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CHAPTER 2.7 TREND ANALYSIS

2.7.1. Applicability of this chapter

You are required to follow this chapter if you are a JSC manager at any level.

2.7.2. Trend analysis at JSC

JSC shall have a process to analyze trends by reviewing injuries, illnesses, property damages and close calls, and hazards identified through inspections, employee reports, accident investigations, or other means. The purpose is to identify patterns with common causes and to eliminate or control the causes.

2.7.3. Trend analysis processes

2.7.3.1 Trend analysis may occur at any level within JSC. Trend analysis involves:

- a. Regularly reviewing all kinds of data such as:
 - (1) Mishap reports, to include injury categories, root causes, activities, environments, etc..
 - (2) Close call reports, to include categories and locations.
 - (3) Inspection or audit reports and findings.
 - (4) Other available data.
- b. Looking for patterns in the data that indicate common types, causes, locations, or other categories. This may involve questions such as:
 - (1) Is the number of close calls, mishaps, or hazards in my work area increasing or decreasing?
 - (2) Do any of my work areas have several mishaps, close calls, or hazards of a common kind, such as back injuries or trips and falls?
 - (3) Do mishaps, close calls, or hazards involve an environmental release, spill, nonconformance, or noncompliance?
 - (4) Are there similar root causes in mishaps and close calls?
 - (5) Are there patterns in employee behaviors?

2.7.4. Analyzing and correcting trends

2.7.4.1 Trends may take one of three directions:

- a. **Negative trends** indicate a safety or health issue that is growing worse with time or is a systemic issue and needs corrective or preventive action. Investigate negative trends to see whether a common cause(s) exists. Actions to reverse the trend shall be to eliminate or control the common cause(s) or provide awareness of the trend if no common cause(s) can be found. Investigating negative trends may involve one or more of the following:

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- (1) Center-level committees or teams appointed by the JSC Executive Safety and Health Board or the JSC Safety and Health Action Team (JSAT) to investigate a specific trend, a suspected trend, or systemic issue shall follow JPR 1281.14, “Corrective Action, Preventative Action and Continuous Improvement.”
 - (2) Committees or teams within JSC organizations may follow JPR 1281.14 at the discretion of the official who appoints the committee or team.
 - (3) Committees or teams not following JPR 1281.14, ask why the trends exist and look for underlying causes. Analyze patterns to determine why the trends are occurring. Root cause analysis is encouraged. Develop action plans to eliminate the causes, provide awareness, and report lessons learned.
- b. **Neutral trends** indicate stable safety conditions. After discovering a neutral trend, it is desirable to establish the conditions that contribute to the apparent stability of the observed data or related process. Use any techniques that effectively characterize the observed stabilities.
- c. **Positive trends** provide an opportunity for learning and capitalization. After discovering a positive trend, it is desirable to identify the specific reasons behind this apparent improvement. Consider whether the positive trend is a result of cyclic variation (typically associated with human factors) or if it is traceable to a critical success factor such as a process improvement. The conclusions may be published as lessons learned, shared in specific forums (JSAT, JESHB, JSC Contractor Safety forum, etc.) where target audiences are likely to benefit from this information, published as an online resource, etc.

2.7.5. Responsibilities for trend analysis

- a. The Safety and Test Operations Division and Occupational Health are responsible for:
- (1) Reviewing safety and health data for trends and other significant items.
 - (2) Bringing the top mishap and close call categories, trends, and other significant items to the JMC or the JSAT for further action.
 - (3) Providing JSC organizations with safety and health data and suggesting to managers ways they can improve their safety and health performance.
 - (4) Providing information on environmental trends to the Environmental Management Office.
- b. As a JSC manager, you are encouraged to:
- (1) Keep records on mishaps, close calls, and hazards in your work areas. Look for trends in these reports. You may also include any helpful information from outside your organization.
 - (2) Analyze your safety and health data, such as mishaps, close calls or inspection reports, and use your analysis to improve your safety and health program. Is the number of mishaps, close calls, or hazards increasing or decreasing in your work area? Are certain categories of mishaps, close calls, or hazards increasing or decreasing? Are there common causes in your mishaps, close calls, or hazards?
 - (3) Tell your employees what you learn from your analysis and what actions you plan to take.

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2.7.6. Safety and health records and documentation for trend analysis

- a. Center-level records include any records to indicate trends were analyzed and action taken, such as briefing packages, committee reports, minutes of meetings where trends are discussed, etc.
- b. Organizational-level documentation – Documentation to supports organization-level trend analysis, such as minutes where trends are discussed and actions taken on trends analyzed, etc. Note: this is not required but encouraged.

NOTE: See Appendix F, Attachment 1.1A for details on records and documentation required by this Chapter.