounded hardware, data impounding and release, and all other established investigation procedures.

5. **The NAIT will provide requested information and documentation for the CAIB to complete the final report documenting the results of the Columbia accident investigation.**

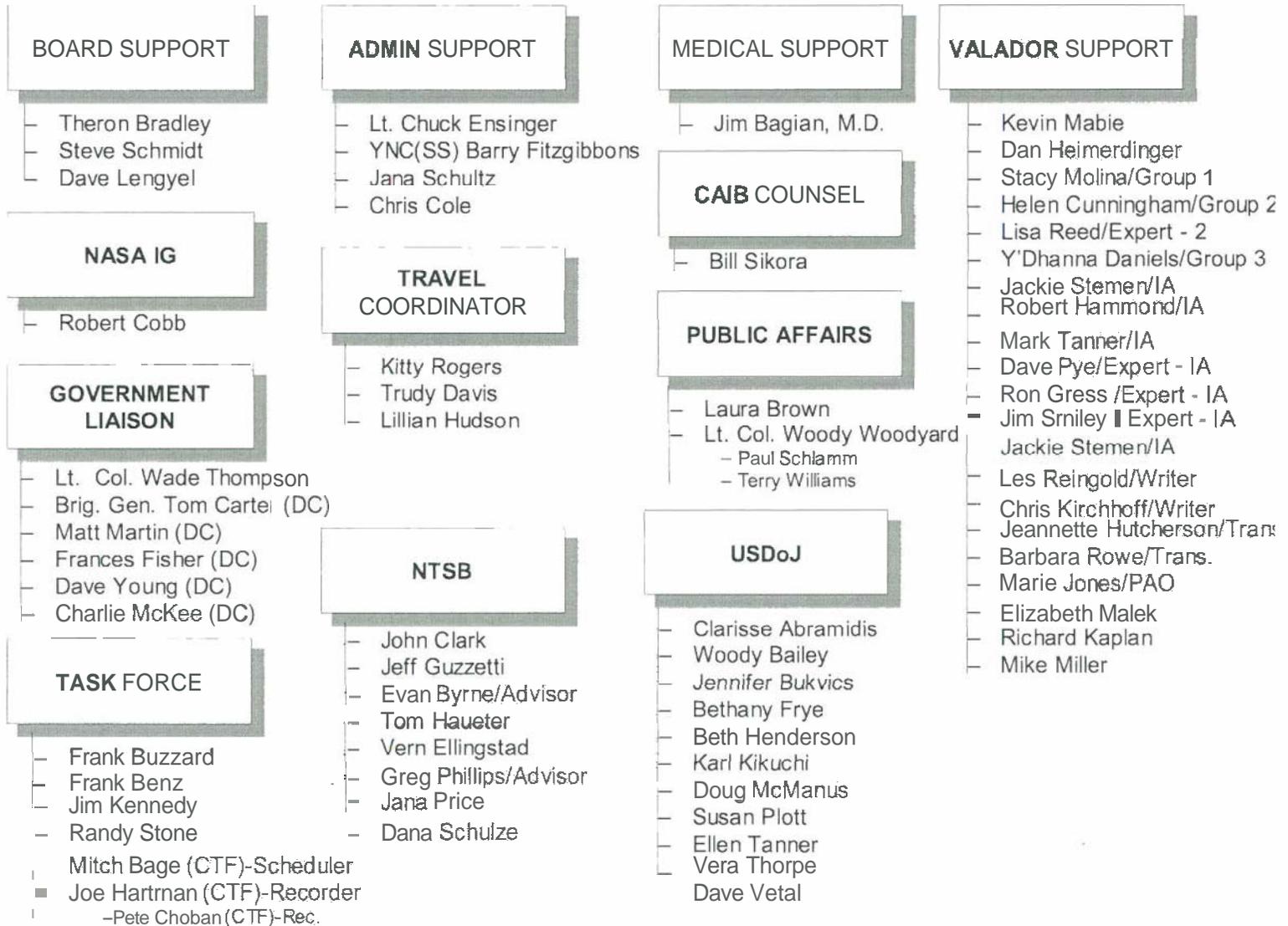
Approved:

**Brock R. Stone
Chairman
NASA Accident Investigation Team
March 18,2003**

Columbia Accident Investigation Board



Columbia Accident Investigation Board Administrative



Appendix F: Guidelines for Handling of Freedom of Information Act Requests

The following describes the process the CAIB will use to respond to all requests made by a "third party" to the CAIB for all records related to the **Columbia/STS-107** accident investigation. Consistent with its delegated authority, the CAIB will apply the established **FOIA** procedures set out in 14 C.F.R. Section 1206 to such requests. The goals of this process include assurance of timely responses to requests, thorough documentation of all records requested by and released to third parties, and publication of those records through a readily available internet web site.

This process applies to all "third parties" defined as any person or organization other than 1) NASA or other **Federal** agency employees directly involved in the Columbia accident investigations, 2) **CAIB or NASA contractors directly** involved in the Columbia accident investigation, 3) other Federal agencies or Congress.

The following process will be followed in handling third-party requests:

Processing requests:

Any request from third parties to the CAIB for Columbia-related records will be processed under the FOIA procedures set out in 14 C.F.R. Part 1206, including log-idlog-out of all requests. Any request to the CAIB by a third party for Columbia-related records must be in writing and submitted to the CAIB. **Requesters** must put **their** requests in writing, primarily to clarify the information being sought and to facilitate locating responsive records. Written requests can be submitted electronically through the e-mail address identified on the CAIB website.

All requests will be processed promptly: the requests and records determined responsive to the requests will be promptly located and reviewed, and timely decisions will be made regarding release. All **draft** responses (initial determinations) will be reviewed expeditiously by FOIA staff, designated attorneys, and appropriate technical personnel.

Publicly available web site for released records:

- a. Web page publication: All Columbia-related records will be released only by publication (in PDF format) through a web portal that can be accessed through a link on the CAIB web site. (www.caib.us).
- b. Digital conversion of documents: The **information/records** to be released will be converted to digital format.

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Appendix G: Guidelines for Witness Interviews

1.0 Purpose for conducting interviews:

- 1.1 Determine factors relating to the mishap in order to prevent recurrence.
- 1.2 Gain insights into possible contributing factors.
- 1.3 Establish a direction for the investigation.
- 1.4 Complement other phases of the investigation.

2.0 Before the interview:

- 2.1 Rank potential witnesses and start interviews with the highest priorities first.
- 2.2 Use written statements to weigh the merit of spending time with selected witnesses. Not all witnesses need be interviewed.
- 2.3 Use a minimum number of interviewers (at least two, but more than two only if necessary). Not all the Board members need to attend each interview.
- 2.4 Obtain as much background information **as** possible on the witness and on the circumstances relating to the occurrence. **If** you expect a witness has additional information not **included** in the written statement, that individual should be interviewed. Some witnesses warrant interview even though they have completed a written statement.
- 2.5 Build a list of questions that need to be asked prior to the interview.
- 2.6 Attempt to isolate witnesses before the interview and only interview one person at a time.

3.0 **Interview** techniques:

3.1 Ideal **time/location**:

3.1.1 Perform interviews as soon as possible. Memories fade or get distorted by other events, therefore the first interview should be done with as little delay as possible. Conduct subsequent or follow-up interviews as necessary for clarification.

3.1.2 Attempt to interview the witness at the location where he viewed or **experienced** the incident.

3.2 Setting the interview tone:

3.2.1 Do everything possible to prevent intimidating the witness.

3.2.2. Show **each** witness the same courtesy and consideration you would appreciate if **the** situation were reversed. Encourage the witness to tell the story in his or her own way without questions, comments, suggestions, or interruptions. Periods of silence while the witness collects his or her thoughts can encourage the witness to expound more fully and avoid omissions. The interviewer's ability to be a good listener and keep the witness talking is essential. Successfully interviewing witnesses is primarily an application of common sense

3.2.3 Establish and maintain a polite but professional rapport **with** the witness; above all, do not show disbelief, disrespect, or anger toward either the witness or his responses.

3.2.4 **Start** with what the witness knows first. Ask the witness to provide, in narrative fashion, without interruption, the information he has, and only **after** he has **completed** speaking should the interviewer begin asking general open-ended questions. As the witness speaks, take note of details that need amplification, but reserve questions until the witness has finished relating the **information** he has.

3.3 Questions:

3.3.1 Question the witness **one** person at a time. Others in the room should take notes until the lead interviewer asks for their questions.

3.3.2. Arrange and ask your questions in a logical sequence. Progress from one question to the next in a given area before continuing to the next area. Questions should progress from very general to the more specific.

3.3.3 Keep the questions short and to the point. Do not lead the witness.

3.3.4 Ask one question, and allow the witness to respond fully before asking a second question.

3.4 Noting observations:

3.4.1 Pay attention and do not **express** emotion to cultivate a witness' candor. Audible cues and body language can indicate validation or **disagreement**, subtly smothering a witness's account.

3.4.2 Observe ~~non-verbal~~ communication (avoid telephone interviews). Ask about sounds, smells, and feelings.

3.5 Maintaining focus:

3.5.1 Avoid leading the witness with information he has not offered.

3.5.2 Keep the witness focused on his personal observations. If he reports that someone else described the occurrence, take that individual's name and contact information and consider contacting the person later.

3.5.3 Do not let the witness ask you questions concerning the investigation. Anticipate that a witness will express curiosity about the investigation but do not provide responsive information.

3.5.4 Avoid jargon and acronyms and advise the witness to stop the interviewer if they need to ask questions about the interview or to obtain clarification.

3.5.5 Do not assist or correct the witness

4.0 Recording the interview:

4.1.1 Ask for permission to record the interview. If the interview is being tape recorded, clearly indicate the date, time, purpose, and location of the interview at the beginning of each recorded interview. Inform the witness that a paper copy of the transcript of the tape will be provided for their review and comment as soon as possible.

4.1.1.2 Record the following witness introduction at the beginning of each tape.

"The purpose of this safety investigation is to determine the root cause, or causes, of the mishap involving the Space Shuttle Columbia that occurred on February 1, 2003 and to develop recommendations toward the prevention of similar mishaps in the future. It is not our purpose to place blame or to determine legal liability. Your testimony is entirely voluntary, but we hope that you will assist the Board to the maximum extent of your knowledge in this matter.

Your testimony will be documented and retained as part of the mishap investigation report background files but will not be released as part of the investigation board report.

NASA will make every effort to keep your testimony confidential and privileged to the greatest extent permitted by law. However, the ultimate decision as to whether your testimony may be released may reside with a court or administrative body outside of NASA.

For the record, please state your full name, title, address, employer, and place of employment."

4.1.2 Begin each interview with a blank tape and, if possible, use one tape per witness

4.2 Have each individual clearly state his name prior to asking questions if there are multiple interviewers.

4.3 Avoid non-verbal responses such as hand gestures or nodding of the head during a taped interview.

4.4 Let the witness know he controls the use of the recorder, and that he may ask for the recorder to be turned off at any **time**. It helps the interviewee maintain a sense of control. Also, identify on the record anyone else present during the interview.

4.5 Clearly label the physical media when the interview is completed with the name of the witness and the interviewer along with the **date/place** of the interview.

4.6 Take detailed notes of the interview if the witness does not consent to having the interview tape recorded. Later, reduce those notes to a document reflective of what the witness related to the interviewer. Request that the witness review the draft statement and provide any clarifications to the content of the statement. Document the date that the witness reviewed **the** statement.

5.0 Protection of witness statements:

5.1 Statements made to safety investigators may be accorded privileged, limited-use status, and witnesses are protected in accordance with NASA Safety **Program** policy (NPD 8621.1H Para 1.j). It is otherwise an un-sworn statement, as investigators are specifically prohibited from taking safety-related testimony under oath.

6.0 Administrative:

6.1 Interviewing is one of **the most** time- and labor-intensive aspects of an investigation.

6.2 Witness information should include full name, title, organization, and **duty/position** currently **performed**, address, and phone number.

6.3 Expect your administrative staff to need 7 hours worth of transcribing and typing for each hour of testimony.

6.4 The first interview is generally the most accurate.

7.0 Concluding the interview:

Thank witnesses for their cooperation and time in providing the information and statements. Leave a phone number and address where you can be reached should the witnesses recall additional information. Courtesy is important in concluding the witness interview.

Witness Interview Worksheet

Name: _____

Date: _____ Time: _____

Address: _____

Phone: _____

Employer: _____

Work Phone: _____

The following representation was specifically made to me in advance of my giving this witness statement:

"The purpose of this safety investigation is to determine the root cause, or causes, of the mishap involving the Space Shuttle Columbia that occurred on February 1, 2003 and to develop recommendations toward the prevention of similar mishaps in the future. It is not our purpose to place blame or to determine legal liability. Your testimony is entirely voluntary, but we hope that you will assist the Board to the maximum extent of your knowledge in this matter.

Your testimony will be documented and retained as part of the mishap investigation report background files but will not be released as part of the investigation board report.

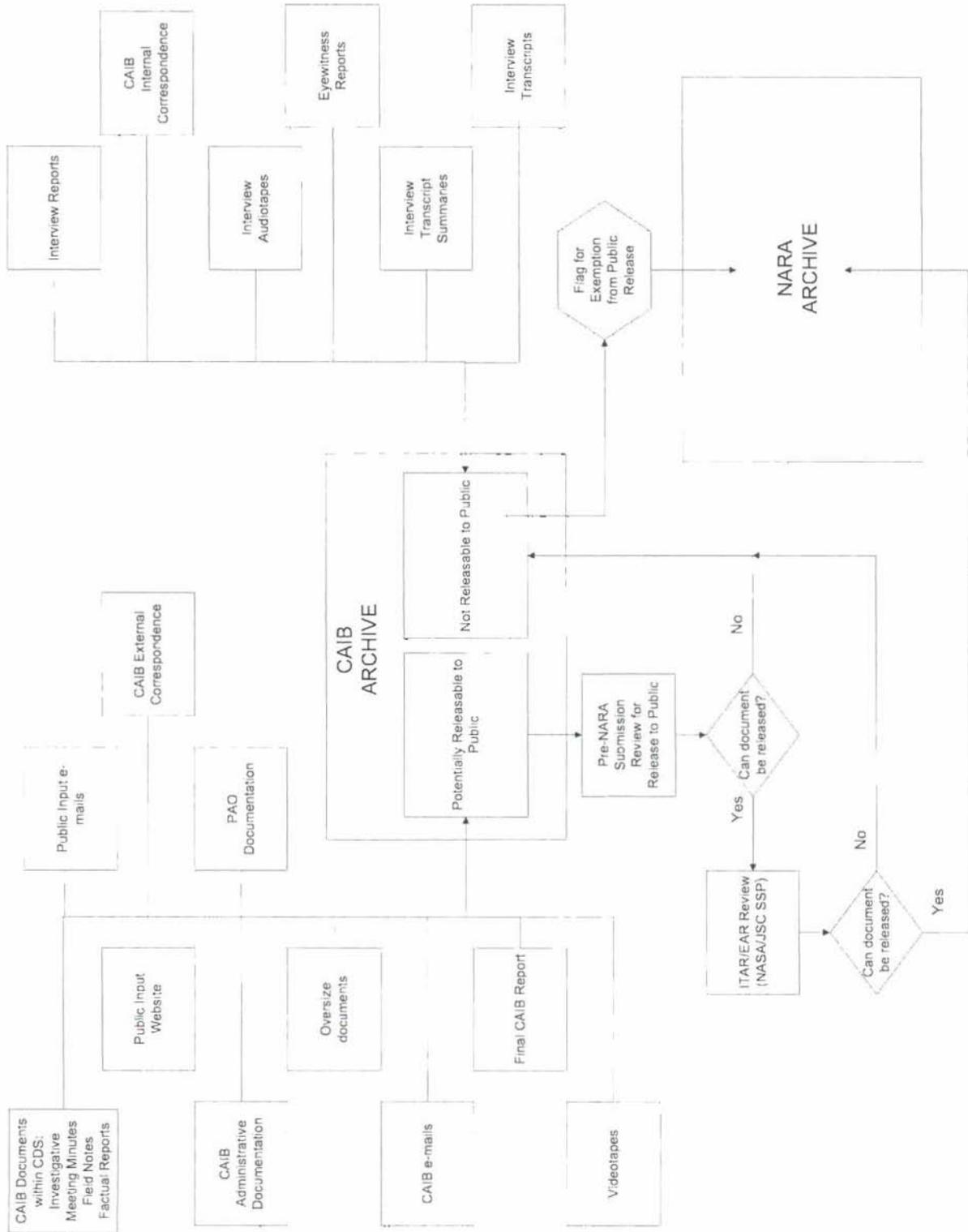
NASA will make every effort to keep your testimony confidential and privileged to the greatest extent permitted by law. However, the ultimate decision as to whether your testimony may be released may reside with a court or administrative body outside of NASA."

Signature of witness: _____

_____ Date: _____

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Appendix H: Department of Justice Document Archive Process



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Appendix I: Guidelines for Establishing, Controlling, and Executing Administrative Procedures

Certain administrative procedures are necessary to ensure proper support for Board activities. These administrative procedures describe execution of processes such as security, travel, computers, telephones, staffing, facilities, contact information, and so on.

The executive secretary shall maintain a current list of applicable processes. As Board or staff members identify the need to document or revise administrative processes, they should request the executive secretary to establish a procedure and assign a lead person to document the process. After the process is written down, it should be given to the executive secretary who will obtain approval of the Board Chairman or his authorized representative. The **executive secretary** will then distribute the process description and make it electronically available as appropriate.

As a minimum, the process description should include:

- A short title of the process being described
- The purpose of the process, in a few sentences
A simple, **user-friendly** description of **the** steps involved in the **process**, such that Board and staff members can understand and execute the process
- A identifier as to the process **number** (to be provided by the executive secretary)
- A revision date **and/or** number for **configuration** control
- The names of the cognizant staff member for the process and the description **preparer**
A space for the approval signature of the Board Chairman or his authorized representative

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Appendix J: Impoundment and Access to Documents **and/or** Data

The process for impounding documents **and/or** data related to the Columbia Accident Investigation is as follows:

All STS-107 and Orbiter Vehicle (OV) 102 flight preparation, mission data, and accident investigation data will be impounded and controlled to preserve evidence related to the Columbia accident. The process for impoundment is described as follows:

1. Inventory documents **and/or** data upon receipt.
2. Control physical access to impounded material. Impounded material must be attended by authorized **personnel** or secured in a locked room or storage container at all times.
3. Impound original hard copies of documents **and/or** data and this physically impounded data shall constitute the permanent record for the accident.
4. Secure the original data and a backup copy of data contained in an electronic information system. This will constitute the **impounded** data. After the data is impounded, the information system may be brought back on-line for **normal** use.
5. Make the **information** system available to the CAIB, if requested.
6. Forward requests for copies of documents **and/or** data in NASA's possession to NASA. NASA will process these requests in accordance with the requirements of **the** FOIA.
7. Forward requests for copies of documents **and/or** data generated by or on behalf of the CAIB to the CAIB point of contact for FOIA. The Board in accordance with the requirements of the FOIA will process these requests.

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Appendix K: Release of Impounded NASA Hardware and Facilities

The process for obtaining the approval of the CAIB for the release of NASA hardware and facility assets that have been impounded to preserve evidence related to Columbia accident is as follows:

The NASA official with responsibility for the asset to be released shall prepare a written request that detail:

1. A description of the asset and its relationship to the flight of Columbia, and the rationale for the release of the asset.
2. A delineation of the steps that have been taken to preserve any available evidence from the asset.
3. Any information that supports a conclusion that no meaningful additional evidence can be reasonably obtained from the asset without its release for processing.
4. The consequences if the Board does not release the asset.
5. A condition of any release will be that the asset will be blue-tagged (??) as having relevance to the Columbia accident investigation and its custody and location will be continuously documented and monitored by NASA personnel.
6. A further condition will be that the processing and any evidentiary results derived from the processing will also be appropriately documented and monitored by NASA personnel.

The Mishap Response Team (MRT) will review and concur on all requests. The MRT will recommend to the CAIB that the asset be released. The MRT will forward the written request to the Executive Secretary of the Board for final approval by the Board Chairman. Upon the signed approval by the Board Chairman, the asset is released to NASA for appropriate use.

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Appendix L: Initiation of Testing on Recovered Debris

The process for obtaining the approval of the CAIB for the initiation of testing on debris recovered from Columbia is as follows:

The NASA official who wishes to initiate testing on debris recovered from Columbia shall prepare a written request which details:

7. A description of the debris, including the location from which it was recovered, its current location and condition, and the best estimate of the debris' relationship to Columbia.
8. A delineation of the steps that have been taken to document the pre-testing condition of the recovered debris.
9. A description of the proposed testing and any **effect** the testing will reasonably have on the debris.
10. A description of the results expected to be obtained from the proposed testing.
11. Any justification for immediacy in initiating testing.

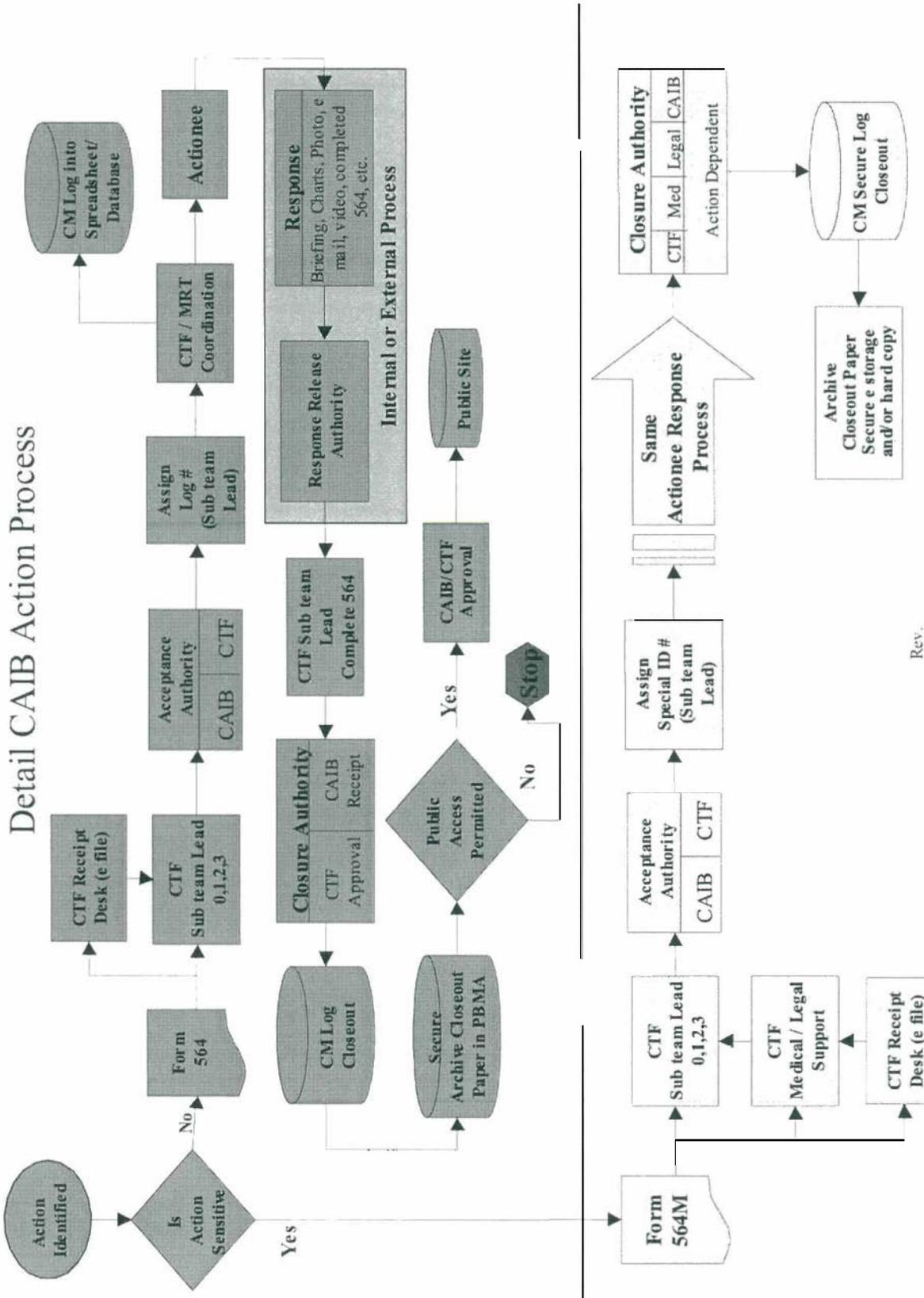
The Mishap Response Team (MRT) will review and concur on all requests for testing. The MRT will recommend to the CAIB that the testing be initiated. The MRT will **forward** the written request to the Executive Secretary of the Board for final approval by the Board Chairman.

Upon **the signed** approval by **the** Board Chairman, the proposed testing may be initiated on the condition that the results will be provided simultaneously to through the MRT with a copy to the CAIB.

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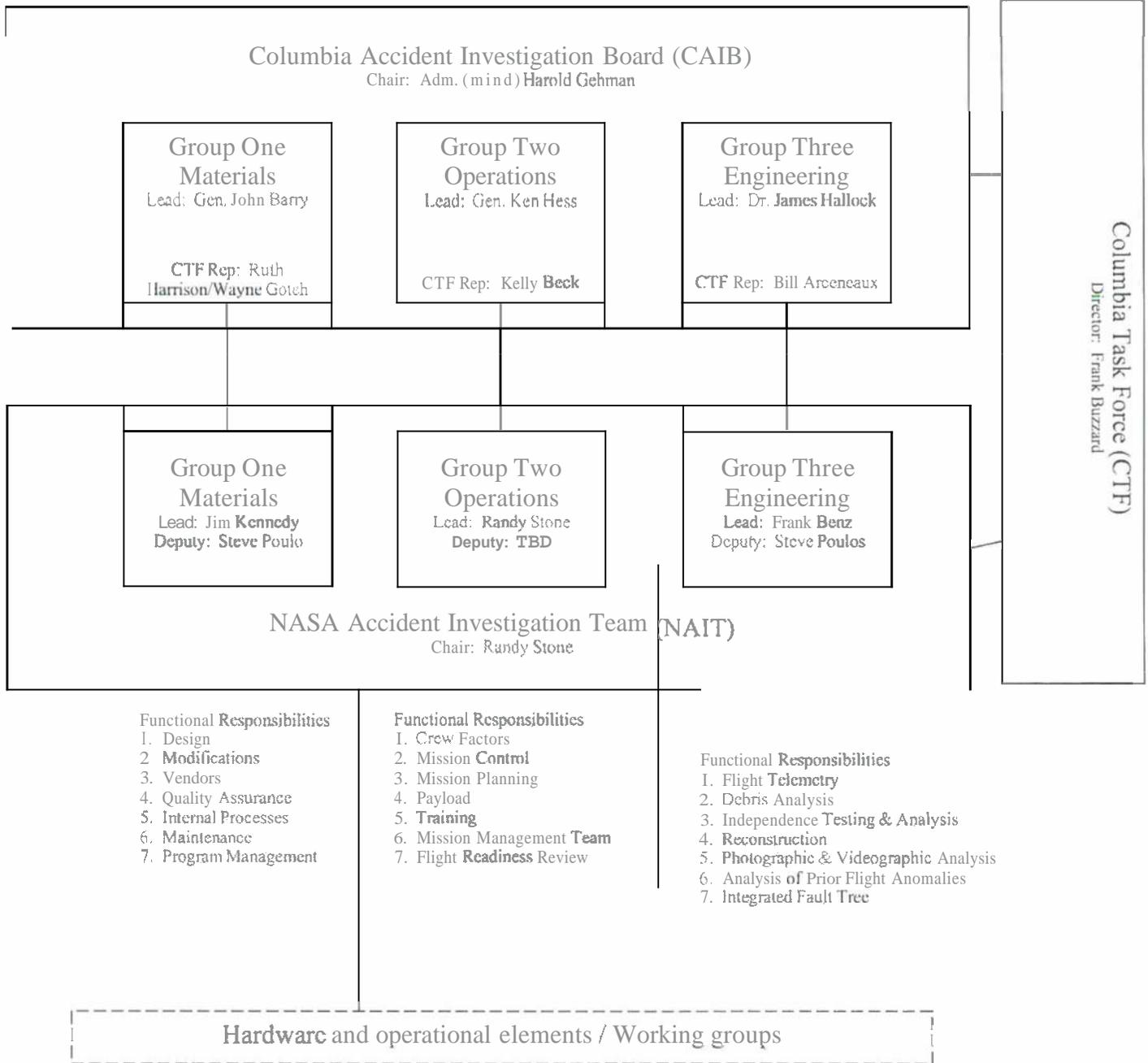
Appendix M: Process for Requesting Information from CTF

Detail CAIB Action Process



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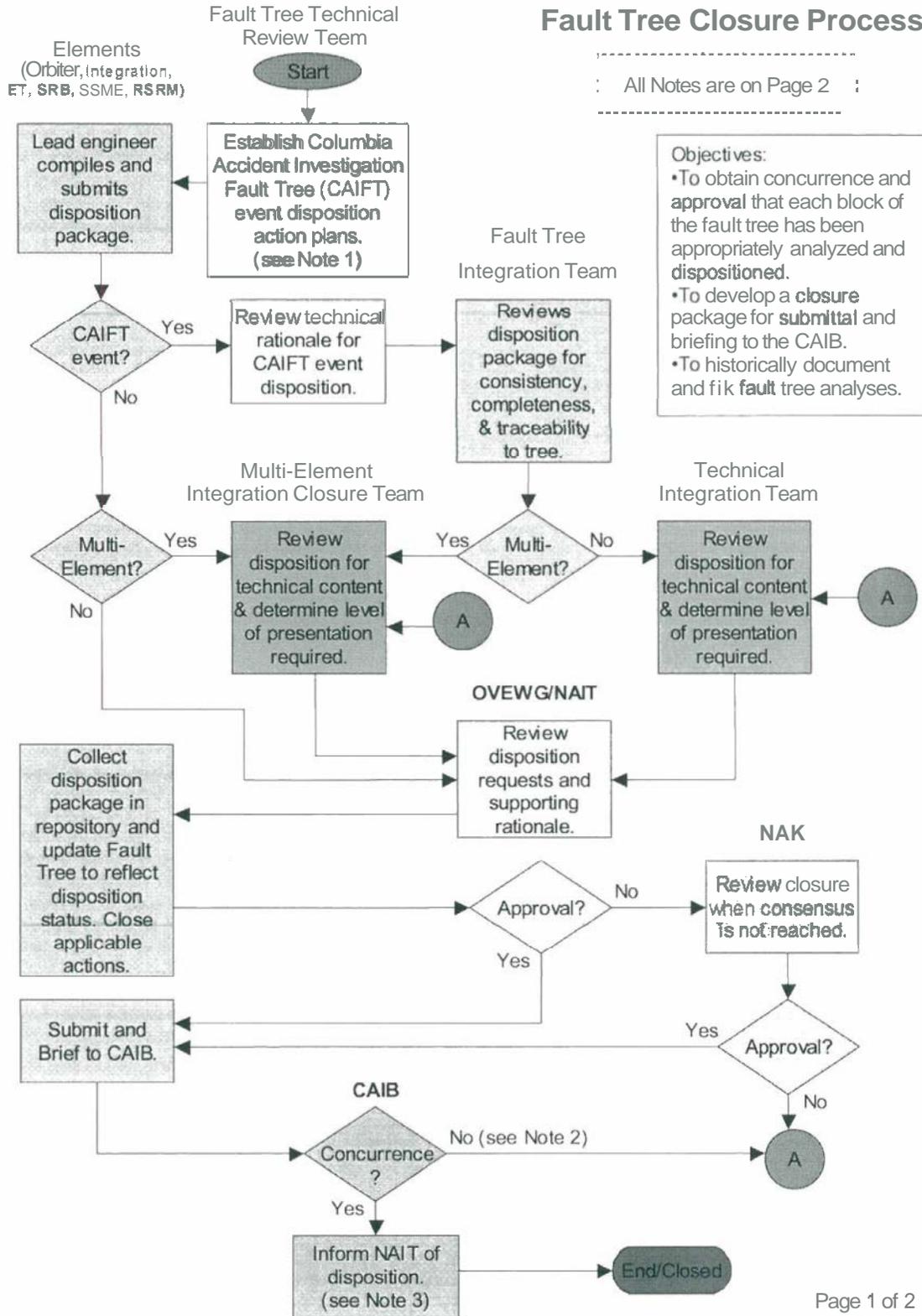
Appendix N: CAIB Organizational Relationships



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Appendix O: Fault Tree Closure Process

Fault Tree Closure Process



Fault Tree Closure Process Notes

Note 1:

•Fault tree closure rationale needs to address two critical questions:

- 1) Can the event happen?
- 2) Did the event happen?

•All pertinent data and analysis needs to be provided (including OEX data) to address these questions in order to close a fault tree block.

Note 2:

•If additional information is needed, information should be requested by the CAIB via an e-mail to the appropriate party. E-mail must request clarification only requiring no new development effort or formal OVEWG or NAIT action.

•If **non-concurrence** is based on technical disagreement with the NAIT approved closure, then the CAIB should submit through the CTF their disagreement via a new CAIB request (Form 564). The CTF will provide this new request to the NAIT for disposition via existing processes.

Note 3:

CAIB Dispositions to NAIT upon approval:

- No Comment
- Initiating Event
- Contributing Cause
- Not a Cause
- Not a Cause Supplemental (Not a contributor to this mishap, but may need to be addressed for future flights)

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Appendix Q – CAIB IT Systems Interfaces

The CAIB utilizes several software systems to assist in the investigation process. Figure A-1 depicts elements of the IT tool suite and the interfaces. Numbered **arrows**, which correspond to the numbered descriptions below, represent information flows.

Productivity and Administrative Tool Kit

- 1.) Field notes, factual and analytical reports are created by each group on standalone **PCs**. The files are transferred by CAIB members to personal folders on a shared driver on the DOJ Sewer. The shared drive ensures backup **capability/disaster** recovery for data on standalone personal computers in each group.
- 2.) These group-created products may be uploaded to Investigation Organizer (**IO**) as closure rationale for various elements of the **engineering/management** investigation logic tree
- 3.) The **GroupSystems** collaboration tool is used by the CAIB to **generate** issues, facts and storyboard products. Storyboards are then used to populate the **IO engineering/management** investigation logic tree.
- 4.) Electronic copies of interview transcripts, once signed off, are scanned and then uploaded to the Concordance Document Management tool, which is used to parse this data for relevant, topical excerpts. Non-attributive interview excerpts may be used to populate the **CaseMap/Timeliner** tool.

Investigation Tool Kit

- 5.) Investigation Organizer is the primary investigation management tool for the CAIB. Documents, digital **photographs/video**, links are uploaded to the **IO** database to support the **engineering/management** investigation logic tree.
- 6.) The **CaseMap/Timeliner** tool is used for detailed analysis of **management** decisions and communications timelines.
- 7.) The **CAIBADMIN website (www.caibadmin.us)** provides a source of public inputs which may be useful as a source of data for the investigation. These inputs may be uploaded to **IO** on an as needed basis.

Document Management Tools

- 8.) The Process Based Mission Assurance (PBMA) is the primary source of NASA-provided data to the CAIB. Data from PBMA is loaded to the Concordance Document Management tool, which provides full **text search** capability for research purposes. PBMA data is also pulled into **IO** to populate the **engineering/management** investigation logic tree.

9.) Excerpts **from** interviews stored in the Concordance Document Management tool may be transferred to the **CaseMap/Timeliner** tool for investigatory purposes.

Public Access

10.) The **CAIB Website** Public Access (www.caib.us) is used to promulgate investigation information to the general public. An electronic form is provided on this **website** to provide investigatory inputs to **the** CAIB via the **CAIBADMIN website**.

Appendix R: Process for Making Board CAIB Activities Open to the Public

1.0 Purpose: The Columbia Accident Investigation Board (CAIB) is keenly aware of the public's interest in its activities, and of the Board's responsibility to the American people responsible for objectively, promptly and efficiently completing their the mishap investigation of the loss of the space shuttle Columbia. The Board is composed wholly of full-time officers and **employees** of the Federal Government. In doing so, the Board intends to open certain of its activities to the public consistent with conducting an efficient safety investigation.

The CAIB is not required to conduct its activities pursuant to the Federal Advisory Committee Act of 1972, 5 U.S.C. App § §1 *et seq.*, (FACA). However, the Board has determined that it is appropriate to use provisions of FACA as a model to achieve public input and awareness. Through FACA, Congress has sought to assure that advisory committees:

- a) Provide advice that is relevant, objective, and open to the public;
- b) Act promptly to complete their work;
- c) Comply with reasonable cost controls and record keeping requirements.

2.0 Requirements: In order to accomplish the objectives of FACA the Board will open activities to the public by:

- a) Arranging public hearings during the fact-gathering phase of the investigation in conjunction with periodic open meetings of the Board at reasonable times and in a manner or place reasonably accessible to the public, to **include** facilities that are readily accessible to and usable by persons with disabilities, consistent with the goals of Section 504 of the Rehabilitation Act of 1973, as amended;
- b) Publishing adequate appropriate notice of public **hearings/open** meetings in the Federal Register as provided in 3.0 below;
- c) Maintaining a toll-free number at 1-888-703-CAIB (2242) that will provide an opportunity for the public to provide information directly to the Board;
- d) Maintaining a publicly accessible web site located at <http://www.caib.us>, that contains relevant information **concerning** the Board and its activities, including the Board's Charter; biographies of all Board members; detailed minutes and transcriptions of all public **hearings/open** meetings; any documents provided to board members for use in such meetings; announcements of scheduled future public **hearings/open** meetings; a list of all fact-finding trips taken by Board members; any scheduled future fact-finding trips by Board members; press releases; contact information (including the toll-free number and an e-mail address that can be accessed anonymously); and documents provided to members of the public pursuant to Freedom of Information Act requests;
- e) Maintaining records of expenditures.

3.0 **Public Hearings/Open Meetings** of the Board: The Board will conduct public hearings in conjunction with periodic open meetings of the Board on a monthly basis during the fact-gathering phase of the investigation. **When** time permits, notice of the public hearings will be made at least 15 calendar days in advance through notification to the media in the geographic area where the hearing will take place. Scheduled public hearings will also be posted on the Board's web site and advertised through Board press releases. Notices will include the time, date, place and purpose of the meeting, a summary of the agenda **and/or** the topics to be discussed, and a statement that members of the public not scheduled to speak may not offer oral comments, but are invited to submit written comments.

Witnesses Persons who may have technical, organizational or other insights of particular interest to the public will be scheduled to appear before the Board to answer questions at **these** public hearings. In addition, NASA employees and employees of NASA contractors who can provide insight into the Shuttle Program, the flight of STS-107, **and/or** the investigation into the loss of Columbia may also be scheduled to appear before the Board at these public hearings.

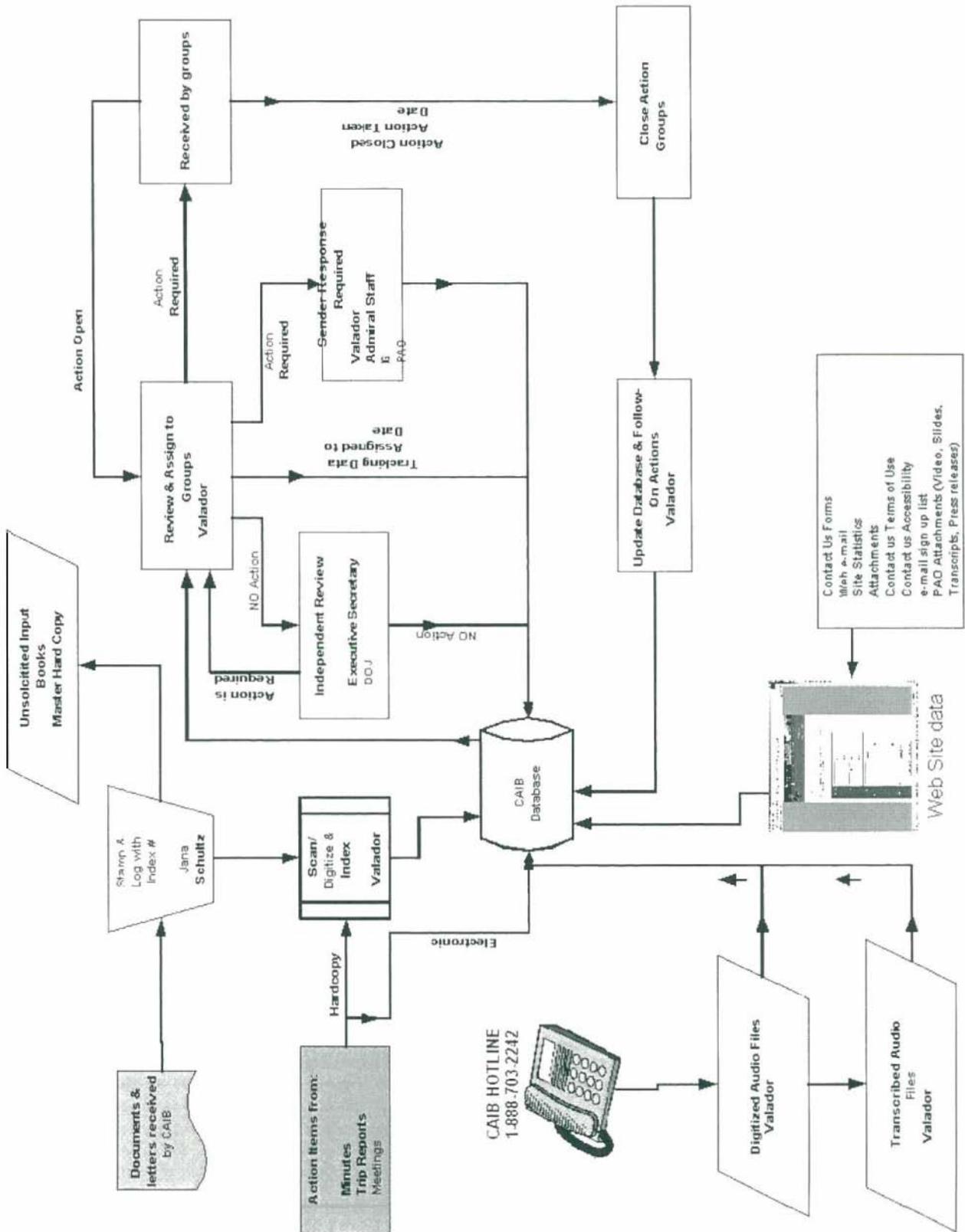
Public hearings conducted in conjunction with open meetings of the Board will be scheduled to last approximately four hours. **In** order for the board to hear from the greatest number of witnesses, individual witness presentations to the Board will be limited as necessary to accommodate the number of people scheduled to appear.

Detailed minutes with transcriptions of all public **hearings/open** meetings will be taken and posted on the Board's web site, and will be included with the **final** public record of the Board's findings. Minutes will include the date and time of the meeting; persons present including Board members and staff, other government employees, and members of the public who presented oral or written statements; an accurate description of each matter discussed; and the Board's resolution, if any, of the issue; and a copy of each report or other document received, issued or approved at the meeting.

4.0 **Role of the Executive Secretary:** The Executive Secretary of the **CAIB** will have responsibility for:

- a) Establishing the agenda for public hearings conducted in conjunction with open meetings of the Board;
- b) General supervision of the arrangements for public hearings;
- c) Making available detailed minutes with transcriptions of public hearings and open **meetings**; and
- d) Maintaining the official records of the board during its duration and transferring them at the conclusion of the board's proceedings in accordance with established document retention practices and procedures. See e.g., 44 U.S.C. §3101; 36; CFR §1234.1.

Appendix S: Process to Disposition Public Inputs



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