



The South African Institution of Mechanical Engineering

Applying the Engineering Design Process in a Policy-based Environment Workshop

CPD Validation Number : **SAIMechE-1153-12/20**

This workshop will earn delegates 1 credit in Category 1

This workshop is suitable for SAIMechE Groups 1, 2, 3a

The Workshop is developed and presented by:

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SAIMechE Group Classification

0 = Non-technical,
e.g., HR, Finance

1 = Candidate
(including GCC) with <
5 years experience

2 = Professional
(including GCC) with <
15 years experience

3a = Professional and
Appointment with > 15
years experience with
specialist interest

3b = Senior
Management with >
15 years experience

OVERVIEW

The objective of applying the Engineering Design Process in a Policy-Based Environment workshop is to provide delegates with a deeper understanding of policy knowledge, as well as skills to adapt the engineering design process to conform to various policy frameworks, including systems engineering.

The typical policy environment in which engineering design is practised is described, and the roles and effects of typical international, and national governance policies, as well as corporate policies, on systems and design engineering are discussed.

The engineering design process is then reviewed against the framework of the systems engineering process as a primary engineering policy.

Practical examples are used to illustrate the concepts discussed.

WORKSHOP OUTCOME AND BENEFITS

Enable the delegates to:

- Understand the relationships between policies, engineering design and systems engineering.
- Align the engineering design process with relevant policies, including systems engineering.
- Identify shortcomings in policies and procedures and to initiate actions to address them.
- Participate in, and influence policy-making processes.

WORKSHOP CONTENTS

The Policy Environment: Policy definition and hierarchy; national legislation: acts and regulations; standards; corporate management and safety policies; corporate engineering policies.

The Engineering Design Process: Engineering design; process steps; user requirement; problem definition and design specification; brainstorming; concept design; detail design; design records.

The Engineering Design Process in the Systems Engineering Framework: System lifecycle phases; user requirement; concept studies; design development; final design; prototyping and testing; production; system integration and commissioning; operation, maintenance and upgrades; de-commissioning and disposal.

WHO SHOULD ATTEND

Engineers, technologists, entrepreneurs, designers, inventors, innovators, researchers, and product developers.

Managers participating in developing a company's or organisation's business strategies and policies.