Asset Age No Longer Matters – It is the rate of ageing that dictates

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Who Am I?

• Asset Director of Costain Engineering
• Costain a listed UK infrastructure company
• Engineering solutions through the full asset life cycle of Design/Construction/O&M
• Active across the Rail/Water/Highways/Oil & Gas/Power sectors
The Client In Question

- Oil and Pipelines Agency (OPA)
- Government Agency of the Ministry Of Defence (MOD)
- Storage and distribution of aviation fuel to every UK airport
- Recently privatised to Spanish company CLH
The Asset In Question

• 2500 km of pipelines and storage capacity throughout the UK and linking all airports
• Built in 1939 at start of 2nd World War
• Only invested in at times of crisis
• 10% only of military use currently
The Problem

• Total lack of investment in a 60 year old asset
• Little or no knowledge of assets and condition
• “If not broken, do not fix it” attitude
• Extensive backlog maintenance and defects
• Health & Safety Executive threat of closure
The Solution

• Whole life age is no longer relevant
• Risk assess the whole system for critical points
• Measure condition of asset at critical points
• Assess rate of ageing since construction
• Establish remaining life of asset and extrapolate across whole system
The Science

• Risk based assessment to API 570
• Isometrics produced of pipeline system
• Expose pipe at critical points
• Undertake Spot/Long Range Ultrasonic tests
• Extrapolate whole system from results
Some Interesting Points

• The extent we over designed previously
• Just how good our 60 year old assets were
• Defects confirmed as poor installation or physical damage, not through ageing process
• But we now have the proven evidence
• Commended by the HSE as the way forward
The Future Is Ageing

- Life cycle replacement was never cost effective
- Condition Based Maintenance is the future
- Remote monitoring through sensors
- Need for automated diagnostic coefficients
- A transformation in Asset Management