

Chapter 8

Conclusions and Recommendations

Developing Conclusions, Recommendations and Judgments of Need

Conclusions and recommendations/judgments of need are key elements of the investigation that must be developed.

Conclusions

Conclusions are significant deductions derived from the investigation's analytical results. They are derived from and must be supported by the facts plus the results of testing and the various analyses conducted. Conclusions may:

- Include concise statements of the causal factors of the accident determined by analysis of facts
- Be statements that alleviate potential confusion on issues that were originally suspected causes
- Address significant concerns arising out of the accident that are unsubstantiated conclusion or inconclusive
- Be used to highlight positive aspects of performance revealed during the investigation, where appropriate.

When developing conclusions, the investigator should:

- Organize conclusions sequentially, preferably in chronological order, or in logical sets (e.g., hardware, procedures, people, organizations)
- Base conclusions on the facts and the subsequent analysis of the facts n Include only substantive conclusions that bear directly on the accident, and that reiterate significant facts and pertinent analytical results leading to the accident's causes
- Keep conclusions as short as possible and, to the extent possible, limit reference citations (if used) to one per conclusion.

TIP

The process of determining conclusions seeks to answer the questions— what happened and why did it happen?

Recommendations

Depending on the size of the investigation, its scope, the makeup of the investigative team, the media coverage or lack thereof, and the appointing authority, and its ability to mandate or prescribe changes, most investigations will lead to recommendations which may be prescriptive in nature. These differ from “judgments of need” which are described below. They must, however, be:

- Stated in a clear, concise, and direct manner
- Based on the facts/evidence
- Stated so that they can be the basis for corrective action plans.

Judgments of Need

Judgments of need are the managerial controls and safety measures determined by the investigator to be necessary to prevent or minimize the probability or severity of a recurrence. Recommendations or judgments of need should be linked to causal factors and logically flow from the conclusions. Like recommendations they should be:

- Stated in a clear, concise, and direct manner
- Based on the facts/evidence
- Stated so that they can be the basis for corrective action plans.

Judgments of need:

- Should **not** be prescriptive corrective action plans or recommendations, nor should they suggest punitive actions.
- Should **not** include process issues (e.g., evidence control, preservation of the accident scene, readiness) unless these issues have a direct impact on the accident. These concerns should be noted in a separate memorandum to the appointing official.

An interactive process is the preferred approach for generating judgments of need. That is, investigators should work to review causal factors and then begin generating a list of judgments of need. These judgments should be linked directly to causal factors, which are derived from facts and analyses.

TIP

Team members should work together to derive judgments of need to assure that the merits and validity of each are openly discussed and that each one flows from the facts and analyses.

One method for ensuring that all significant facts and analytical results are addressed in the judgments of need is to develop displays linking judgments of need with facts, analyses, and causal factors. Investigators sometimes find it useful to display these elements on the walls or a whiteboard or chalkboard. Figure 8-1 demonstrates how this information can be arranged to provide an ongoing assessment of linkages among the our elements. It portrays the concept of requirements' verification analysis. Using this approach, the investigators can identify gaps in the data where a clear, logical flow among the four elements is missing. The investigators can use this information to determine whether judgments of need are supported by linkages connecting the facts, results from analyses, and causal factors.

TIP

If a judgment of need cannot be clearly linked to causal factors derived from analyses of facts, exclude it from the report.

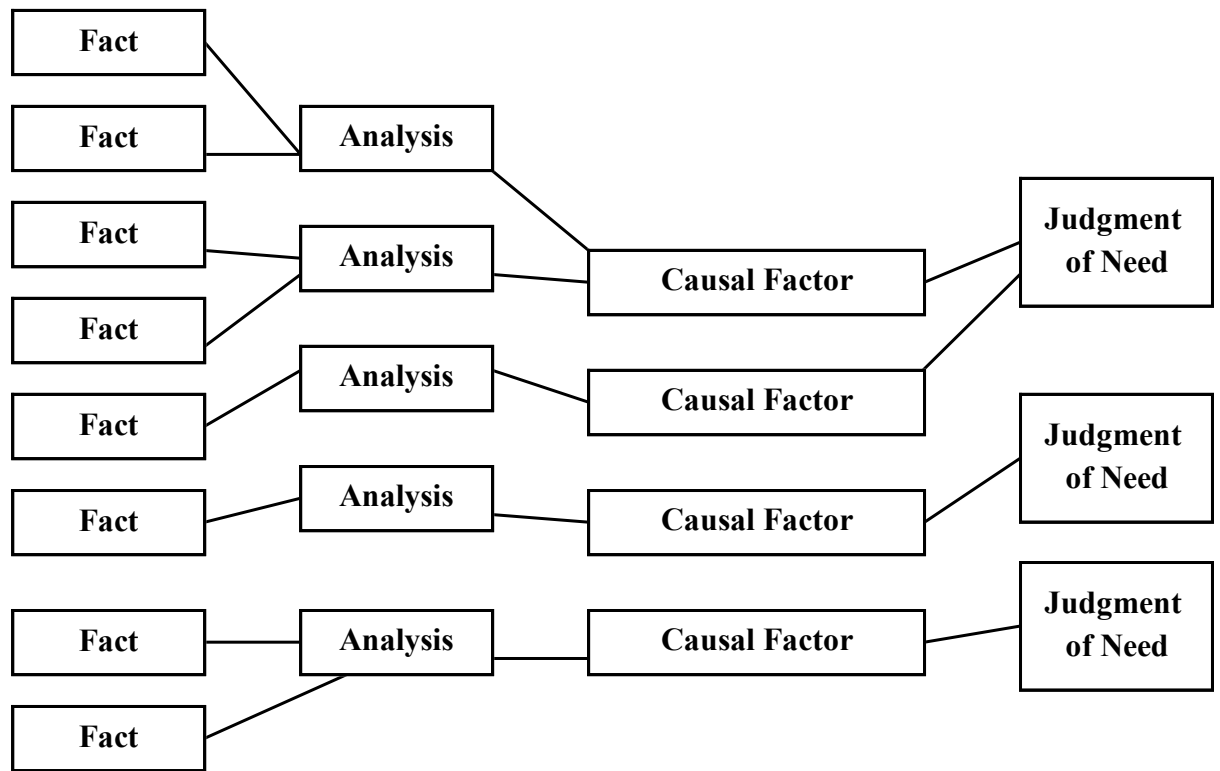


Figure 8-1. Facts, analysis, and causal factors are needed to support judgment of need.

Once the investigators have identified the judgments of need derived from their investigation activities, the members can begin writing statements documenting these judgments. Table 8-1 presents guidance on writing these statements.

Table 8-1. Guidelines for writing judgments of need.

Clearly identify organizations that need to implement actions to prevent recurrence of the accident.
Avoid generic statements and focus on processes and systems, not individuals.
Focus on causal factors.
Be specific and concise; avoid vague, generalized, broad-brush, sweeping solutions
Do not tell management how to do something; simply identify the need.
Present judgments of need in a manner that allows a specific organization to translate them into corrective actions sufficient to prevent recurrence.