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SPE workshop

Integrated Asset Integrity Management for HSSE, Sustainability, and Operational Excellence

28–29 APRIL 2026 | BANGKOK, THAILAND

Interactive Session:

Managing Challenging Asset Integrity Issues in Ageing and Production-Driven Environments

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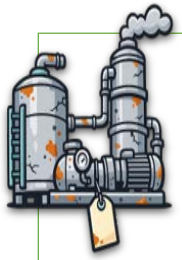
PTTEP

Content



Ageing asset's definition

Asset life cycle and decision-making framework

Risk-based VS Time-based approaches

Managing integrity risks in ageing offshore assets

Trade-offs between Safety, production continuity and cost

Case example

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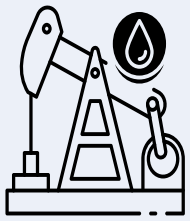
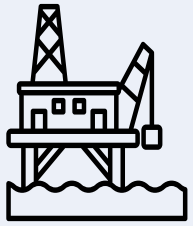
Ageing asset's definition

Characteristics

Production



Variety of Facilities



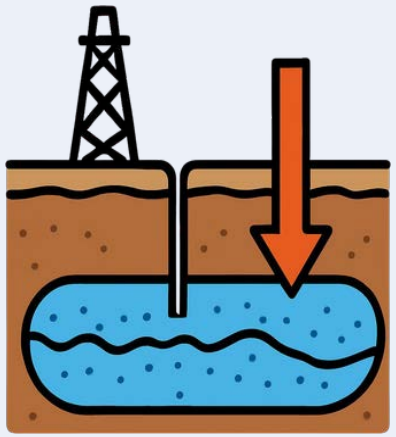
Risk

Cost

Triggers

Late life

Decline



Aging

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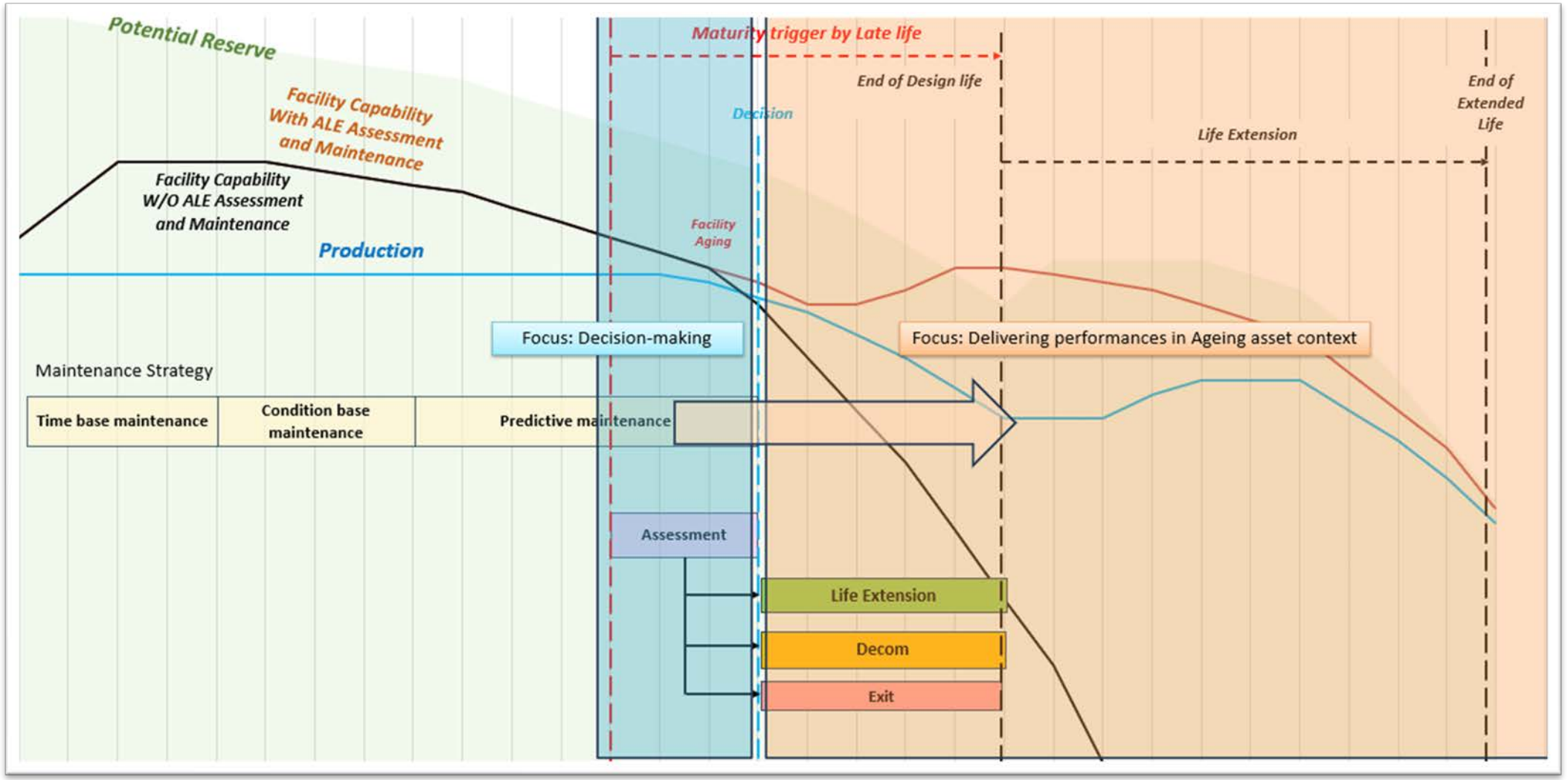
Asset life cycle and decision-making framework



Inspection Strategies: Risk-based VS Time-based Approaches

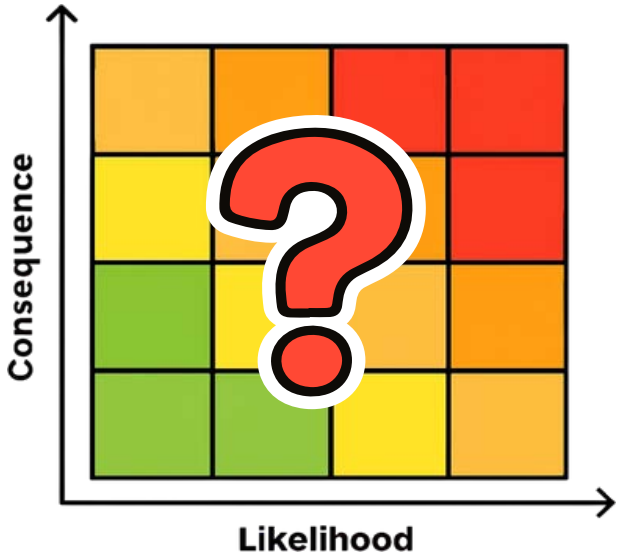
Time-based Inspection

- Have more data points.
- Require more resources to perform.
- Good for infant/new facilities/Acquired facilities with minimum data to cover unknown failure modes/mechanisms.
- …….

Risk-based Inspection

- Fit-for-decision data points.
- Require less resources to perform.
- With “asset experiences”, most of failure modes/mechanisms/behaviors are revealed. Should result in sharper decision making.
- …….

Trade-offs between Safety, production continuity and cost



- Determine your risk precisely in ageing asset context
- With limited resource, prioritization is key
- Differentiate ageing assets' KPI than non-matured assets
- Revisit production envelops, required reliability, etc.
- .....

Case Example: Asset Life Extension

Life extension requirements

- Original end of life: 2027
- Extended life: 2033
- Conceptual ALE done in 2024

Key focused issues

- Subsidence Impact Assessment
- Very-low pressure Mode Operation
- Well Integrity
- Structural assessment
- Pipeline assessment
- Topsides (E/I/M/S)

Benefits

- XXMMUSD ALE cost reduction from 2024 conceptual study

Key Takeaway

- With more data acquired, sharper decision can be made, providing significant ALE investment cost reduction
- With limited required remaining production life, many upgrades could be opted out