Accident and Incident Investigation — study guide

An accident is an event that results in injury or ill health. Investigating it properly is how a company stops the next one happening. This guide covers the objective, the method, the team and the report.[1][2]

Objective and records

The objective of an accident and incident investigation is to establish the **root cause**. Ship owners and operators **are** obligated to keep records of accidents and incidents. Everyone is responsible for reporting accidents and incidents.

Root cause analysis

The key question in root cause analysis (RCA) is simply "**Why?**" — asked again and again. Immediate causes can rarely be resolved on their own, because there are usually underlying or root causes beneath them.

Priorities for control measures

When choosing control measures, work in this order: **1)** eliminate the risk; **2)** combat the risk at its source; **3)** minimise reliance on human behaviour.

The investigation team

An investigation team should include personnel from various levels of the organisation, so the team has the necessary range of practical knowledge and experience.

Severity and the risk matrix

The severity of an accident or incident determines the level of investigation required, and a risk matrix is used to determine that severity.

Main steps

The main steps of an investigation are: **1)** gather information; **2)** analyse information; **3)** identify control measures; **4)** create and implement an action plan.

The report and the action plan

An essential part of the report is the basics: where and when the event occurred, who was involved and how it happened. The purpose of an action plan is to establish **what needs to be done, when, and by whom**.

Human factors

There are three types of human factors that can lead to accidents and incidents: **skill-based errors**, **mistakes** and **violations**.

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Why investigate at all

A benefit of investigating after an accident is that you come to understand the ways people can be exposed to conditions or circumstances that may affect their health — turning a single event into a system-wide lesson.

Key facts to remember

- Objective: establish the root cause. Accident = event causing injury or ill health.
- RCA's key question: "Why?" — there are usually underlying/root causes, not just immediate ones.
- Control-measure order: eliminate → combat at source → minimise reliance on human behaviour.
- Team: mix of levels for practical knowledge and experience. Severity sets the investigation level; risk matrix sets severity.
- Steps: gather → analyse → identify controls → action plan.
- Report basics: where/when, who, how. Action plan: what, when, by whom.
- Human factors: skill-based errors, mistakes, violations.

Sources

1. ISM Code (SOLAS Chapter IX) — safety management, incident reporting, investigation and corrective action.
2. ILO Code of Practice — Accident Prevention on Board Ship at Sea and in Port.