

SUBSEA CONTROL SYSTEM TIE- BACKS TO LATE-LIFE ASSETS

Managing the unknown



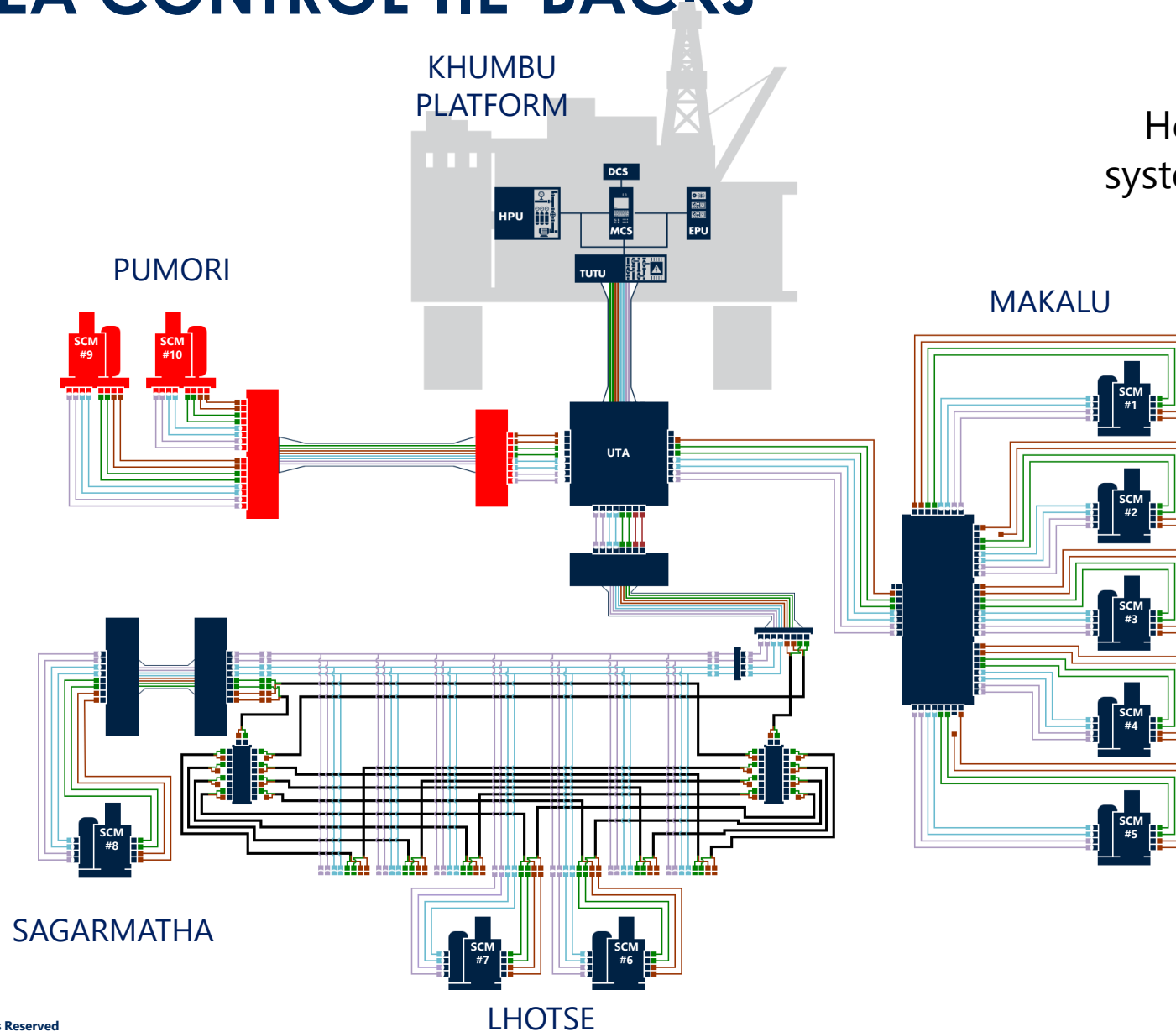
THE QUEEN'S AWARDS
FOR ENTERPRISE:
INNOVATION
2016



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SUBSEA CONTROL TIE-BACKS



How will the legacy system react to the new load?



THE UNKNOWNNS

ESD closure
time?

Operating
System future-
proofing?

Additional LP
accumulation?

What pre-
charge pressure
is left?

Electrical tie-in
points at UTA?

Insulation
Resistance?

MCS capacity
for addition
well pages?

Subsea comms
bandwidth?

Control fluid
contamination
at SCMs ?

Control fluid
leakage?

HPU reservoir
capacity
requirement?

Sub-system
redundancy?

Component
fault history?



ANSWERING THE QUESTIONS

From Analysis

ESD closure time?

Additional LP accumulation?

Electrical tie-in points at UTA?

Subsea comms bandwidth?

HPU reservoir capacity requirement?

MCS capacity for addition well pages?

From Integrity Management

Control fluid leakage?

Operating System future-proofing?

Control fluid contamination at SCMs ?

What pre-charge pressure is left?

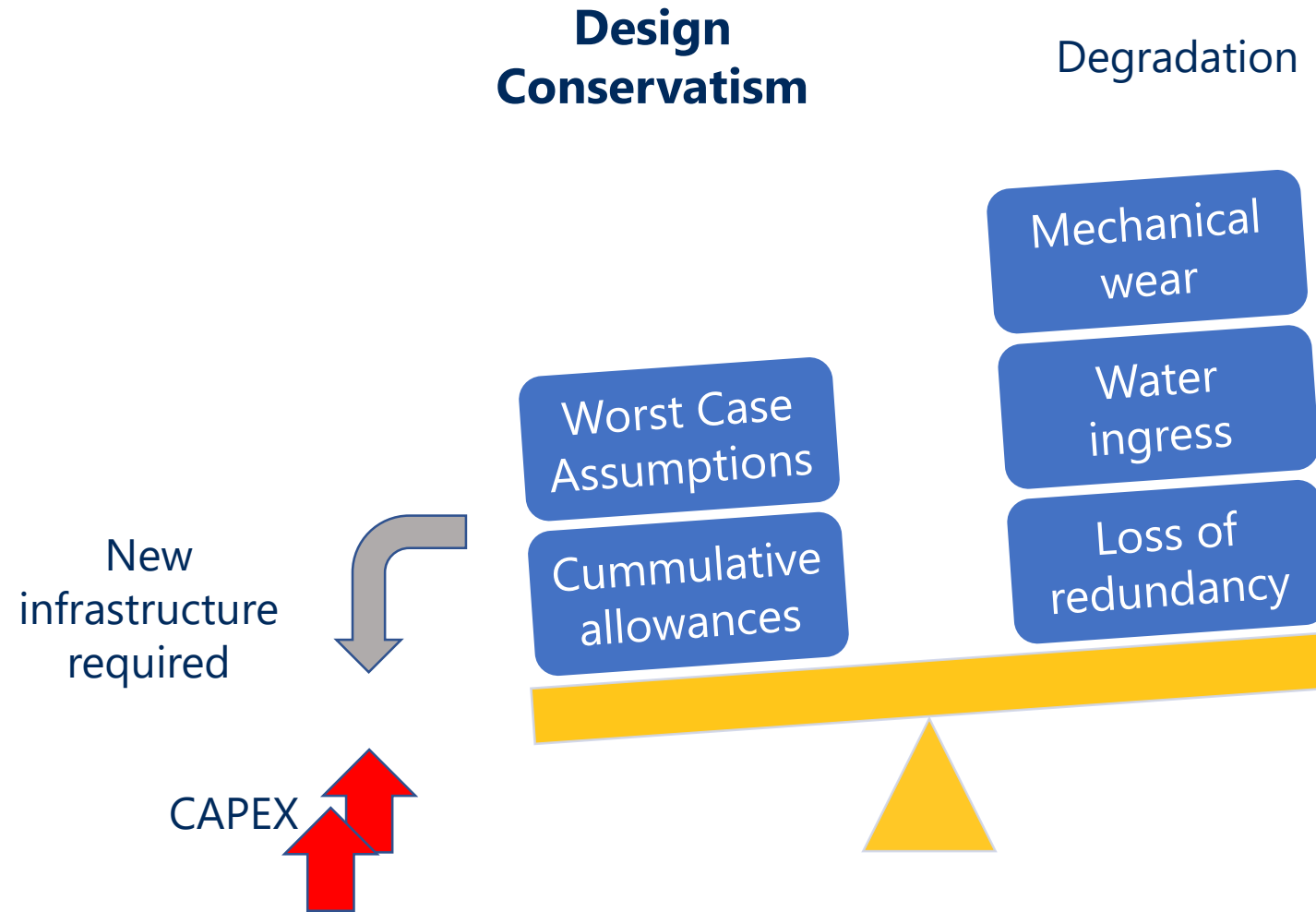
Insulation Resistance?

Sub-system redundancy?

Component fault history?

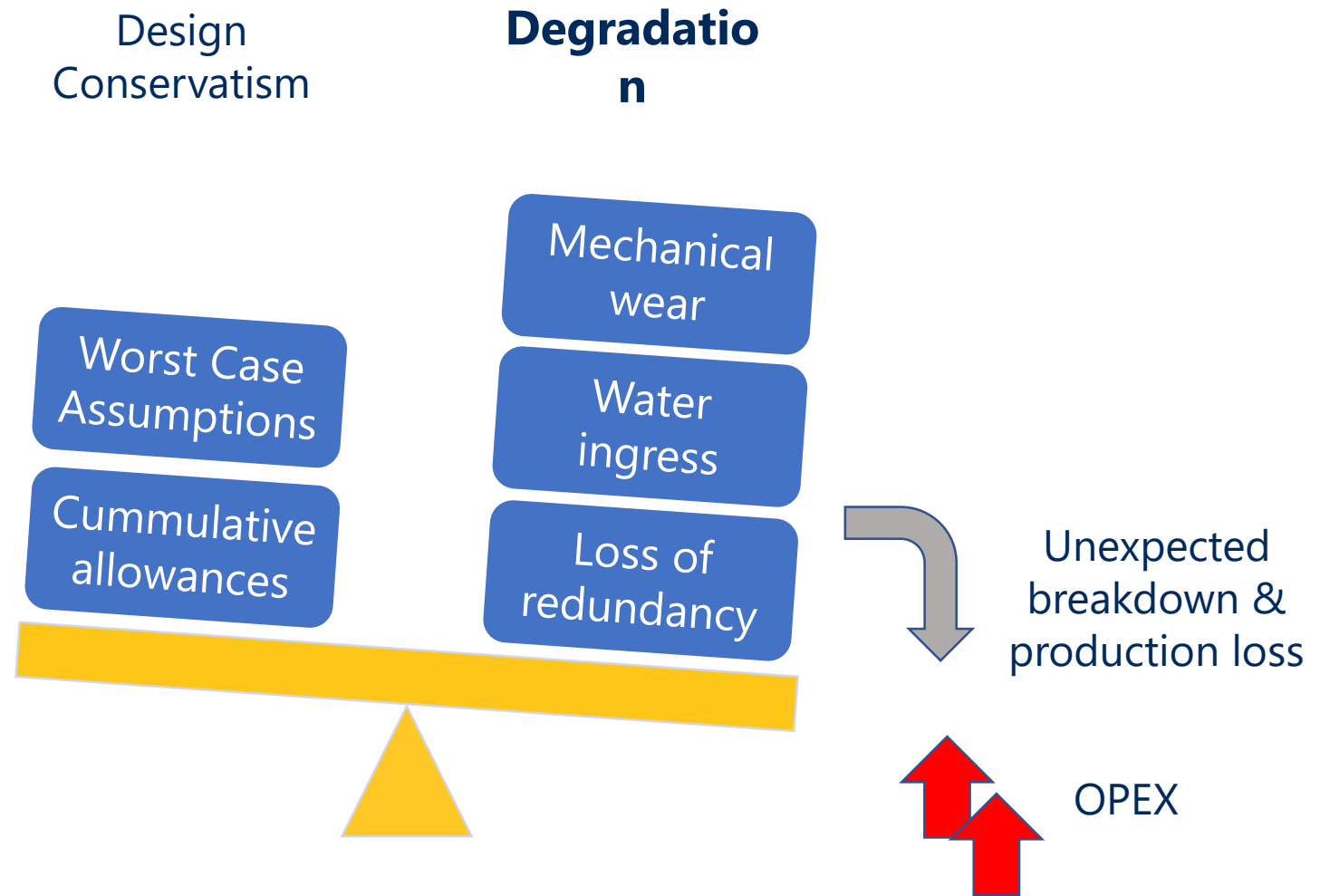


THE UNCERTAINTY BALANCE





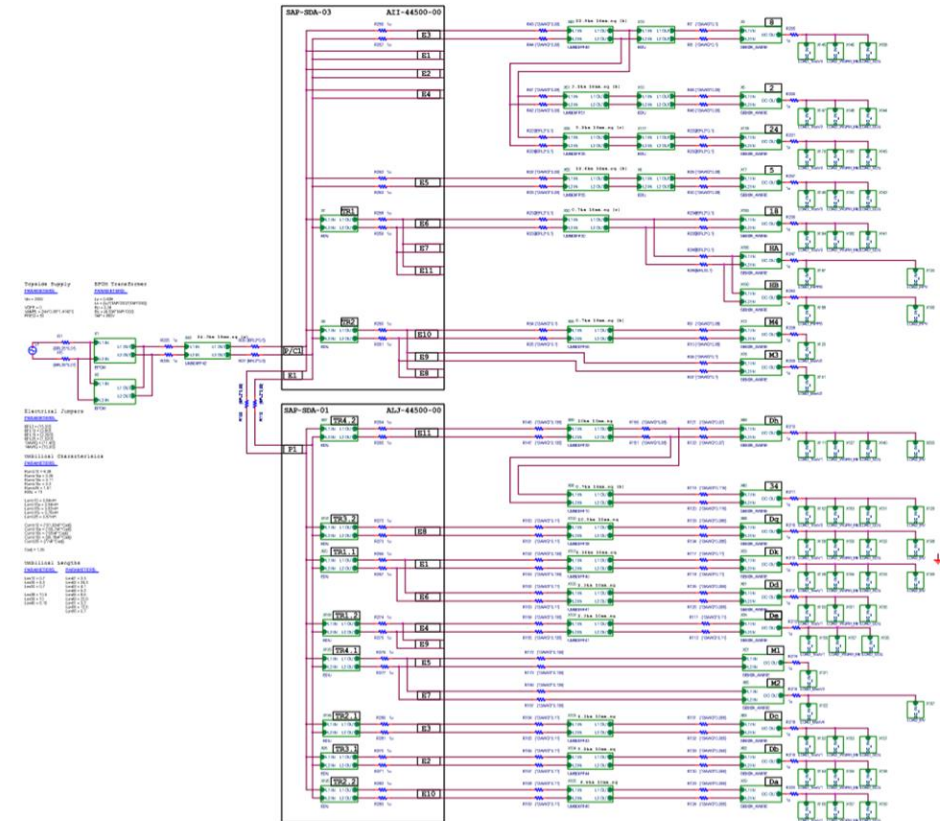
THE UNCERTAINTY BALANCE





ADDRESSING THE CAPACITY QUESTIONS

- ❖ Validation of the electrical and hydraulic analyses with real-world input / output data.
- ❖ Refining the software models to quantify the actual operational headroom.
- ❖ Interface and set-up optimisation.





ADDRESSING THE INTEGRITY QUESTIONS

- Systematic collection of data.
- Turn data in meaningful KPIs.
- Record fault history.
- Record the maintenance & repair history.
- Compile all the information in one place.
- Identify and monitor threats levels.

The screenshot displays the Viper Innovations software interface, which is divided into two main sections: 'Group Overview' and 'Integrity Map'.

Group Overview: This section provides a high-level view of the system. It includes a 'Point of Contact' card for Joe Blogs - Test Engineer, with contact details: +44 07009924431, +44 07778883387, and joe.blogs@example.com. Below this is a 'Status' section with three KPIs: 1000, 0000, and 0200. A 'Media' section at the bottom shows a grid of images related to the equipment.

Integrity Map: This section shows a detailed schematic diagram of the 'KHUMBU PLATFORM'. The diagram illustrates the electrical connections between various components, including the 'LHOTSE RISER BASE', 'LHOTSE PROTECTIVE STRUCTURE', 'LHOTSE MANIFOLD', 'MAKALU RISER BASE', 'PUNORI STRUCTURE', and 'MAKALU 2A MANIFOLD'. The diagram uses color-coded lines to represent different types of connections and includes labels for various components like 'UTAs', 'SCHEMAS', and 'BUTUs'.

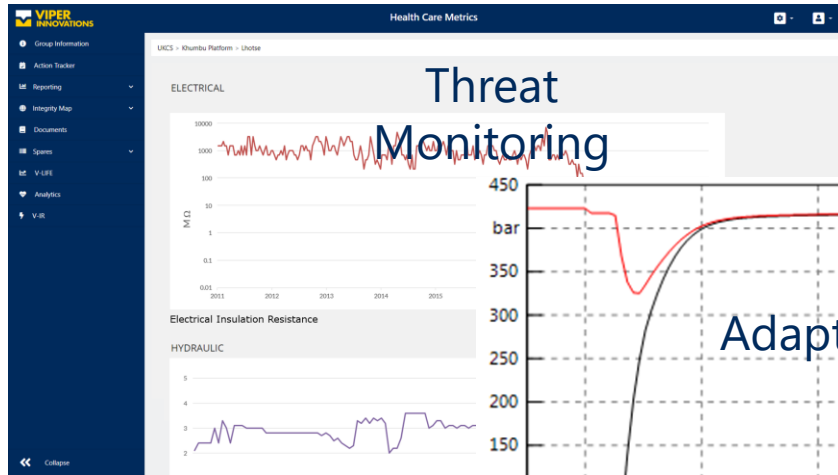
Unit Summary: A sidebar on the right provides detailed information about the 'EPU' (Energy Processing Unit). The summary includes:

- Unit Summary:** Manufacturer: Magnus Power, Part Number: EP-11-5432, Serial Number: 11-5432-01, Date of Installation: 01/08/07 00:00:00, Date of Manufacture: 01/03/07 00:00:00.
- Unit Activities:** Previous Activity: 2019-11-15, Next Activity: None.
- Unit Open Actions:**
- Unit Open Faults:**

The interface also includes a 'View Details' link and a 'Record Fault' button.



THE PRIZE



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Work Better for Longer

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