EI Research report

A framework for monitoring the management of ageing effects on safety critical elements
RESEARCH REPORT

A FRAMEWORK FOR MONITORING THE MANAGEMENT OF AGEING EFFECTS ON SAFETY CRITICAL ELEMENTS

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FOREWORD

Development of this publication was commissioned by the Energy Institute (EI) as part of its STAC Technical programme. It has the following objectives:

- To develop a framework for the management of safety critical elements (SCEs) for ageing effects.
- To provide outline guidance on how to use the framework to determine suitable performance indicators (PIs), analysis tools and management practices.

Examples of different modes and effects of ageing by physical deterioration for some typical SCEs are presented and a more comprehensive list of SCEs, groups, sub-systems and components is provided. The publication will assist operating companies in drawing up a list of ageing modes and effects and criticality expected as part of the thorough review of safety cases under The UK Offshore Installations (Safety Case) Regulations 2005 (OSCR 2005).

The Research Report also recognises that age and time can affect SCEs in ways in addition to physical deterioration, such as failure to adapt to plant or process change, improvements in technology and standards, obsolescence, and the loss of people and skills.

A framework of processes for managing the effects of ageing on SCEs forms the central theme of the work. The framework provides the basis for a capability maturity model (CMM) whereby an operating company can determine and monitor the level of its approach to each process. The Research Report gives guidance on the setting and use of PIs for SCEs and their management processes.

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This publication may be reviewed from time to time. It would be of considerable assistance for any future revision if users would send comments or suggestions for improvement to:

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