Asset integrity—process safety management – Involving the workforce

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Diederick Bax, Shell Global Solutions International BV
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Why are we focusing on asset integrity?

Because we want to prevent major incidents like these.
What are we looking to achieve?

We want to be able to say and believe that

“OUR ASSETS ARE SAFE AND WE KNOW IT”
What is asset integrity?

(Or rather what do we mean when we talk about it?)
Some definitions

- **Asset performance**: The ability of an asset to perform its required function while making an optimum contribution to the business.
- **Asset integrity**: The ability of an asset to perform its required function effectively and efficiently while safeguarding life and the environment.
- **Process safety**: Management of major risk.
- **Technical integrity**: Management of hardware risk barriers.

**Personal safety**: Incidents that primarily affect an individual on each occurrence.
We design and build so that risks are as low as reasonably practicable (ALARP)

Key enablers (technical safety, people and systems)

Design integrity

Technical integrity

Operating integrity

We work within the operational barriers

We maintain the hardware barriers

Asset integrity—process safety management is...
Asset integrity and the project life cycle

- Establish asset integrity
- Safeguard asset integrity
- Design integrity
- Technical integrity
- Operating integrity

- Evaluate
- Concept selection
- Concept definition
- Execute
- Operate and produce
What is the asset integrity must-win?

(What are we trying to achieve?)
“Our assets are safe and we know it”
What does this mean for new and operating facilities?

- Select design to minimise risk
- Identify risks mitigation

Design risk barriers

- Inspect and maintain risk barriers

Formally document

Design HSE case

Operations HSE case

- Update procedures, processes (and make accessible)

Plan to operate

Permit to work

- Schedule inspection maintenance programme

Operate within defined envelope

Analyse and assure

- Global
- Regional
- Asset
- Installation

Update
What activities are part of the must-win?

(What are we doing?)
EP asset integrity – The journey

Assess......................... Fix......................... Sustain

- Assessments
- Fix the kit
- Sustainable integrity

Time

Integrity
Assess and fix – Investing in the hardware

Assess

Understanding the issues...

Fix

Then restoring...
Central to asset integrity is understanding and managing risk

SCEs/barriers

- Safe operation
- Structural integrity
- Process containment
- Ignition control
- Protection systems
- Detection systems
- Shutdown systems
- Emergency response
- Lifesaving

Escalating consequences “major event”
HSE case activities revolve around the HSE case standard and the development of HSE “bow ties”
EP asset integrity – Summarising key elements

Our risks are ALARP

We maintain the hardware barriers

Design HSE case

Design integrity/technical safety

We operate within the appropriate envelope

Technical integrity framework

Technical integrity

Design and engineering principles

Processes and procedures

Key enablers

Operations HSE case

People

Operating integrity

Processes and procedures

Design and engineering principles

Operations HSE case
Thank you
Any questions?