

CESO-S

Pamphlet  
No. 385-1-40

31 May 1991

Safety and Occupational Health  
BOARDS OF INVESTIGATION

1. **Purpose.** This pamphlet provides guidance on appointing and conducting boards of investigation and preparing board reports. By the proper use of this pamphlet, accident investigators will be able to conduct effective accident investigations promoting the best possible standards for the safety and health of Corps of Engineers activities. The actions specified in this pamphlet are required by AR 385-40 and USACE Supplement 1 to AR 385-40.

2. **Applicability.** This pamphlet is applicable to HQUSACE/OCE elements, major subordinate commands, districts, laboratories, and field operating activities (FOA).

3. **Reference.** USACE Supplement 1 to AR 385-40.

4. **Scope.** Boards of investigation are in-depth inquiries into and analyses of the events preceding, during, and immediately following the occurrence of a serious accident to determine the causes and contributing factors of the accident - the who, what, when, where, why, and how. By identifying and analyzing the causes and contributing factors of an accident we increase our knowledge of the unsafe and unhealthful conditions and practices which lead to accidents. This gives us the ability to control similar hazards, prevent the occurrence of similar accidents, and improve the safety and health conditions and practices of Corps activities. It is important to note that boards are not undertaken to assign blame or determine punitive actions for an accident. Due to the extensive nature of boards of investigation, they are reserved for serious accidents resulting in

- a. a fatal injury;
- b. a permanent total disability;
- c. a permanent partial disability;
- d. hospitalization of <sup>3</sup>five or more people; or
- e. property damage of \$50,000 or more.

In addition, a board of investigation will be conducted for any accident which a commander, at any level, determines that a board investigation is warranted due to the complexity of the accident or its potential for negative impact on the Corps.

5. **Responsibilities.**

- a. Commanders of USACE commands which incur a serious accident are responsible for

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(1) ensuring that the accident is investigated and analyzed to the extent needed to identify causal factors and systemic deficiencies and to develop countermeasures to prevent recurrence of similar accidents;

(2) ensuring that any intermediate commander and the Safety and Occupational Health Office, HQUSACE, are notified within 24 hours of its occurrence; and

(3) ensuring that an abstract report (see para. 11) is completed for each Class A or B accident (see definitions in USACE Suppl 1 to AR 385-40) and forwarded, through the chain of command, to Safety and Occupational Health Office, HQUSACE, via electronic mail within 45 days of the occurrence of the accident.

b. The president of the board of investigation is responsible for

(1) the administration, supervision, and coordination of the entire investigative effort, ensuring that board members are provided the necessary resources to complete the investigation;

(2) ensuring that board members are provided an initial briefing (see para. 7);

(3) coordinating with the on-site POC (the government representative with supervision over the accident site) for investigation arrangements and administrative support;

(4) ensuring that room and transportation arrangements are made;

(5) providing liaison and information updates for the immediate commander;

(6) assisting board members as may be necessary;

(7) ensuring timely compliance with all reporting requirements;

(8) arranging administrative support for report preparation; and

(9) briefing the immediate commander of the investigation findings, analysis, and recommendations.

c. Board members are responsible for

(1) reviewing all briefing materials to become familiar with the purpose and responsibilities of, and the procedures to be used by, the board; and

(2) giving their full attention to the investigative efforts until the board is completed.

d. The Safety and Occupational Health Office is responsible for

(1) providing guidance to the board president on the administration of the board;  
and

(2) providing technical safety and occupational health guidance.

**6. When a Serious Accident (as defined in para. 4) Occurs.**

a. The government representative with supervision over the accident site will

(1) assist, as required, with emergency response activities;

(2) determine who, if anyone, witnessed the accident and obtain a preliminary statement of what happened. Witnesses will be told the purpose of the statement (for accident prevention only, not to assign blame) and asked to provide a statement (preferably written) and the means of getting in touch with them. Preliminary statements should be obtained from individuals separately, not as a group, and preferably at or near the accident location;

(3) immediately notify the commander and the respective Safety and Occupational Health Office of the accident;

(4) obtain copies of information which may be required in the accident investigation such as SOPs, records of safety training or safety meetings, activity and job hazard analyses, project safety plans, design plans and specifications, inspection reports, equipment operating manuals and specifications, weather statements, etc; and

(5) assist the board president in travel arrangements.

b. The commander, upon first becoming aware of a serious accident which requires a board of investigation, will

(1) ensure preservation of the accident site. When emergency response actions have been completed and any hazardous conditions have been controlled, the accident site will be isolated and maintained in the same condition under which the accident occurred. In the event that it is impractical to preserve the accident scene, (e.g., the scene of a traffic accident), the commander will ensure that the entire accident scene is photographed and that any evidence or wreckage removed from the site is identified, preserved in the condition in which it was found at the accident scene, and reported to the board of investigation; and

(2) notify any intermediate commander, the Safety and Occupational Health Office, HQUSACE, and, if applicable, the US Army Safety Center.

(a) The intermediate commander will be notified telephonically.

(b) Within 24 hours of the occurrence of a government or contractor personnel Class A or B accident, HQUSACE Safety and Occupational Health Office must be notified. Telephonic notification will be made at (202) 272-0091 during duty hours or with the USACE Duty Officer at DA Operations Center, (202) 697-0218 during non-duty hours. A written copy of the notification will be sent, via facsimile, to the Safety and

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Occupational Health Office, USACE, at (202) 272-1369.

(c) In addition, for government personnel Class A or B accidents, the commander, US Army Safety Center, will be notified telephonically (commercial (205) 255-2660/4273, FTS 539-2660/4273, or AUTOVON 558-2660/4273). The Safety Center will, in turn, notify the Occupational Safety and Health Administration of the government personnel Class A or B accident. (It is the responsibility of contractors to notify the Occupational Safety and Health Administration of contractor personnel accidents).

c. All notifications will be made as soon as possible but no later than 24 hours following the occurrence of the accident. As a minimum, notification will include the following information in the following sequence:

- (a) Type of accident.
- (b) Location of accident.
- (c) Date and time of accident.
- (d) Summary of accident.
- (e) Estimated injuries/dollar losses and impact on operations.
- (f) Status of formation of board of investigation.

(g) Name, position, office, and phone number of the individual reporting the accident.

**7. Forming a Board of Investigation.** When it has been determined that a board is required to investigate a serious accident, the board will be appointed in accordance with USACE Supplement 1 to AR 385-40. Prompt appointment (within one working day of the occurrence) of a board and initiation of investigation is critical for an accurate, effective accident analysis. (See Appendix A.)

a. The board will consist of at least three voting members: in addition, non-voting advisors will be appointed to facilitate the investigation. The president will be a field grade officer or a Department of the Army civilian in the grade GS-13 or higher. The selection of board members will be based on

- (1) their understanding of the circumstances and events surrounding the accident;
- (2) their impartiality to the subject and outcome of the investigation;
- (3) their willingness to lend their assistance to the accident investigation and analysis process; and

(4) their ability to analyze accident causation and prescribe corrective measures to preclude future occurrences of similar accidents.

b. Boards investigating Class A and B accidents and Class C accidents involving property damage in excess of \$100,000 shall be appointed in accordance with the following:

(1) For an accident occurring at the district level, the board will be appointed by the major subordinate commander; with the exception of those cases identified in (5) through (7) below, board members will be selected from any USACE command other than the district incurring the accident.

(2) For an accident occurring at the laboratory level, the board will be appointed by the Director of Research and Development, HQUSACE; with the exceptions of (5) and (6) below, board members will be selected from any USACE command other than the laboratory incurring the accident.

(3) For an accident occurring at the field operating activity level, the board will be appointed by the Commander, USACE; with the exceptions of (5) and (6) below, board members will be selected from any USACE command other than the field operating activity which incurred the accident.

(4) For an accident occurring at the major subordinate command level, the board will be appointed by the Commander, USACE; with the exceptions of (5) and (6) below, board members will be selected from any USACE command other than the major subordinate command incurring the accident.

(5) For accidents occurring outside of the continental United States, board members may be selected by the intermediate commander of the USACE command incurring the accident.

(6) Members from the USACE command incurring the accident may be designated as advisors (non-voting) to facilitate the investigation of the accident.

(7) A representative of the Safety and Occupational Health Office from the USACE command incurring the accident will serve on the board as technical advisor on accident investigation and reporting and technical safety requirements.

NOTE: It is important that board members be independent. It obviously would not be appropriate to assign superiors and subordinates to the board.

c. Boards investigating an accident other than a Class A or B accident or Class C accident involving property damage in excess of \$100,000 for which the commander (at any level) determines a board investigation is warranted, will be formed at the level of the commander who requests the investigation.

d. When personnel or material involved in an accident are from differing USACE commands, the decision of who will appoint the board will be made by the

commanders of the USACE commands involved in the accident; if an agreement cannot be reached by these individuals, the decision will be made by the commander, USACE.

e. When a serious accident occurs to an individual or a unit while in the area of another USACE command, the commander who would normally appoint the board may request that the commander of the USACE command in which the accident occurred appoint the board. Coordination for a transfer of authority should include specific agreement on funding the cost of the investigation.

f. Both members and advisors will be appointed on orders (see Figure 1). The orders will specify that

(1) board members are to be relieved of their regular duties (so that they may give priority to the accident investigation) until such time as the board report is submitted to the commander for final approval.

(2) board members and advisors are responsible for following the provisions of USACE Supplement 1 to AR 385-40 dealing with the safeguarding of limited use accident investigation reports. (See Appendix G.)

Upon appointment, the board will report to the commander, or the designated representative, for the initial board briefing. The purpose of the briefing, to be conducted by the Safety and Occupational Health Office, is to instruct board members on their duties and responsibilities and provide information on the procedures for conducting the board. Initial board briefings should follow the outline presented in Table 1.

## **8. Conducting the Investigation.**

a. *Step 1.* Upon arrival at the accident location, the board shall meet with the on-site POC for pre-investigative briefings and, if required, discuss arrangements for on-site administrative support.

(1) The board president should

(a) introduce the board to the on-site POC and explain its purpose and authority;

(b) discuss the anticipated investigation procedures; and

(c) advise of the records and background information required for the investigation and any on-site support needs.

(2) The on-site POC should

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DEPARTMENT OF THE ARMY  
U.S. Army Corps of Engineers  
WASHINGTON, D.C. 20314-1000

REPLY TO  
ATTENTION OF:

CEABC-DZ (385-40)

1 January 1990

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Appointment of Board of Investigation

1. Under the provisions of USACE Supplement 1 to AR 385-40, the following individuals are appointed to a board of investigation, effective this date.

Mr. John Doe, Chief, Construction Management Branch (President)  
Ms. A. B. Smith, Southern Resident Office (Member)  
Mr. G. S. North, Military Design Section (Member)  
Mr. J. R. Brown, Safety and Occupational Health Office (Technical Advisor, non-voting)

2. The purpose of this board is to gather and evaluate information to determine the cause of a serious injury to contractor employee occurring at the Coastal Project on 31 December 1989; to develop recommendations for the prevention of future occurrences of similar accidents; and to prepare a report of their investigation and analysis findings and recommendations.

3. The board will receive a briefing by the USACE Command Safety and Occupational Health Office on the conduct and management of the investigation. The board president, members, and technical advisor shall be released from all other duties for full-time participation in the investigation and will not be removed from this detail except with my approval. A report of the investigation will be submitted to me no later than 1 February 1990.

C. D. JONES  
Colonel, Corps of Engineers  
Commanding

DISTRIBUTION  
1 to each individual

Figure 1 - Example of Board Appointment Orders

Table 1 - Outline for Initial Board Briefing

- I. Introductions
- II. Provide details of accident
- III. Discuss purpose of board
  1. Reiterate that board is for accident prevention purposes only
  2. Discuss composition of board
  3. Explain the authority for the board
  4. Discuss procedures to be followed in investigation, analysis, and report preparation
  5. Discuss release of board members from regular duties
  6. Discuss expected duration of investigation, analysis, and report preparation
  7. Discuss duties and responsibilities of members and advisors
- IV. Provide copies of accident reporting and investigation requirements (AR 385-40, USACE Supplement 1 to AR 385-40, and any locally-developed requirements or guidance)
- V. Review fundamentals of accident investigation and analysis techniques
- VI. Discuss travel requirements (preparation/pick-up of travel orders and advances; location, time, and means of departure for accident site; rooming arrangements; rental car arrangements)
- VII. Discuss special clothing requirements (including any personal protective equipment)
- VIII. Plan preliminary return transportation arrangements (subject to confirmation)
- IX. Decide upon and arrange for equipment required for the investigation
  1. forms;
  2. sketch pads;
  3. flashlight;
  4. camera (Polaroid, 35 mm, and/or video) and film;
  5. tape recording equipment and tapes;
  6. measuring or monitoring equipment;
  7. other equipment which may be needed.
- X. Decide upon and arrange for manuals (safety and operating) and industry standards required for the investigation

- (a) introduce the board to any on-site personnel who were associated with the accident or who will be providing support for the investigation;
- (b) brief the board on the availability of administrative support;
- (c) brief the board on the actions which have been taken to secure the accident site until the board has approved its release;
- (d) provide the board background information on activities leading up to the accident, including personnel and equipment involved, weather conditions, and any reports, photos, or sketches already on hand (emergency response crew reports, police or fire reports, OSHA investigation reports, etc.); and
- (e) provide the board with preliminary witness statements.

b. *Step 2.* Upon completion of the pre-investigative briefings, the on-site POC shall escort the board to the accident site.

(1) The on-site POC should introduce the board to other personnel who will be involved in the accident investigation (e.g., contractor or base emergency response personnel who will be providing information to assist in the investigation).

(2) The board will begin their preliminary on-site investigation to obtain as thorough a familiarity with the circumstances leading up to the accident as is possible and to provide a foundation for developing accident causation scenarios. Project/activity personnel should describe the accident scenario and the board members will begin formulation of accident causation. Photographs will be taken and measurements made to assist in determination of causation. The board will determine if forensic support (such as equipment inspection, materials testing, medical examination, etc.) is required.

c. *Step 3.* Upon completion of the initial on-site investigation, the board shall convene to develop accident scenarios. The board will conduct a preliminary analysis of accident causation and develop an outline for further inquiry to confirm their theory of causation and to develop additional information which is needed to complete the causation theory. During this phase of the investigation the board should keep the following questions in mind:

(1) Was safety and health included in the planning for this operation? Was a hazard analysis prepared for this activity; did it address the applicable hazards and establish effective control measures? How frequently were these plans reviewed/updated?

(2) Were personnel properly trained? Were individuals knowledgeable of the hazards associated with this activity and their controls?

(3) What hazard controls were in place?

(4) Were safety requirements communicated among management, supervisors, and workers?

(5) What equipment was required for this job activity? Was the equipment tested, inspected, properly used, and maintained? What about safety equipment?

(6) What was the policy towards safety and health?

(7) Were the personnel involved in the accident incapacitated in any way?

(8) What were the environmental factors in the accident?

(9) Were job activities supervised?

(10) Was there a history of incidents similar to those which lead to this accident? If so, how were they handled?

(11) Were there any changes in job practices, conditions, or policies at the time of the accident?

d. *Step 4.* Witnesses to the accident and project/activity personnel are interviewed to obtain any information they may have on the accident and to attempt to answer any questions that arise during the investigation and analysis processes. Witness and project/activity personnel interviews provide information which is essential to developing the accident scenario and determining events leading up to the accident. It is important that witnesses and project/activity personnel be interviewed as soon as possible. Witnesses and project/activity personnel should be interviewed one at a time; interview techniques are contained in Appendix C.

(1) The board president should introduce the board to the witness or project/activity person and explain the purpose and procedure for the board of investigation.

(2) The witness or project/activity person should be

(a) informed that this is an informal investigation;

(b) informed that although the Corps is not allowed to promise witnesses and project/activity personnel that the information they provide will be kept confidential, the Corps will take all available means to protect the identity of witnesses and project/activity personnel and will release only factual - not theorized or conjectured - information; and

(c) asked their occupation, their relation to personnel and equipment involved in the accident, their experience in the activity in progress at the time of the accident, and their location and activity at the time of the accident. The witnesses or project/activity person should be asked to tell everything they remember about the accident (particularly a description of the events leading up to, during, and following the accident) and to give their opinion of the cause of the accident, after which the board members should direct any questions they may have to the individual.

NOTE: Steps 2-4 shall be repeated as necessary to fully develop the accident causation.

e. *Step 5.* When the board is satisfied with their investigation of the on-site accident conditions and have no further need to secure the accident site, the president will advise the on-site POC that the board has no further need for securing the site. If all other parties concur (federal and state OSHA and base officials, if involved) the accident site will be released.

## 9. Analysis of Findings.

a. When the board is satisfied with the accident data it has collected, the data is analyzed to determine the cause of the accident. The board president is responsible for supervision of the analysis.

b. Investigation, analysis, and preparation of board reports will involve only those members and advisors, including their clerical support, specified in the board appointment orders. The report will not be staffed through or reviewed by other persons or Corps elements outside the safety and occupational health and command channels.

c. There are many effective methods used for conducting an accident analyses (see Appendices D, E, and F). Although this pamphlet does not prescribe a specific set of requirements or formats, the following steps are necessary for a thorough, effective accident analysis:

(1) The board develops all plausible accident scenarios. The events preceding, occurring during, and immediately following the accident are traced (and the steps laid out) to ensure an understanding of what occurred - and what was required but did not occur.

(2) The board firmly establishes the personnel, material and equipment, site conditions, and procedures involved with the accident.

(3) All abnormalities and safety deficiencies discovered during the investigative phase are listed. Every abnormality, regardless of perceived individual importance, must be brought to the attention of the entire board during their deliberations.

(4) Safety deficiencies and abnormalities are tied to the events identified in 9c(1) to establish cause-and-effect relationships.

(5) The cause-and-effect relationships established in 9c(4) are classified as either the direct cause, an indirect cause, or a contributing factor of the accident.

(a) Direct cause: That single factor which brought about the accident - generally an unsafe act.

(b) Indirect causes: Those factors which allowed the occurrence of the direct cause and led to, but did not directly initiate, the occurrence of the accident - generally an unsafe condition.

(c) Contributing factors: Factors which contributed to the occurrence or result of the accident (e.g., factors which exacerbated the degree of injury resulting from the accident) but were not direct or indirect causes. Contributing factors are usually omissions in management or administration, e.g., inadequate policy, safety standard, training, inspection, maintenance, procedure, etc.

#### **10. Development of Corrective Measures.**

a. A corrective measure shall be developed for the direct and for every indirect cause of the accident. To be effective, corrective measures must:

- (1) Be directed at all levels, i.e., workers, supervisors, and management;
- (2) Consider procedural, personnel, equipment, and environmental deficiencies; and
- (3) Be considered at all phases of the accident, that is, prior to (job planning, training), immediately preceding, during, and immediately following the accident (emergency response).

b. There is a precedence to be followed in selecting hazard control measures. This is because some control techniques are more effective or more reliable than others and because some techniques are not appropriate for certain hazards. The Corps hazard control precedence is as follows:

(1) The first precedence is to design to remove or minimize the hazard (including substituting a non-hazardous object for a hazardous object).

(2) The second precedence is to provide safety equipment (physical barriers) to protect against the hazard.

(3) The third precedence is to provide devices to warn of the hazard.

(4) The fourth precedence is to control the hazard through the use of procedures and training.

(5) The fifth precedence is for the commander to accept the residual hazards (risk) and document this risk acceptance.

NOTE: In many instances more than one hazard control procedure will be implemented. For example, when it is infeasible to implement a design to control a hazard, a combination of safety equipment, warning devices, and training is often used.

## 11. Board Report Format and Contents.

a. The purpose of the board of investigation report is to describe the accident scenario; explain the causes (direct and indirect) of, and the factors contributing to, the accident; and recommend corrective actions to control similar hazards and preclude future occurrences of similar accidents.

b. Testimony of witnesses and project/activity personnel will be summarized; witnesses and project/activity personnel will be identified only by job title or assignment. Verbatim, signed, or personally identifying statements will not be included in the board reports or in supporting documents or files.

c. Board reports are required to contain the following information and be in the following format. The first three categories, GENERAL, DESCRIPTION, AND FINDINGS, list factual information and may be printed together. The final two categories, CONCLUSIONS and RECOMMENDATIONS, are based, in part, on conjecture and each should be printed on separate pages to facilitate their removal in the event the board report is released.

(1) GENERAL. Describe the reason for the board. Specify the authority under which the board was formed and operated. List the board members and advisors by name, title, and organizational element. Give a brief summary of the accident. Describe the relation between the Corps of Engineers and the subject of the investigation.

(2) DESCRIPTION. Give the scenario of the accident, describing the factual details, to enable the reader to have an understanding of the accident.

(3) FINDINGS. List, in a logical sequence, all relevant factual findings of the investigation. The findings should provide the reader with a solid foundation on which to relate the accident causation theory and the recommendations for corrective action. Findings should include

(a) pertinent background information (climate, equipment in use, personnel training, etc.);

(b) a description of the exposure and the injury, illness, or property damage;

(c) discussions of physical evidence;

(d) a chronological account of the known accident events;

(e) a description of each hazard which caused or contributed to the accident and the means required (and whether or not they were in place) for their control; and

(f) any related information.

(4) CONCLUSIONS. List the conclusions as to the causes, direct and indirect, of

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and factors contributing to the accident. The board will consider the status of safety and health standards and operational procedures, and identify whether:

(a) standards or procedures were incomplete, unclear, impractical, or did not exist;

(b) standards or procedures were in existence but either were not known or ways to achieve them were not known;

(c) standards or procedures were known but were not enforced (specify the reasons why the standards were not enforced);

(d) standards or procedures were known but were not followed (specify the reasons why the standards were not followed).

(5) RECOMMENDATIONS. For each causal factor, direct or indirect, the board will recommend corrective actions to preclude future occurrences. As appropriate, recommendations will target all levels of involvement, e.g., Corps or contractor; worker, supervisory, managerial; field office, major subcommand, or headquarters.

(6) ABSTRACT REPORT. The abstract will be used to disseminate information on the causes of the accident and the recommendations for precluding future occurrences of similar accidents. The abstract will include only factual information. The board will develop an abstract of the accident in the following format:

(a) Type of location (e.g., construction site - trench; maintenance yard - flammable storage area; highway - four lane);

(b) Date and time of the accident;

(c) Agent directly causing the accident (e.g., trench, flammable liquid, passenger vehicle);

(d) Personnel and equipment categories (i.e., Army, contractor, other);

(e) Description of the accident;

(f) Nature and number of injuries and property damage;

(g) Causes, direct and indirect, of the accident;

(h) Remarks;

(i) Recommendations for corrective actions to preclude future occurrences of similar accidents (one for each direct and indirect cause).

In writing abstracts for board of investigation reports the identity of the accident will not be revealed: individuals will be referred to by job titles or assignments, not their names,

and locations will be listed generically. Statements of conclusions on accident causation or recommendations for corrective actions will be prefaced by the following: "It is the opinion of this board that the following direct and indirect factors led to the occurrence of this accident." or "It is the opinion of this board that implementation of the following corrective actions will reduce the probability of future occurrences of similar accidents."

(7) ATTACHMENTS. The report should include photographs, sketches, diagrams, and other exhibits such as inspection reports, accident prevention programs, training documents, operation manuals, etc., which are necessary to present a clear description of the accident and corrective measures.

## 12. Report Submission and Follow-up.

a. Upon completion of the investigation, the board of investigation package will be prepared for forwarding to the Safety and Occupational Health Office, HQUSACE. The board of investigation package will consist of four items:

(1) The US Army Corps of Engineers Accident Investigation Report (ENG Form 3394). This report will be completed by the supervisor of the individual involved in the accident in accordance with the form prescribing directive, USACE Suppl 1 to AR 385-40.

(2) The board of investigation report, which will be submitted as an enclosure to ENG Form 3394.

(3) A letter of transmittal, signed by the commander of the USACE command incurring the accident, which delineates implementation of the board recommendations. The letter of transmittal shall include

(a) the commander's concurrence or nonconcurrence with the board findings and recommendations, and

(b) an implementation plan for corrective actions taken or proposed to satisfy the board recommendations. The implementation plan will state how, when, and by whom the corrective actions were/will be implemented and state any recommendations for additional actions by higher headquarters or other agencies.

(4) A letter of transmittal, signed by the commander who appointed the board, which indicates the commander's concurrence or nonconcurrence with the board findings and recommendations and which notes any omissions, deficiencies, or inaccuracies in the report package as well as the means for their resolution.

b. Upon completion of the board of investigation report, the board will brief the commander of the district, laboratory, field operating activity, or major subordinate command sustaining the accident of their findings and recommendations.

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c. The board of investigation package will then be submitted to the commander who appointed the board of investigation. The appointing commander will review the quality and effectiveness of the package. A second letter of transmittal (see para. 12a(4)) indicating the appointing commander's concurrence or nonconcurrence with the board of investigation package, will be forwarded with the package to the Safety and Occupational Health Office, HQUSACE. In addition, if the appointing commander believes the report has omissions, deficiencies, or inaccuracies, these will be noted in his letter of transmittal, as will the means for their resolution.

d. The board package will be forwarded so that it reaches the Safety and Occupational Health Office, HQUSACE, no later than 45 days following the occurrence of the accident.

e. For contractor accidents, the recommendations of the board will be forwarded by the contracting officer or his representative to the contractor for implementation. The contractor will be given a suspense date for complete implementation of the recommendations and will be required to formally notify (in writing) the commander how and when implementation is completed.

f. For all board reports, the commander of the USACE command incurring the accident will submit to the commander at the next higher level, no later than three months following submission of the report, a letter detailing the means of implementation of the recommendations and/or the status of those yet to be fully implemented.

g. Abstract reports will be electronically forwarded to the Safety and Occupational Health Office, HQUSACE, for review and dissemination to all USACE commands.

FOR THE COMMANDER:

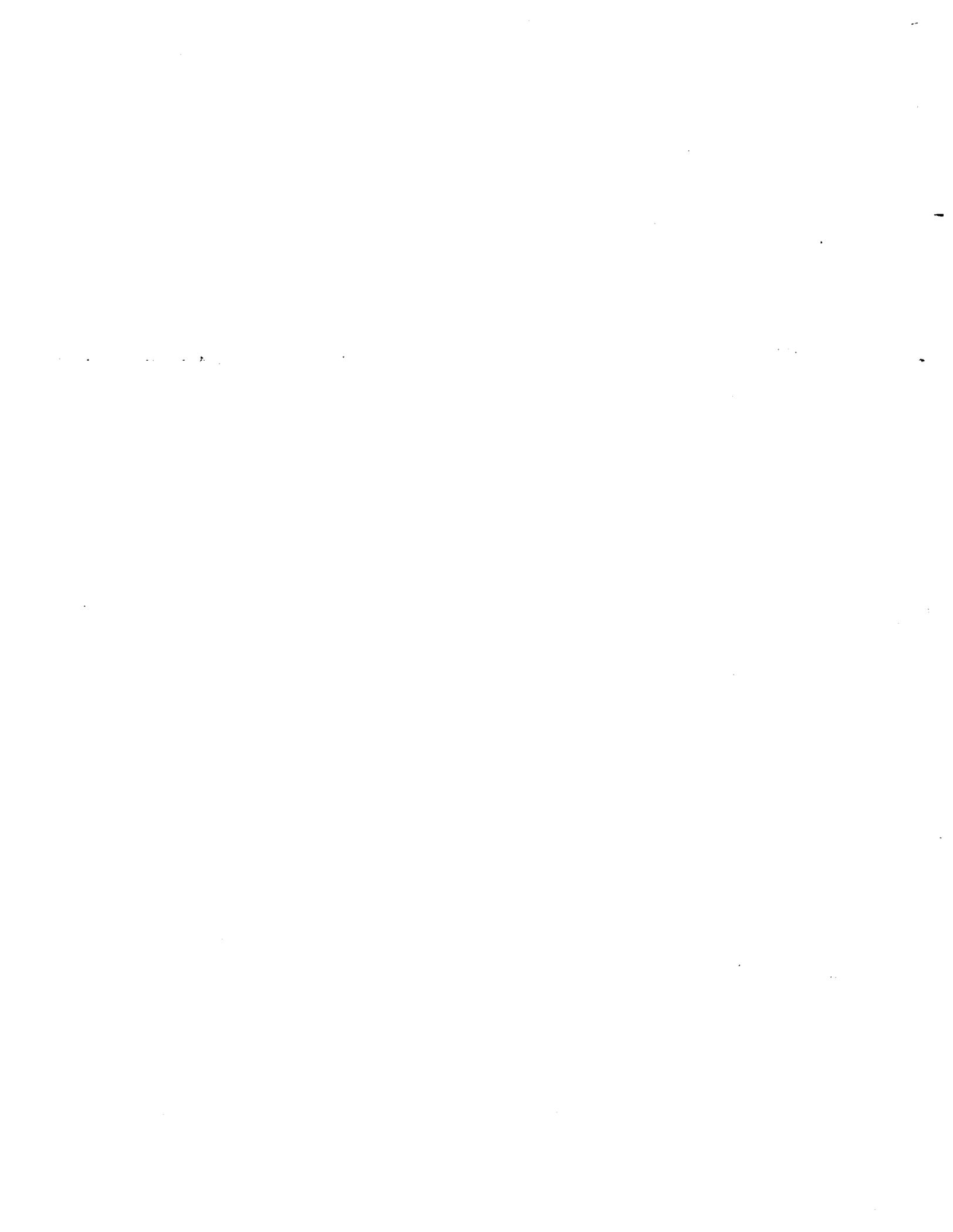


ROBERT L. HERNDON  
Colonel, Corps of Engineers  
Chief of Staff

7 Appendices  
APP A - Sample of Pre-accident  
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APP B - Investigation Procedures  
APP C - Interview Techniques  
APP D - Causation Analysis Techniques -  
Causal Factors Analysis  
APP E - Causation Analysis Techniques -  
Failure Tree Analysis  
APP F - Change Analysis  
APP G - Release of Accident Information

**APPENDIX A**  
**SAMPLE OF PRE-ACCIDENT PLANNING**

1. Plans should be developed to prepare for boards of investigation prior to their appointment. Selecting and training potential accident investigators and preparing accident investigation equipment and literature before the occurrence of an accident allows for the rapid appointment of the board of investigation and the prompt appearance of a qualified and ready board at the accident site.
2. The following actions may be taken in preparing boards of investigation:
  - a. Develop a list of potential board members. This list would include members qualified to investigate activities typical of the Corps, e.g., dredging, construction, operations and maintenance, etc.
  - b. Develop accident investigation information for training purposes.
  - c. Select individuals for training in Corps of Engineers' accident investigation procedures and requirements.
  - d. Assemble accident investigation equipment and literature in investigation kits.



## APPENDIX B

### INVESTIGATION PROCEDURES

1. When conducting an accident investigation, keep in mind that the purposes of accident investigation are (1) to determine the direct and indirect causes of, and other factors which contributed to, the accident, and (2) to develop appropriate corrective measures to control similar hazards and to reduce the likelihood of future occurrences of similar accidents. In order to get accurate information, the investigation should commence as soon as is practical after the occurrence of an accident: Details tend to become vague, memories lapse, people begin to have second thoughts as to what happened or what they thought happened, and there is an increased chance of disturbing the accident site or losing evidence to the accident as time goes on.

2. The following procedures are the basis for conducting any type of accident investigation. These procedures are not always applied in the sequence in which they are listed, and some of them may be repeated several times

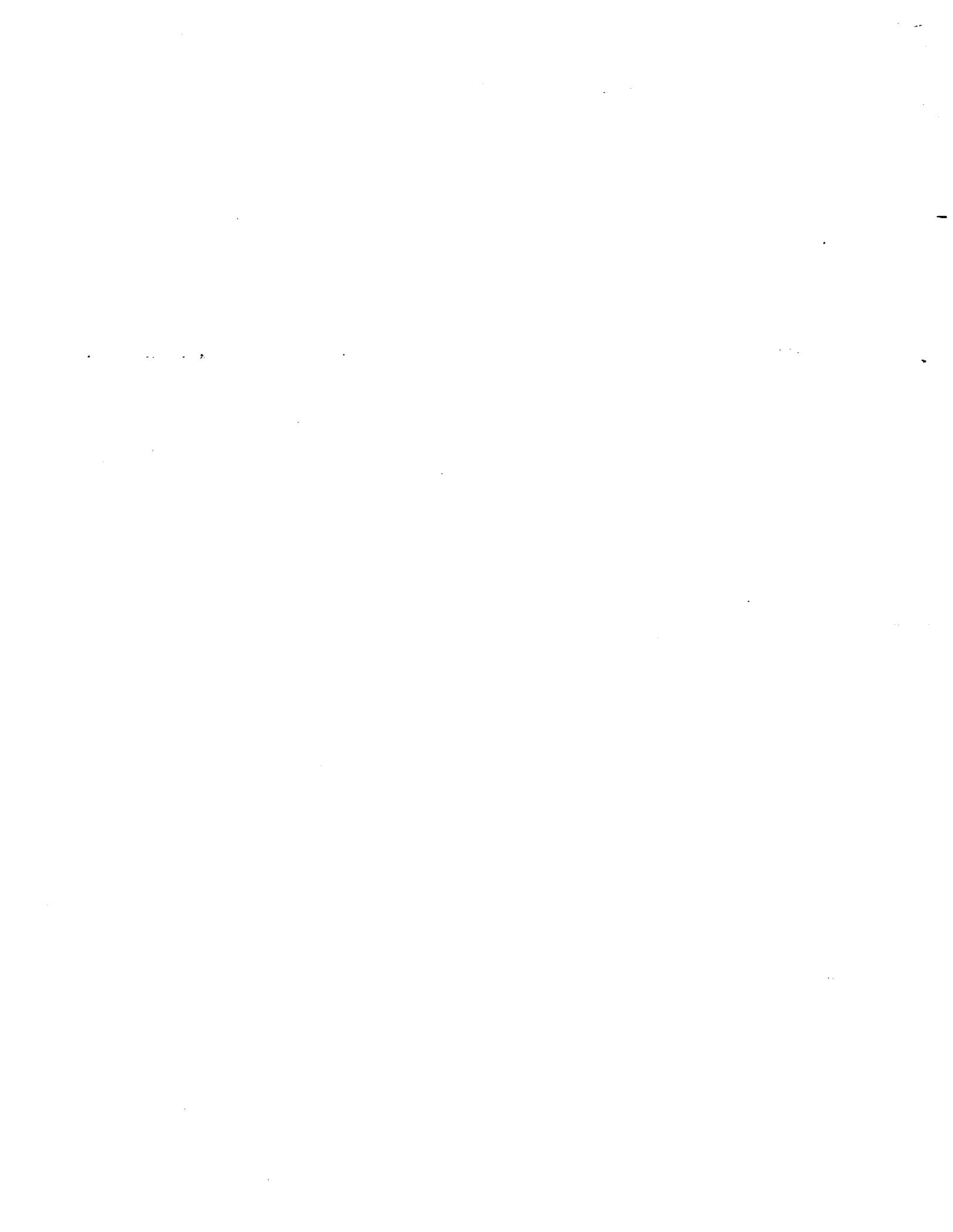
a. *Record preliminary information.* Determine the time and location of the accident, the personnel and equipment involved, and the sequence of events leading to the accident. Formulate preliminary accident causation factors.

b. *Research safety and health policies, procedures, and standards.* Determine what safety policies and procedures were applicable to the situation and how they were enforced. Check regulations and industry standards and practices for information on hazards which may have caused or contributed to the occurrence of the accident and the means for controlling those hazards.

c. *Investigate the accident scene and all property and equipment involved.* Get a mental picture of the physical layout of the accident scene to provide a frame of reference and to better understand the sequence of accident events. (This will also enable one to better analyze causation factors and determine the extent of investigation required). Preserve and catalog the accident scene and the physical evidence: make sketches of the scene of the accident and interrelationships between personnel, equipment, and their environment; take photographs and measurements of physical evidence. Obtain forensic testing of personnel, equipment, and material as needed.

d. *Interview witnesses and project/activity personnel.* Collect information about the sequence of events; causation factors; environmental and equipment conditions and usage; management policy; personnel supervision, training, knowledge of job hazards and safety practices, motivation, and work practices, etc.

e. *Analyze information.* Using the information collected thus far, write down what happened in the order in which it happened. Relate job hazards, and the lack of their control, to accident causation factors. Repeat steps 2 - 4 until a complete accident sequence is developed. Keep activity, personnel, supervision, equipment, and environment interrelationships in mind.



## APPENDIX C

### INTERVIEW TECHNIQUES

Interview one person at a time.

Place the interviewee at ease: interview - do not interrogate.

Be friendly - respect the emotional state of the interviewee.

Explain that the purpose of the interview is to accurately determine what happened, how it happen, and what can be done to prevent it from happening again. Stress that the interview is for accident prevention only, not to assign blame.

The board president should lead the interview. Questions should not be "fired off" at the interviewee but should be presented in a orderly manner. When possible, phrase questions in the third person.

Do not embarrass the interviewee by reacting to obvious errors.

Do not show impatience.

Do not lecture the interviewee on correct procedures or requirements.

Avoid leading questions.

Do not insist on a yes or no answer.

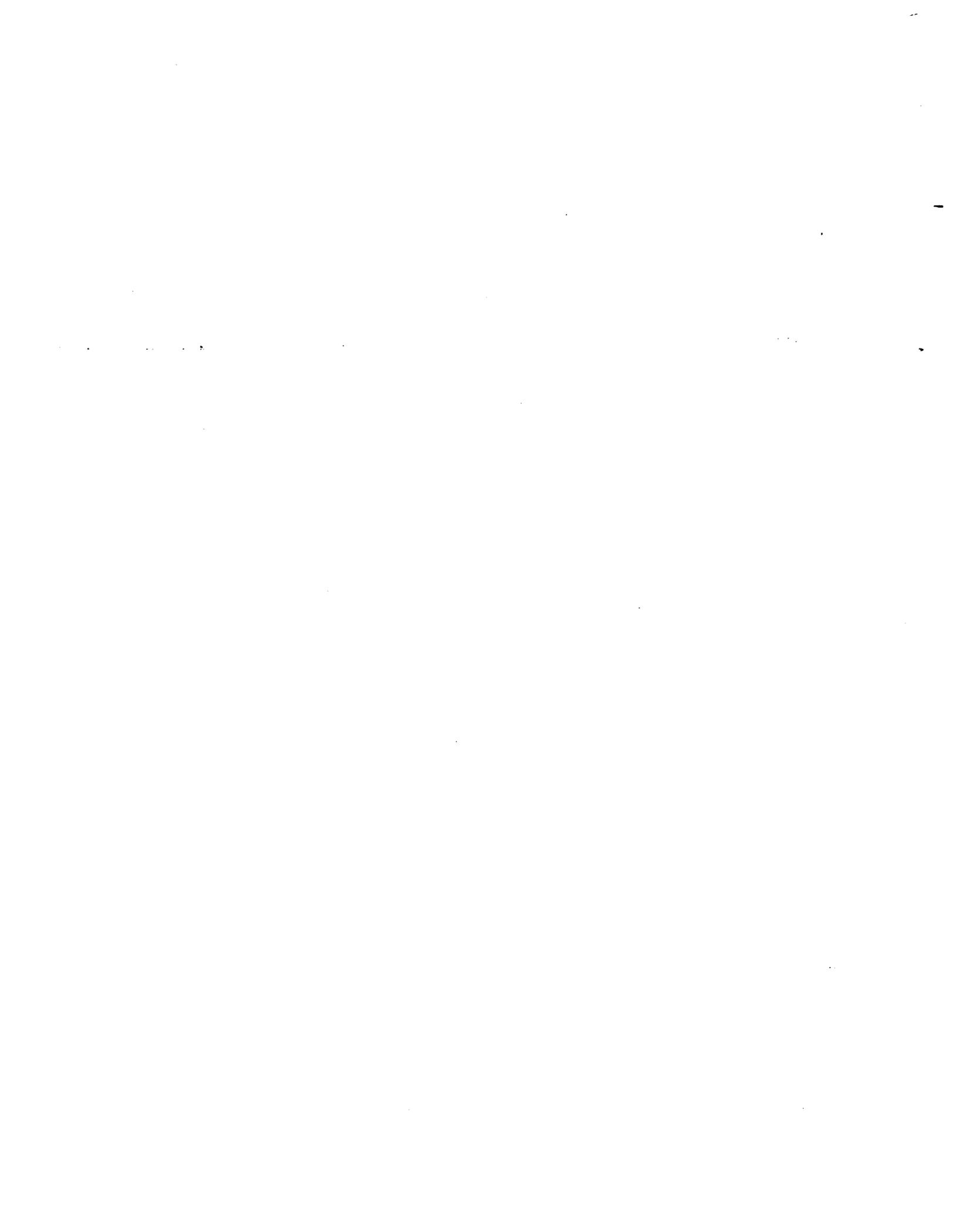
Do not assist the interviewee in answering questions.

Avoid revealing to the interviewee items of a confidential nature which were discovered during the investigation.

The witness should be encouraged to use sketches, maps, etc., to assist in describing what they witnessed.

The board president and members should keep notes of the statements made during the interview but should be unobtrusive in their note keeping. If the interviewee does not object, the interview should be recorded on tape.

Upon completion of the interview, confirm significant points with the interviewee before sending them on their way. Ask them if they know of other personnel who could provide information to the board. Ask the interviewee for suggestions to prevent the recurrence of this or similar accidents. Express appreciation for his assistance.



APPENDIX D  
CAUSATION ANALYSIS TECHNIQUES  
CAUSAL FACTORS ANALYSIS

1. Causal factors analysis is a tool used by accident investigators to determine the root causes of an accident by defining
  - a. the events and conditions that caused the accident situation, and
  - b. the management failures that allowed these events and conditions to develop.
2. Using this analysis, accident causation factors emerge as sequentially and/or simultaneously occurring events which interact with existing conditions, and these events and conditions are traced to reconstruct the accident causation sequence. Causal factors analysis is also helpful in
  - a. developing evidence, i.e., determining what evidence is important to the investigation and what testing needs to be done to identify failure modes or deficiencies/abnormalities in personnel, equipment, or the environment which caused or contributed to the accident;
  - b. increasing the success rate of detecting causal factors through development of the sequence of events and conditions of the accident;
  - c. determining where in-depth or additional investigation or analysis is needed;
  - d. clarifying the logic behind the accident causation;
  - e. illustrating multiple causation, i.e., linking the direct and indirect causes and contributing factors (presence of unsafe conditions and practices and management failures) with the accident sequence;
  - f. illustrating the chronology of the accident, the interrelationships of personnel, equipment, environment, and procedures, and the development of the causation theory.
3. The investigation team needs to identify not only the events themselves but also the relevant conditions affecting each event in the accident sequence and establish a logical flow of events. This flow of events, the conditions under which the events occurred, and the relation of events and conditions to the accident is then depicted graphically using a causal factors chart (see Figure D-1). The flow of events need not lie in a single event chain but may involve confluent and branching chains. It should be noted that because event and causal factors will usually not be discovered in the sequence in which they occurred, the causal factors chart should be developed as a skeleton of the final product and upgraded as additional facts are gathered.

4. The following guidelines are suggested for constructing causal factors charts.

a. events should be arranged chronologically (from left to right) in a horizontal direction and should be represented in rectangles. The primary sequence of events should be depicted in a straight horizontal line (or lines in confluent or branching primary chains); secondary event sequences, contributing factors, and systemic factors should be depicted on horizontal lines at different levels above or below the primary sequence. Events should be tracked in a logical progression and should include all pertinent occurrences. Events should be phrased in the active tense and describe an occurrence or happening, e.g., "employee fell from scaffold."

b. conditions should be arranged chronologically, branching vertically from the events chain, with the placement of the conditions corresponding with their occurrence in relation to the event; conditions should be represented in rectangles. Conditions should be phrased in the passive tense and describe a condition, state, or circumstance, e.g., "scaffold did not have the required railing."

c. each event and condition should be derived logically and directly from the event and condition (or events and conditions in the case of a branched chain) preceding it. Events and conditions should be connected by arrows.

d. each event and each condition should be based upon factual evidence; if based on hypothesis this should be clearly indicated, such as by the use of dashed-line rectangles or ovals.

e. each event and condition should describe a single, discrete occurrence by a short sentence, with one subject and one action, e.g., "crane boom collapsed" not "crane began to tip, boom collapsed, and fell on foreman's truck." Each event and condition should be described in precise terms, e.g., "truck operator turned and looked through rear window while backing", not "truck operator looked through window while backing."

f. each event and condition should be quantified when possible, e.g., "worker attempted to lift 100 lb box of nails", not "worker attempted to lift box of nails." If possible the event and condition blocks should contain the time of occurrence.

5. The following example illustrates the use of causal factors analysis.

An investigation of a serious property damage accident revealed the following findings.

A fire occurred on a tug while towing a scow. The fire originated in the main wiring truck of the upper engine room and spread to the wood paneling which covered the bulkheads. The crew discovered the fire when searching for a tripped breaker when an alarm for a running light sounded in the wheel house. The crew attempted to extinguish the fire with carbon dioxide and dry chemical extinguishers, but heat and smoke drove them out and would not allow entry into the lower engine room to start to fire pump. The fire extended forward and upward damaging berthing, galley, and the wheel house. The fire was apparently caused by an electrical short to ground (electrical arcing) due to the chafing through of the electrical

feeder cable insulation. Wood paneling was used to house the cable run, and wood paneling was used to cover the interior of the tug. The fire was extinguished by the US Coast Guard who ordered the boat evacuated.

The causal factors analysis is developed on the following page. Using the causal factors analysis, the following recommendations for corrective action were developed:

- use less combustible material to cover bulkheads,
- encase main cable trunk in metal,
- inspect other tugs for similar conditions.

D-4

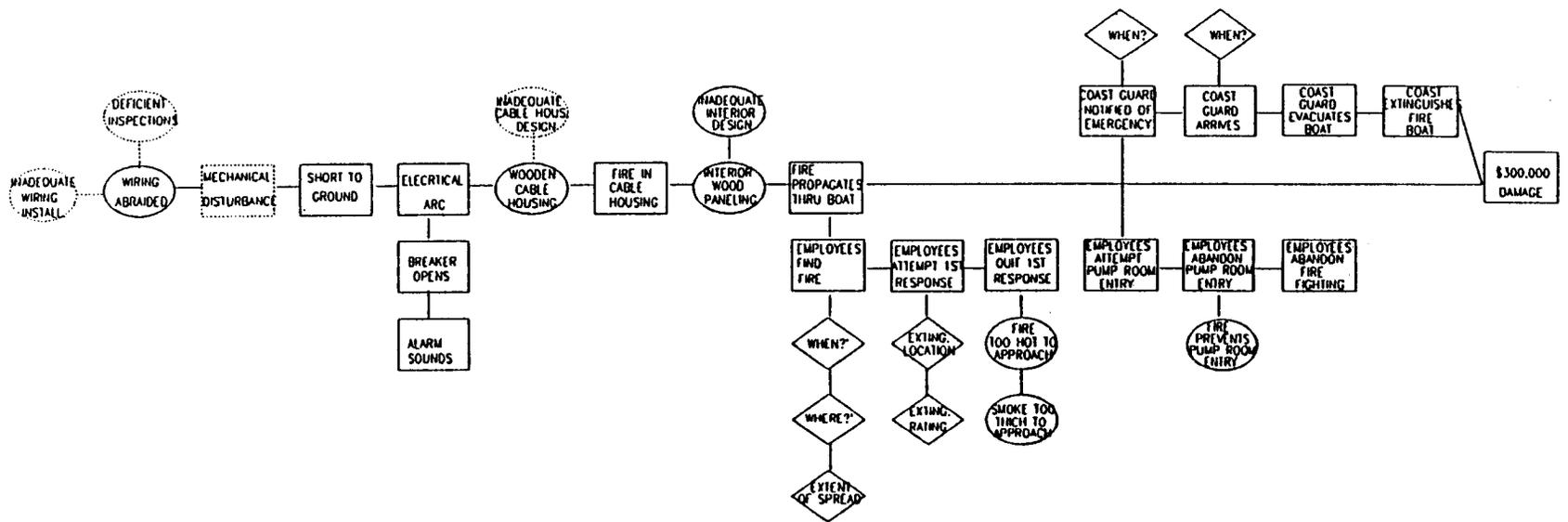


Figure D-1 - Causal Factors Chart

APPENDIX E  
CAUSATION ANALYSIS TECHNIQUES  
FAILURE TREE ANALYSIS

Failure tree analysis is a form of accident analysis whereby potential failure factors are divided into their fundamental elements. The approach is based on the premise there are four possible "components" of a failure:

personnel;  
equipment and facilities;  
environment; and  
procedures.

These components are divided into the principles, which if violated or lacking, and conditions, which if in existence, could lead to an unsafe condition or behavior. Each principle and condition is analyzed to determine if it contributed to the failure. The term "failure" is used instead of "accident" to show that the analysis is not limited to accidents but can be utilized for any failure.

In developing a failure tree the unwanted or injurious incident is stated as the end event. On the next level the four failure components - personnel, equipment and facilities, environment, and procedures - are listed, succeeded by their root principles and conditions. Failure tree analysis is performed by working down the branches of the tree to determine the principles and conditions which caused or contributed to the incident. Each accident component and its principles and conditions is analyzed to see if it caused or contributed to the accident and either highlighted - indicating it was a factor - or removed from the tree. At the completion of the analysis, the true failure tree remains.

The failure tree may then be analyzed to determine the root causes of the its principles and conditions; that is, each principle and condition can be defined as an end event and then analyzed to determine the principles and conditions which allowed its occurrence. For example, if it is determined that a person was performing a task (e.g., activating a power switch) without authorization and the task contributed to the accident (electrocution of power line worker), then "unauthorized activation of power switch" becomes the incident and this incident is analyzed - using the failure tree - to determine which principles were violated or lacking and which conditions were in existence to allow this incident.

Table E-1 will assist in performing a failure tree analysis.

TABLE E-1 - ANALYSIS OF FAILURE COMPONENTS

**PERSONNEL** - consideration is given as to whether the personnel involved in the accident were authorized to be engaged in the task they were undertaking when the accident occurred; qualified (physically, psychologically, trained, motivated, and experienced) to be performing the task; and properly assigned to the task.

*AUTHORIZED* - was there a problem with the authorization of the personnel engaged in the task?

- were personnel not authorized or the authorization invalid?
- were authorizations not made at the proper levels?

*ASSIGNED* - was there a problem with the personnel assignment for the task?

- was there a problem with personnel *RESOURCES*?
  - was the number of personnel assigned inadequate for the task?
  - were the types (skills, job series, areas of expertise) of personnel assigned inappropriate for the task?
  - was the structure (supervisors, workers, support personnel, aids, etc.) of the work team inadequate?
- was there a problem with *PERSONNEL MANAGEMENT*?
  - was there inadequate supervision?
  - was there a problem with the cohesiveness of the work team?
- was there a problem with *INTERACTION/INTERFERENCE OF TRADES*?
  - was there a problem with the number or size of the work teams?
  - was there a problem with the types (activities) of the work teams?

*QUALIFIED* - was there a problem with the qualifications of the personnel?

- was the person *PHYSICALLY* unqualified?
  - was the person under the influence of chemical agent (alcohol, drugs) which would adversely affect his performance?
  - was the person performing while fatigued?
  - was the person suffering from any illness or injury which prevented them from safely performing their tasks?
  - was the age of the worker a negative factor in his performance?
  - was the worker not in the proper physical condition for the job demands?
- was the person *PSYCHOLOGICALLY* unqualified?
  - was the worker not motivated to perform his assigned tasks in a safe manner?
  - was the worker's *BEHAVIOR* contrary to safe performance?
    - was horseplay a factor?
    - was the worker impatient?
    - was the worker inattentive (daydreaming, not minding the tasks at hand)?

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TABLE E-1, CONTINUED

- was the worker overconfident?
- was the worker in a hurry to get the job done?
- was the worker indifferent to safe job performance?
- was the person under some sort of *CONFLICT*?
  - was there an inner conflict (personal values, goals, objectives) between the person and the job mission, requirements, or objectives?
  - were there peer conflicts which affected performance?
  - were there management-supervisor-worker conflicts which affected performance?
- was the person under some sort of psychological *STRESS*?
  - were there family or financial stresses which affected performance?
  - was the worker overloaded with work activities or responsibilities?
  - were external forces pressuring the employee to speed through the job or perform in an unsafe manner?
  - were there unnecessary job requirements which created stresses?
  - were performance expectations unrealistic?
  - were work conditions undergoing any changes which could create stresses?
  - was the person uncomfortable with their performance abilities?
- was the person *EMOTIONALLY DISTURBED*?
- was there *WORKER DISSATISFACTION* with job tasks and performance?
  - was safety promoted?
  - did the job lend itself to boredom?
  - did the person get feedback on their job performance, a feeling of contributing to the organization's mission and goals?
  - was the worker not rewarded for good performance?
  - was the worker not corrected for inadequate performance?
  - did the worker have inadequate leadership?
- was the incident due to a deficiency in *TRAINING*?
- did personnel not receive adequate initial and periodic *JOB TRAINING*?
  - was the training not current?
  - was the level and scope of training insufficient?
  - was the training not validated?
  - was training not performed under the environmental factors to which the worker was exposed?
  - had the worker not completed the requirements for any licenses or certification required to perform their job activities?
- had the worker not adequately mastered and maintained the basic job skills necessary for his general job position?
- was the worker not informed of all mission-, equipment-, or location-related job requirements?
- did the worker receive continuing safety and health training?

TABLE E-1, CONTINUED

- was the incident due to inadequate *EXPERIENCE*?
- did the worker not have the *BASIC AND JOB-SPECIFIC SKILLS AND ABILITIES* necessary for the job requirements?
  - had these skills or abilities not been put to use or validated?
  - were these skills and abilities not obtained in a real-world environments?

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**EQUIPMENT AND FACILITIES** - consideration is given as to whether there were failures due to the design, procurement and fabrication, testing, inspection, maintenance and repairs, or changes to equipment and facilities involved in the accident.

*DESIGN* - was there a problem with the design meeting mission requirements under mission conditions?

- was any of the equipment or facility not *FIT* (appropriate) for the mission or task requirements?
  - were there problems with the technical (design) criteria?
  - was the design suited for the environmental and performance requirements?
  - does it appear that user feedback was not provided during the design?
  - were regulatory and technical requirements not incorporated into the design?
- was a thorough *SAFETY* analysis not performed early in the design process?
  - are design safety and health requirements not clearly described and consistent with regulatory and technical requirements?
  - was the application of the hierarchy of hazard control in the design or modification phases inappropriate?
  - were sufficient funds not available to incorporate safety considerations into the project?
  - was an ergonomic analysis not performed?
- were *RELIABILITY AND MAINTAINABILITY* not considered during the design?
  - were reliability and maintainability requirements not clearly identified and stated early in the design phase?
  - were reliability and maintainability requirements insufficient to ensure that the product would perform with a realistic level of reliability and could be maintained in a safe, timely, and cost-effective manner?
  - were there insufficient funds to support the reliability and maintainability requirements?

*FABRICATION AND PROCUREMENT*- was the equipment or facility not fabricated as designed?

- were design criteria not effectively translated into *FABRICATION* specifications?
  - were fabrication specifications not clearly communicated to production personnel?
  - did the product not perform as specified?
  - were safety and health requirements not met?
  - were reliability requirements not met?
  - could the equipment or facility not be maintained as specified?

TABLE E-1, CONTINUED

- was the *PROCUREMENT* process properly administered?
  - did contract documents contain the proper safety and health clauses?
  - was the fabricator/constructor technically evaluated for competence?
  - did the technical evaluation consider safety and health?
  - was the contractor qualified?
  - did contract administration cover safety and health?
  - were pertinent safety and health requirements brought to the attention of the contractor
  - was contract safety monitored?

*TESTING* - was there a problem with testing the equipment or facility tested to ensure design criteria and specifications were adequate and were met?

- was testing not done in a timely manner?
- did testing not adequately evaluate the required performance, safety, reliability, operability, and maintainability of the product?
- did testing not incorporate real-world conditions?

*INSPECTION* - were there inadequate provisions for monitoring the status of the equipment or facility?

- were initial (acceptance) inspections not performed?
- were continuing inspections not performed periodically?
- were adequate resources not available to sustain the program?
- were inspections not documented or the corrective of deficiencies not properly managed?

*MAINTENANCE AND REPAIRS* - were equipment or facility not maintained to the original performance, safety, and reliability standards?

- were adequate resources not provided for maintenance and repair of the equipment and facilities?
- was a comprehensive maintenance plan not implemented to provide timely, cost-effective protection of equipment and facilities and safeguard personnel?
- were provisions not available for upgrading equipment and facilities as required by the manufacturer, higher headquarters, regulatory compliance, etc?
- was there a problem with conduction *REPAIRS*?
  - were resources not available for the prompt repair of equipment or facility?
  - were repairs not completed in a responsive manner?
  - were repairs not done by qualified personnel?

*CHANGES* - did any changes to the equipment or facilities contribute to the incident?

- when equipment or facilities were modified, were the *MODIFICATIONS* not incorporated in their use?
  - was training not altered to incorporate the modifications?
  - were operating procedures not altered to incorporate the modifications?

TABLE E-1, CONTINUED

- were maintenance, reliability, inspection, and disposal plans not altered to incorporate the modifications?
- when equipment or facilities were modified were the modifications not analyzed for their *IMPACT* (were the effects of the change not analyzed)?
  - were environmental effects not considered and unacceptable?
  - were impacts to maintenance, operability, reliability, inspection, and disposal not evaluated?
  - were impacts to safety and health not considered?

**ENVIRONMENTAL** - were environmental hazards and changes not addressed?

*HAZARDS* - were environmental safety and health hazards not identified or controls not instituted?

- was the work environment not monitored on a continuous or periodic basis to identify and quantify safety and health hazards?
- were hazard warning systems not in place?
- were hazard controls inadequate or not in place?
- was hazard communication not implemented?

*CHANGES*- were the impact of changes in or to the environment not considered?

- were controls not instituted to offset any negative impacts of these environmental changes?
- were the hazards of environmental changes not communicated to those involved?

**PROCEDURES** - were there problems with policies, SOPs, work plans and practices, rules, regulations, etc.

*CONTENTS* - were there problems with the information in the procedures?

- were written procedures not developed or available (to appropriate personnel) for complex or hazardous tasks which were to be performed?
- were the written procedures not *CONSISTENT*?
  - with guidance contained elsewhere in the publication?
  - with guidance contained in other publications, rules, standards, regulations, etc?
- were the procedures technically incorrect or did they not agree with the functional situation?
- if performing a step incorrectly or out of order could create a hazardous condition, were emergency procedures (failsafes, hazard controls) not identified or included in the procedures?
- if, for some reason, a procedure could not be complied with, were there no alternatives or procedures (providing equivalent protection) for obtaining an exemption to the procedure?
- were the procedures illogical or not understandable; were procedures not written in a language which the users understood; did the procedures use terms with which the users were not familiar?
- were the procedures not "user friendly"; did the procedures not fit the organization in terms of being

TABLE E-1, CONTINUED

usable or reflecting the organization's objectives or procedures; did the procedures not "fit" the users performing the task?

- were the procedures not in a *FORMAT* which facilitated the communication of their message?
  - was the format (size and means) for the publication unsuitable for the conditions under which it was used; were the procedures arranged in an illogical manner?
  - could graphics, such as diagrams and illustrations, have been better used in illustrating or explaining the procedures; were the graphics not easily understood; did they detract rather than compliment the procedures?

*CRITERIA* - were procedures not written in a language and format which facilitated the inter-relation of personnel with environment/equipment to provide a safe, efficient operation?

- were the steps not written in a logical, effective manner?
- were the procedures not written to fit the *REAL-WORLD* situation (events and conditions)?
  - were they developed for personnel other than those who were using them?
  - were they developed for equipment other than that which was being used?
    - were they developed for an environment other than that in which they were being used?
    - were they developed with other organizational objectives and procedures in mind?
- were the procedures not specific enough in scope to be meaningful yet broad enough to cover the task?
- were the procedures not available at the appropriate user level?

*VALIDATED* - were the procedures not validated (field tested) for accuracy and applicability; was the validation method inappropriate; was the level (office, field, workers, supervisors) where the procedures were the procedures inappropriate; was the validation not re-confirmed periodically?

*CURRENT* - were the procedures not current; were the procedures not periodically checked for currency?

*WRITER QUALIFICATIONS* - was the writer of the procedures not experienced with and knowledgeable of the system or circumstances for which the procedures applied; was input not sought from experts?

*ENFORCED* - was compliance with the procedures not enforced?

- not at the proper level?
- were effective consequences for failure to comply with procedures not implemented or enforced?

*UPDATING* - were the procedures not periodically updated?

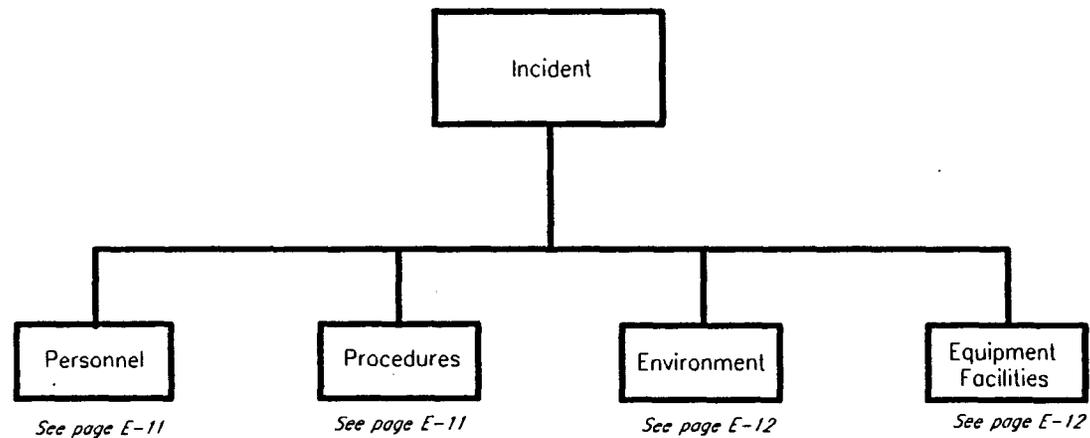
- was the updating not mandated at a level where it would be effective?
- was the frequency of updating inappropriate?

TABLE E-1, CONTINUED

*REQUIRED*

- did the nature of the task not indicate that written procedures were to be used?
- were training requirements not communicated to personnel; were personnel not trained in the requirements for using the procedures?
- did management require use of the procedures; how was this requirement communicated to personnel?
- did supervisors require use of the procedures; how was this requirement communicated to personnel?
- were there *SIGNS*, placards, warnings which indicated the requirement for the procedures?
  - were they not properly posted?
  - were they illegible?





E-10

FIGURE E-2 - FAILURE TREE COMPONENTS

E-11

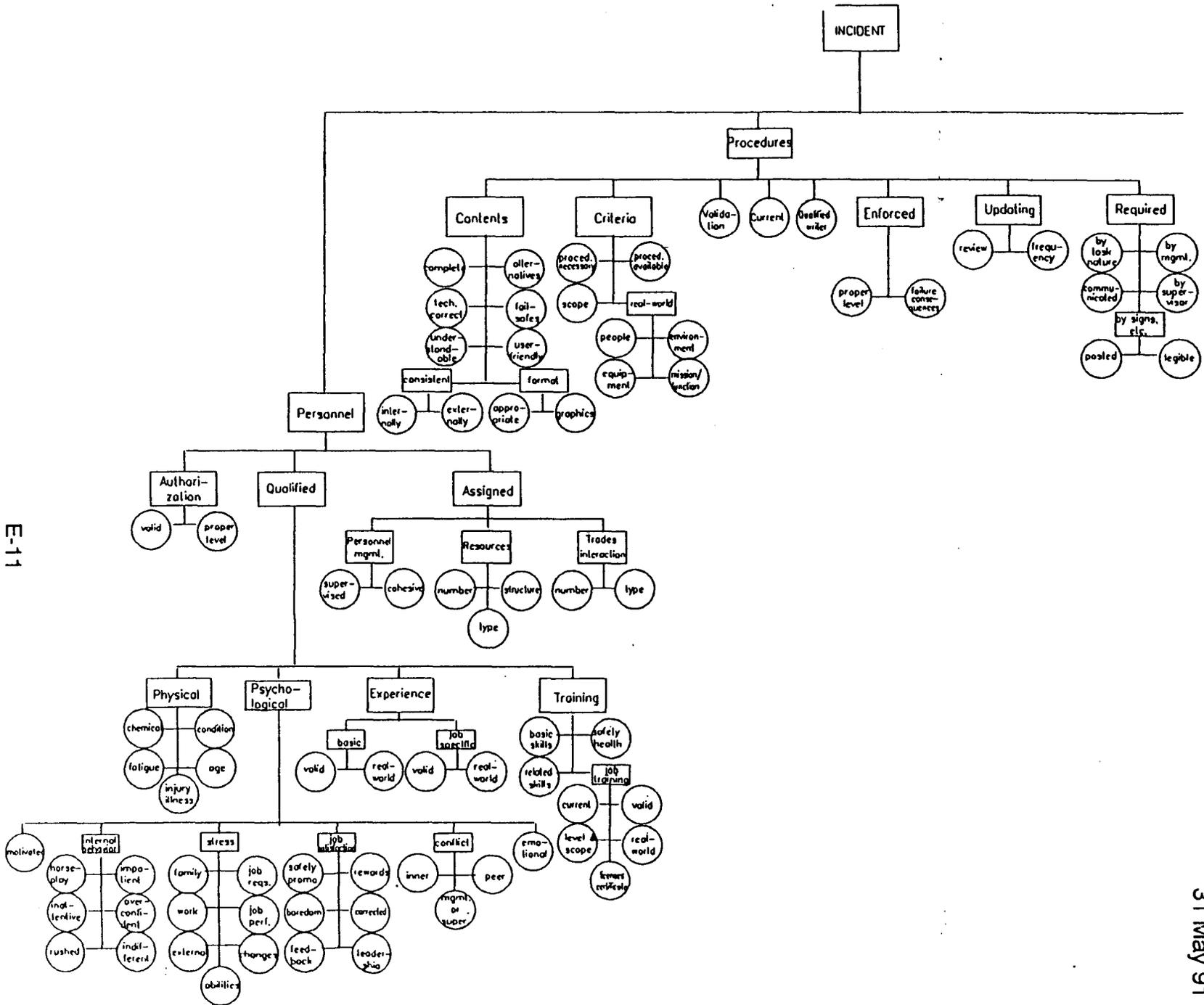
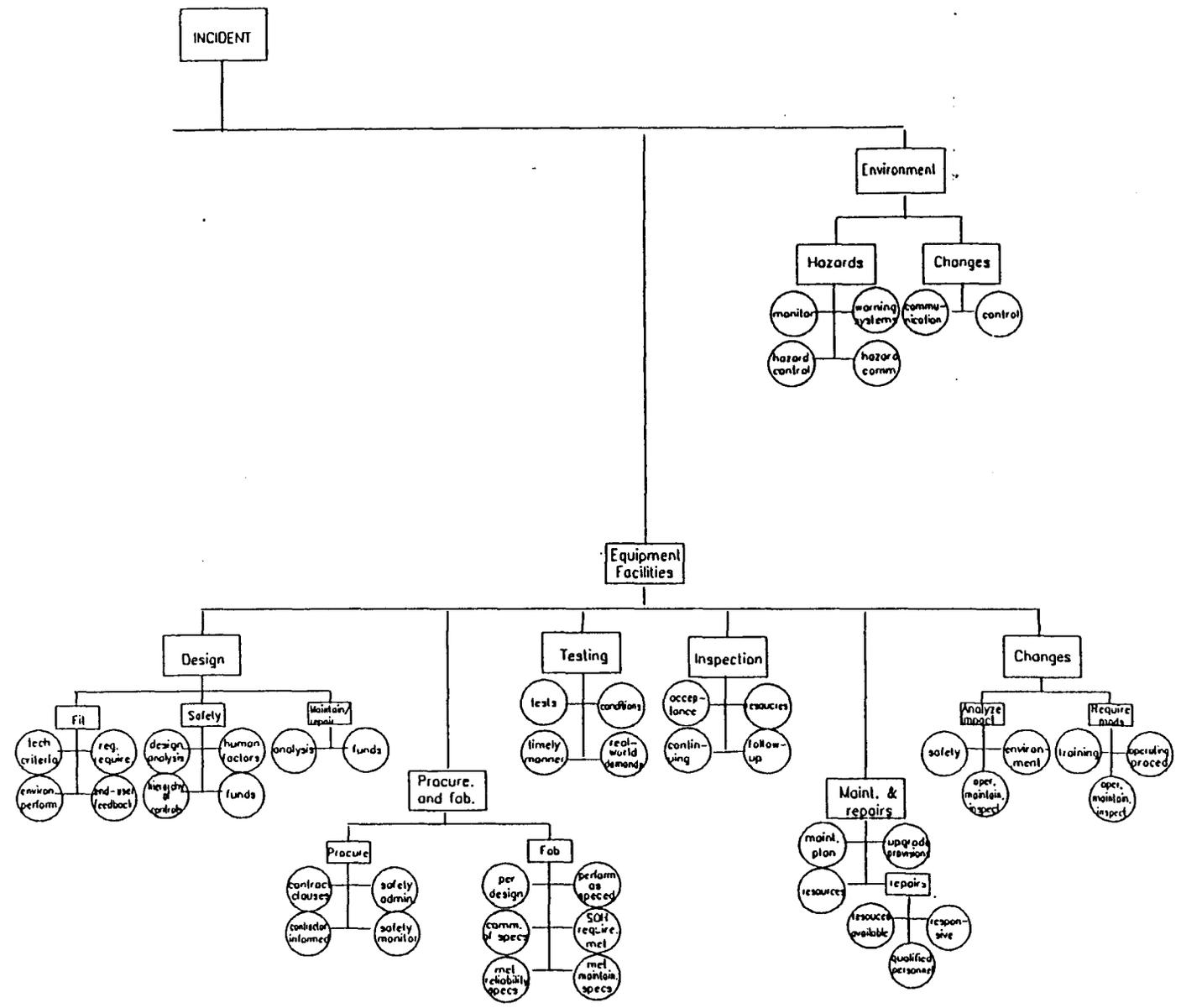


FIGURE E-3 - FAILURE TREE COMPONENTS/PERSONNEL AND PROCEDURES

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E-12

FIGURE E-4 - FAILURE TREE COMPONENTS  
EQUIPMENT AND FACILITIES AND ENVIRONMENT

APPENDIX F  
CHANGE ANALYSIS

1. Accidents often occur as a result of changes in routine personnel, equipment and facilities, environment, or procedures. Every accident analysis should include a "change analysis," whereby any such changes are analyzed for their role in accident causation.
2. When collecting accident scenario and causation information in the normal course of accident investigation, efforts should be taken to determine if there were any changes in routine personnel, equipment and facilities, environment, or procedures. All changes, whether they at first appear to be relevant or not, should be analyzed to determine if they precipitated or contributed to the accident causation.



APPENDIX G

RELEASE OF ACCIDENT INFORMATION

Requests under the provisions of the Freedom of Information Act (FOIA) for information from limited-use or Class A, B, or C general-use accident (including civil works accidents) investigation reports will initially be reviewed at the USACE command incurring the accident. This review shall be performed by the Safety and Occupational Health and FOIA officers. If these individuals concur that release of specific information will not be detrimental to the government, they may release the information; if there is cause to withhold information under a FOIA exemption, they will prepare a recommendation for denial and forward it to HQUSACE. All recommendations for denial will be forwarded (with a copy of the request and the requested information) through channels to the HQUSACE FOIA Officer, ATTN: CECC-K, Washington, DC 20314-1000. The HQUSACE Safety and Occupational Health and FOIA officers will perform a second level review of the request: if they concur that the information should be withheld, a recommended denial request will be prepared by the HQUSACE FOIA officer and forwarded to the Commander, US Army Safety Center; if they determine that the information may be released they will handle the release accordingly.

NOTE: Questions pertaining to the release of accident information should be directed to the USACE command Freedom of Information Officer.

