



## FOUR ACCIDENT INVESTIGATION GAMES

### PREFACE

Accidents are unhappy events. Their investigation is a serious matter.

Games are usually viewed as fun and entertainment, and not as part of the serious business of investigation. Games are not generally associated with accident investigations, either. These teaching GAMES, however, have been designed by an investigator and educator to show participants what is involved in the accident investigation process.

The objective of the GAMES is to enable participants to direct or operate an effective accident investigation program.

Accident investigations are diverse and complex. However, they do incorporate common elements. The Games in this book simulate the dynamics of four common elements of all accident investigations. These common elements include

- planning an investigation that identifies and adequately accomodates the interests of affected parties;
- acquisition of data from people
- acquisition of data from things; and
- organization and use of the acquired data to produce acceptable work products..

One way to acquire an understanding of the dynamics of the investigative processes is by actual on-the-job training. A better way is to engage in good simulations of the processes, with guidance from a knowledgeable teacher. That way, participants can acquire a working knowledge of these dynamics quickly, and without penalty for experimentation.

These Games were developed and tested by a nationally know investigator and educator. They have been tested and found to serve both novices and experienced investigators. They are based on the newest available accident investigation technology. Problems are designed into the Games, to help participants acquire a working knowledge of the investigative process, yet still be free to experiment with their own ideas.

There is no right or wrong outcome in a game. The outcomes of each GAME depend primarily on participants' cooperation. The GAMES involve new principles and methods. Participants' objectives should be to learn them and master their use to overcome problems that arise, both in the simulations and in the real world which the Games simulate.

Participants can use either their own accident cases, or use the sample accident cases provided. Each GAME will accomodate from 9 to 30 participants. GAMES can be scheduled for periods ranging from 1 to 3 hours, or they can be run sequentially during a weekend. They can be adapted to almost any physical facility. With the ideas and materials acquired during these GAMES, and a little investigation practice, participants should be able to produce more effective investigations of any accident.

Events Analysis, Inc. hopes you will have a meaningful learning experience.

## FOUR ACCIDENT INVESTIGATION GAMES

## RULES OF THE GAMES

Instructional games can be vehicles for learning, or they can become a farce. If all participants do their part, these GAMES provide the vehicle to practice accident investigations, and learn what is involved.

The main purpose of the GAMES is to demonstrate how participants can benefit from using systematized investigative practices. This is accomplished by using the Multilinear Events Sequences (MES) investigative system, which was developed to systematize and improve accident investigations. This means participants have to learn some new investigative practices as they play the GAMES.

Your main objective during the GAMES should be to gain an understanding and mastery of the principles and practices you observe. The GAMES will show you some of the interpersonal interactions that occur during investigations, and give you insights into the reasons they occur. Your objective can be obscured quickly during the excitement of a GAME, either by personality conflicts or by someone feeling a need to defend a long-held and strong personal opinion that has become irrelevant to the investigation. Some of these excursions might also lead to illumination of ideas, but try to keep focusing on the aim of the GAMES: understanding and mastering a systematized investigative process.

Participants will be working in groups. To keep a group orderly requires some rules. As with any game, these Accident Investigation (AI) GAMES have to be played by certain rules. If the rules are followed, the experience will be rewarding. Each GAME has several common rules:

- \* -Get acquainted with the PROCEDURES for each GAME before it begins.
- \* -look for ideas and PRINCIPLES that help explain what happens during the investigative process so you can use them in the future.
- \* -keep notes about principles and METHODS or INTERACTIONS that make the process work well.
- \* -compare views freely - about principles, methods, interactions, results achieved, and the strengths and weaknesses of the process - based on RESULTS observed.

Successful investigations are heavily dependent on an ability to observe interactions during investigations. The GAMES reproduce many interactions that need to be observed during real-life investigations. These interpersonal interactions can give you insights into the reasons they occur. Therefore,

- \* -try to put yourself into the shoes of the person whose role you are playing, and raise INTERESTS that person would feel or express in the investigation process.
- \* -watch how people REACT during the games.
- \* -watch for the interests that other persons would be trying to ADVANCE or PROTECT and watch how they react to others during the games.
- \* -watch for the subtle CONFLICTS that create problems during investigations

Neither participants nor instructor will keep any official "scores." These are games in which nobody loses. There are no right or wrong methods - only methods that produce better results than others. The "score" from these GAMES will show up in future investigations and work products. The text provides places for marginal notes about points you will want to remember. To give these games lasting value,

- \* -PRACTICE the principles learned while "investigating" anything.

The last rule?

- \* -Relax and enjoy yourself as you would in any other game.

## FOUR ACCIDENT INVESTIGATION GAMES

### CONTENTS

1. Preface and acknowledgements	1-1
Section A. THE GAMES	
2. Rules for the Games	2-1
3. GAME I: CONFLICTING INTERESTS: PLAN FOR THEM!	3-1
4. GAME II: THE WITNESS' WHOLE STORY	4-1
5. GAME III: DEVELOPING ACCIDENT DEBRIS "TEST PLANS"	5-1
6. GAME IV: EVALUATING ACCIDENT REPORTS	6-1
7. Epilogue	7-1
8. Glossary of terms	8-1
9. References	9-1
Section B. GAME APPENDICES	
I. A. The Whiffum Pier Accident Case	10-2
B. Whiffum Pier Accident biographical sketches	10-4
C. 7 Accident Investigation Processes	10-7
II. A. Witness Statement: Charlie Brown	11-1
* B. Supplemental data sheet for longshoreman	11-2
III. A. Biographical Sketches of Individuals Involved in the Whiffum Pier Accident Investigation	12-1
B. Examples of Methods Used to Extract Data from Things during Accident Investigations	12-4
C. Elements of an Accident Debris Test Plan	12-6
IV. A. Methodological Approaches and Analytical Methods Relating to Accident Investigations	13-1
B. Investigator's Report of Accident Involving Fatal Injury: The Riverbend Confined Entry Accident	13-4
Section C. GENERAL INVESTIGATIVE AIDS	
V. A. Summary of Accident Perceptions and Theories	14-1
B. Logic and Logic Fallacies	14-3
C. Logic Tree (FTA) Construction Procedure	14-6
D. MORT Analysis Procedures	14-8
E. MES Charting and Analysis Procedures	14-9
1. MES Chart	
F. General Accident Investigation Models	14-14
1. General Accident Model	
2. General Human Decision Model for Accidents	
3. General Systems Model	
4. Musical Score and MES Comparison	

\* Do not read until after GAME II is completed.