

Key Concepts and Observations Associated with a Safety Management System

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Key Concepts and Observations Associated with a Safety Management System

Topics of Discussion:

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Background...

The classical safety program or system safety program may have evolved more appropriately into a safety management system. In the United States Grimaldi and Simonds^[1] had initially discussed the concept of Safety Management in the 1950's and generally, most of the concepts and observations made then remain appropriate.

^[1] Grimaldi, J.V. and Simonds R.H., Safety Management, Richard D. Irwin, Inc., Homewood, Illinois, Third Edition, 1975, page vii.

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Early Activities...

The creation of the Safety Manager had initially evolved along with the development of the Safety Program. Early activities include the definition of an accident, which was associated with certain kinds of trauma, or loss, along with an analogy of hazard.

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Need for Proactive Safety...

The Safety Manager may have been the person previously injured as a result of a past accident. The Safety Manager may have walked the floor with clipboard citing standards violations. Apparently, this policing approach had limited success and more standards were developed as the result of additional accidents.

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Being Safe...

Safety appears to be an all-inclusive term implying freedom from all forms of harm. This is an impossible objective to meet since there are always residual risks. Therefore, the safety of the system^[1] is related to the identification of safety-related risks, their elimination or control to acceptable levels.

^[1] A system is defined as any entity forming a whole group of items

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Prime Objective...

Within any system the prime objective should be the safety of the people exposed to safety-related risks, throughout the life cycle of the system. This objective can be met (in part) by many ways --- by application of minimal regulations, the monitoring of day-to-day operations, by conducting compliance oversight, by application of formal system safety methods and techniques.

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Need for Standardization...

An enhanced standardized Safety Management Program should provide the capability to improve integration of safety-related efforts throughout the system. To accomplish standardization a template (or model) of a Safety Management Program is presented and discussed in limited detail. For apparent reasons, the template is not all-inclusive and the information provided is limited and listed in the table below for reference purposes.

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Logic Model...

The Safety Management Program Template is shown as a logic model. The Model contains four Sections and each Section is detailed and further decomposed. The Model is to be used as an illustrated storyboard that sequentially presents details needed to further develop and implement a Safety Management Program. The Model is also a checklist to enable a step-by-step approach to developing, enhancing, and refinancing a Safety Management Program.

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Development Process...

To enable the development of a Safety Management Program the following process is recommended:

- 1 – Describe the system (entity) in detail; identify safety-related risks and mitigations.
- 2- Establish a Safety Policy Statement specifically appropriate to the system (entity) and risks. The Policy Statement is to be signed by management.
- 3- Describe the (safety-related) Purpose, Scope, and Objectives of the system (entity).

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4 – Identify the (safety-related) Elements, Tasks, and Activities of the system (entity).

5 – Identify (safety-related) Accountability and Responsibilities, along with Key Considerations of the system (entity).

6 – Become familiar with the attributes and determine if the attributes are appropriate for use or create additional attributes if needed associated with the identified risks

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7 – Fit and describe the appropriate existing Elements, Tasks, Activities, and Key Considerations associated with safety.

8- Develop attributes or revise attributes to fit Model.

9- Formalize the system-level (or entity) Safety Management Program. The Program is to be documented and signed by management.

10- Monitor operations and revise Safety Management Program as needed.

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Attributes...

Attributes are associated generic characteristics, aspects, properties, qualities, or elements that are appropriate to conduct Safety Management. An attribute can be changed to suite a particular need, or application within a system (or entity). Not all the attributes will be applicable for all situations.

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Concurrence and Refinement...

Upon conclusion of a draft of a Safety Management Program peer review is recommended. Concurrence is needed between all participants. The Safety Management Program should be implemented and its attributes should be communicated throughout the organization. The Program should be continuously refined, revised, and updated to meet a changing environment.

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Template/Model Sections...

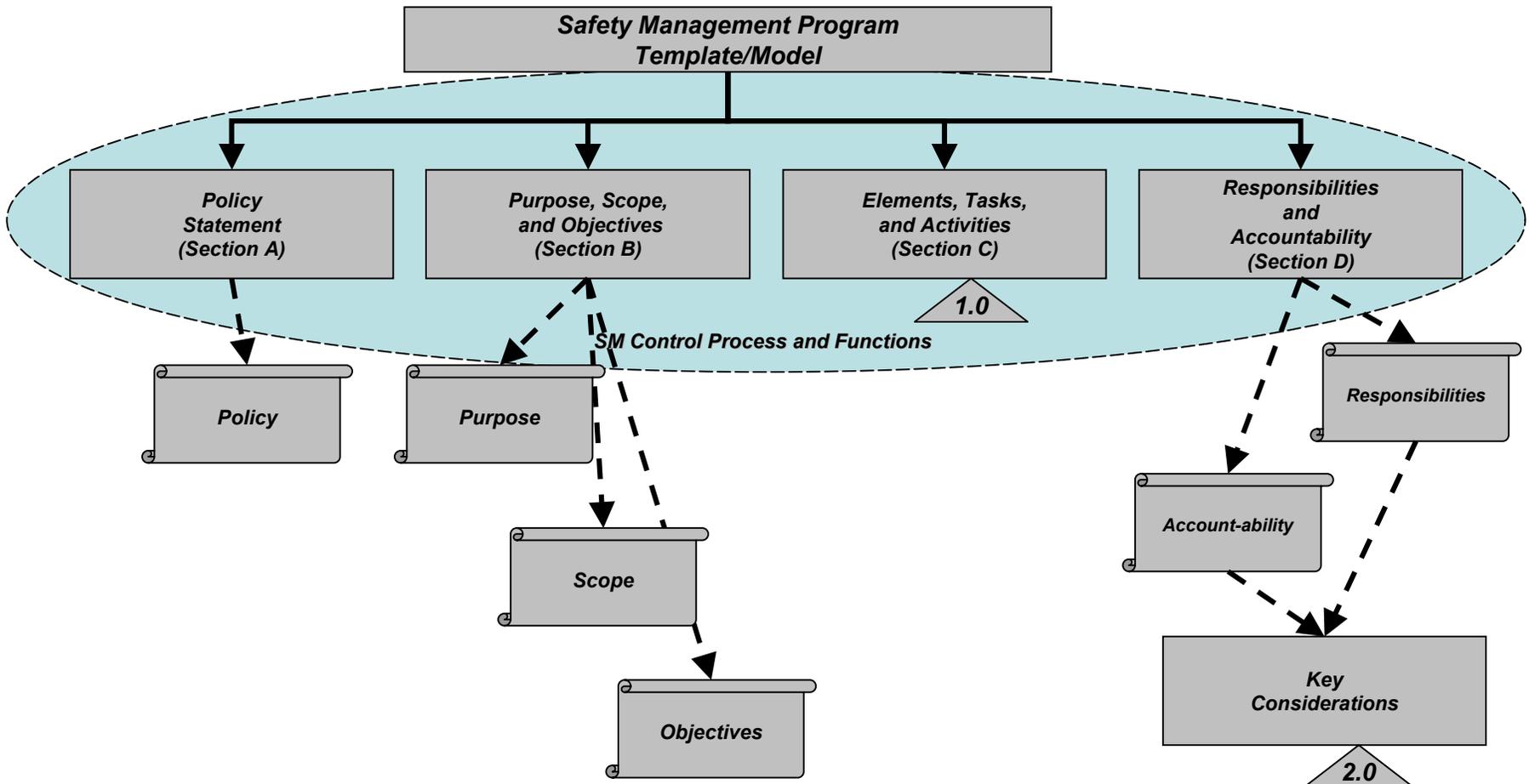
The Template/Model presented below in hierarchical form starts with four Sections A through D. Each Section is further decomposed providing explicit details. Generic terms are used to enable incorporation of existing system-wide safety-related activities.

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Section Contents...

Section A contains information on the development of a Safety Policy Statement. Section B includes information concerning Purpose, Scope, and Objectives associated with a Safety Management Program. The recommended Elements, Tasks, and Activities of a Safety Management Program are described in Section C. Safety Responsibilities and Accountabilities are discussed in Section D.

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Safety Management Control Process...

Within the model the Safety Management Control Process provides the means to integrate activities throughout the various Sections described. Management seeks to accomplish safety objectives through the utilization of human and material resources. This process is referred to the safety management control process --- Management control is the process by which managers assure that resources are obtained and used effectively and efficiently in the accomplishment of an organization objective.[\[1\]](#)

[\[1\]](#) Anthony, R.N., Management Accounting – Text and Cases, Richard D. Irwin, Inc., Homewood, Illinois, Fourth Edition, 1970.

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Purpose: The purpose of the Safety Management Program is to be defined. Since the safety of the system is related to the identification of safety-related risks, their elimination or control to acceptable levels --- The Purpose of the Program is to document and implement the Elements, Tasks, Activities, and Key Considerations for the identification of safety-related risks, their elimination or control to acceptable levels.

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Scope: The scope of the Safety Management Program is to be defined and bounded here. A particular organization will have a specific scope and responsibilities, which are to be indicated. An organization will support the Agencies overall (safety-related) scope and responsibilities. The specific organizations Safety Management Program can exclude particular program attributes because of boundaries set in areas of responsibilities. Attribute areas not addressed in an organizations Program may become integration issues.

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Objectives: To accomplish safety activities the first concern is with the development of objectives, which provide the focus necessary for subsequent action. Once objectives are defined the Program can then be outlined, appropriate human and material resources can be brought together, standards for measuring performance can be developed or enhanced, and control systems for monitoring performance can be established and implemented.

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Table 1 - Template/Model Safety Management System	
Policy Statement (Section A)	
Purpose, Scope, and Objectives (Section B)	
Elements, Tasks and Activities (Section C)	
Key Element, Task, or Activity	Attribute

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Responsibilities and Accountability (Section D)	
Key Areas of Responsibility and Accountability	Attribute

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Closing Discussion...

Within this effort ten Key Elements, Tasks, or Activities were identified along with 105 attributes; eleven Key Areas of Responsibility and Accountability were included with 98 associated attributes. The current work that cursorily describes the attributes is about 100 pages.

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Closing Observations...

It is apparent that resources would be needed to establish the safety management system described. An attempt was made to include a list of a minimal set of attributes that may be appropriate for a complex system. Depending on distinctions and details of particular systems attributes will obviously vary. No attempt was made to rank or judge the most important attributes. Particular attributes can be included or excluded depending on need, exposure, or risk.

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Questions?