

Development of the Magnox management system

Quality in the CEGB (and others)

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CQI Barnwood 21 June 2012

In the beginning

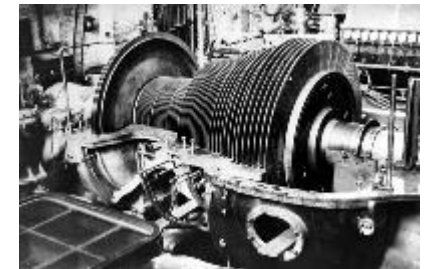
The Berlin wall had only recently been built & the IAEA was relatively new & focussed on atomic weapons

In the 1970's the CEGB had a massive programme of building power stations and expanding the national grid; it was at the forefront of power technology and was a massive organisation

The British power industry supply base was enormous and world class – it would be around forever

The Health & Safety at Act had yet to be written

The mission statement was – keep the lights on



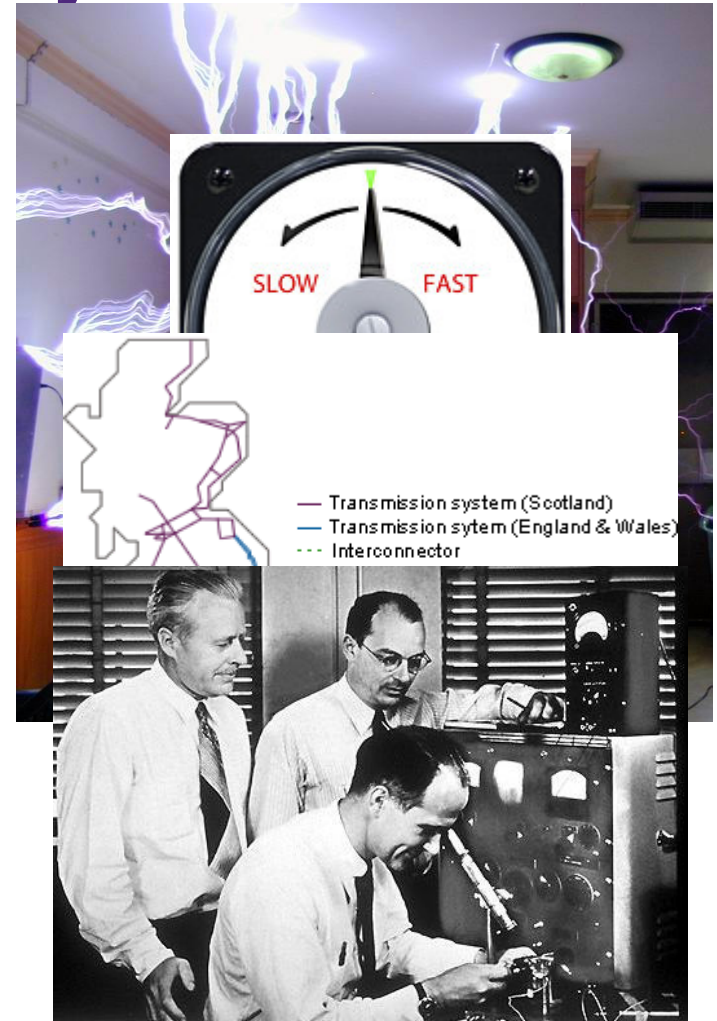
The problem with electricity

Electricity is always perfect

The machines ensure it is

There has to be spare capacity

There were plenty of people



What changed?

We imported quality from Japan

Business culture started to emerge

International competition

Productivity – Queen’s award to industry - strange new words – Return on capital invested

Thatcherism – decline of UK industry – international competition

The CEGB adopted quality – but didn’t quite know why – culture change was needed

Management Control Procedures were developed to define management arrangements

Operational Safety Review Team (OSART) visit to Oldbury Power Station

Management Control Procedures – 1

Introduced to the nuclear plants – AGR & Magnox

Common structure

- Purpose
- Scope
- Responsibilities
- Procedure
- Requirements
- Records
- References

Defined interfaces & interactions between plant departments

Mixture of process based & topic based

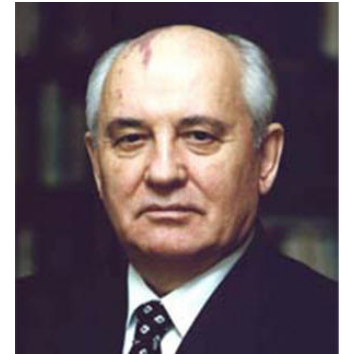
Models were common across the company – top level – but just sites

Sites designed and developed their own supporting structure below the top level

Management Control Procedures – 2

Perestroika

Chernobyl

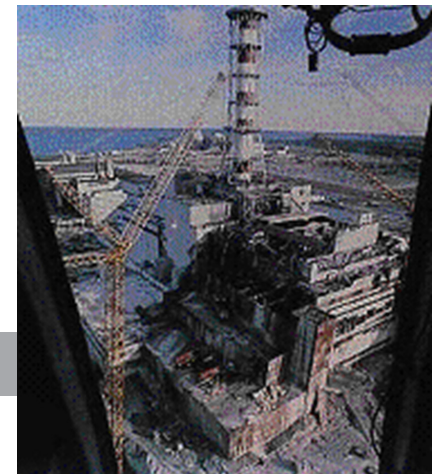


The international nuclear community saw the urgent need to raise standards in all nuclear plants – especially the former Soviet Union & Eastern Europe
- PHARE improvement project

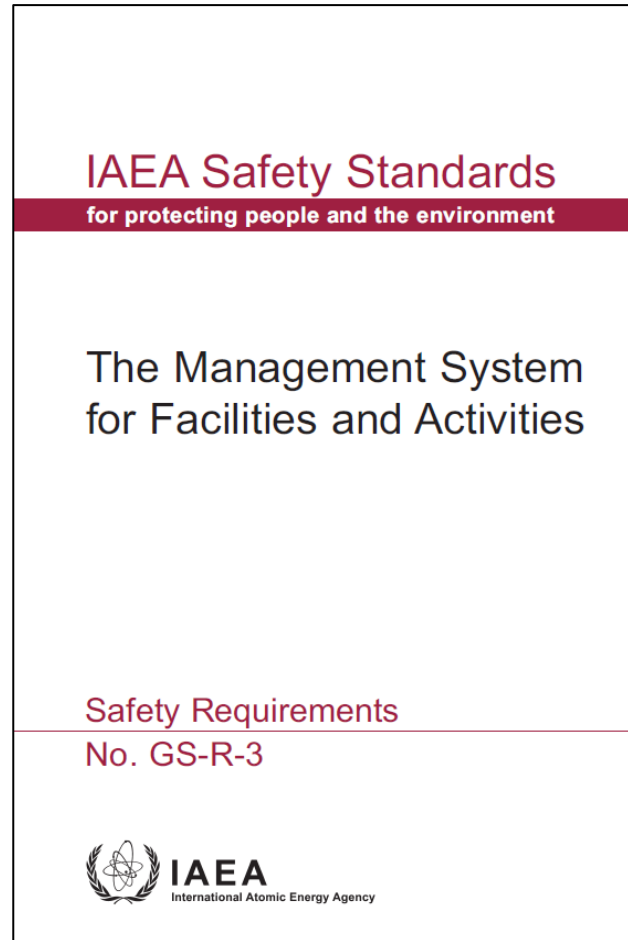
Nuclear Electric (and later Magnox) vigorously supported the PHARE project

The MCP approach was promoted to help drive a culture change to increase openness, promote cross department working & define interfaces

The MCP approach contributed to improvement

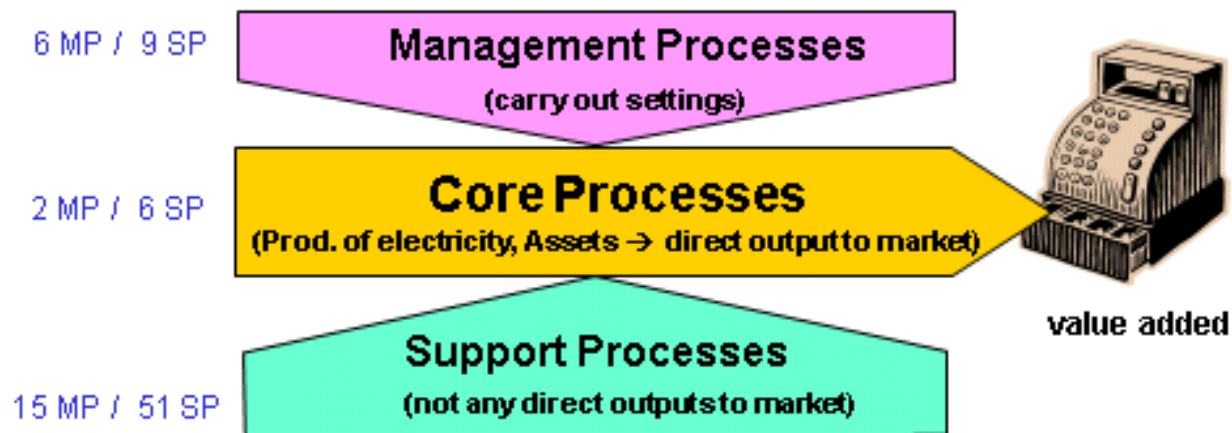


IAEA GS-R-3 – Process based



Process based – Beznau NPP - Switzerland

Common Process-Structur



overall: 90 Processes/specifications

MP = Mainprocess → KKB "HP"

SP = Subprocess → KKB "SP"