Process Safety Critical Equipment

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Safety Critical Element (SCE) Definition

Part of an installation and such of its structure, plant equipment and systems (including computer software) or any part thereof: i. The failure of which could cause or contribute substantially to the release of a hazard with Major Risks; or ii. A purpose of which is to provide the barrier to prevent or limit the effect of a major accident.

SCE Identification

Hazards and Effects Management Process (HEMP)

- Identification of appropriate control and Recovery Barriers including hardware barriers i.e. SCE (Safety Critical Elements) to prevent Top Events and/or mitigate consequences that could result in Major Accidents.
- Development and implementation of critical activities and performance standards to ensure the functionality and integrity of SCE.
- Appointment of HSE Critical Positions (and their required competency) for management of SCE

SCE Identification

- Register by tag numbers as identified through (HEMP),
- Develop Inspection, Testing, and Preventive Maintenance (ITPM) based on Critical
- Activities Catalogue (CAC) and Performance Standards as identified through HEMP.
- Performance Standards for SCEs are expressed in terms of FARSI described below:
  - Functionality (what is required to do – Not what it does – to fulfil its function)
  - Availability (for what proportion of time will it be capable of performing)
  - Reliability (how likely it is to perform on demand and means to achieve the desired level)
  - Survivability (does it have a role to perform post event, does the equipment need to keep its function during an incident and to maintain this capacity), and
  - Interdependency (do other system require being functional for it to operate

Mechanical Integrity Process

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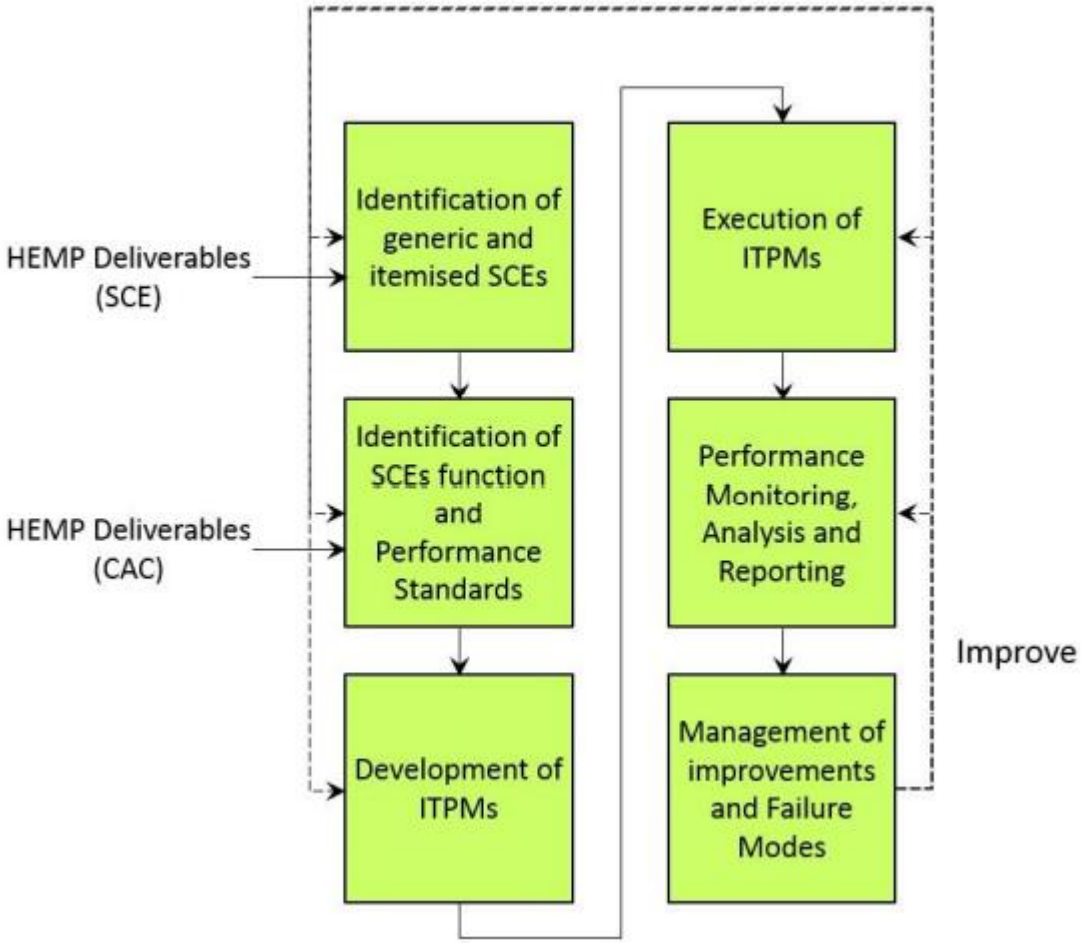
Summary of SCE process



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