

Incorporating Human Performance Improvement (HPI) Principles into Occurrence Reporting

(Some quick ideas put together
in about 15 minutes before the meeting)

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Terms

- Error – an unintentional deviation from expected behavior
- Violation – an intentional deviation from expected behavior (rarely with malintent)
- Defense – barrier, safeguards and other measures intended to prevent or mitigate impact of hazards on personnel and assets
- Event precursor – a condition that tends to increase the probability of an event

Overview

- Human Performance Improvement (HPI) focuses on minimizing accidents by reducing the impact of human error and managing the defenses that are in place to protect humans and assets.
- Although humans commit errors, latent organizational weaknesses and flawed defenses are the reasons that errors result in significant events, incidents and accidents.

Reporting

- “Mandatory” criteria for non-occurrences (group 10) other than management concern may impede the creation of a just culture.
- Performance measures for numbers of occurrences, events, near-misses, or any specific types of occurrences, should be explicitly discouraged.
- Performance measures for numbers of error-driven events (skill-based, rule-based or knowledge-based) should be discouraged.

Critiques

- Critique (on OR Model) needs to be defined.
- Make it clear that one of the purposes of the critique should be to discover the event precursors and flawed defenses that affected the initiating actions of the individuals involved in the event.
- Critiques should not be used to place blame or as a basis for disciplinary action.

Investigation

- Investigation of an occurrence does not end with the identification of a human error or violation; it begins with it.
- The investigation should identify the understanding, judgments and decisions made by the individuals involved and why those decisions made sense to them at the time. Thus, it should determine the factors that influenced their behavior.

Causal Analysis

- HPI terminology used in the Causal Analysis Guide should be defined.
- Causal factors should usually be written in terms of human behavior, either actions or judgments (understanding, decisions, etc.).
- Apparent cause analysis should require any A3 (Human Performance) cause code to be coupled so that the human error is fully described.

Causal Analysis (contd.)

- Root cause analysis should be encouraged for SC2 and above so that latent organizational weaknesses will be discovered sooner.
- Tie in precursor/historical review (required for PAAA reports) that looks for previous events and actions where human behavior was allowed to introduce or worsen flaws in the relevant defenses.

Lessons Learned

- This block on the occurrence report should summarize the conditions that influenced human behavior and prevented the people involved from succeeding.

Performance Analysis

- Analysis should include clusters of causes related to performance of specific tasks, behaviors, activities or programs.
- Analysis should evaluate trends in defenses or error precursors that are causing repeated events involving similar types of errors.