Understanding Key Risks In Offshore Wind

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GCube: Overview

- World’s leading renewable energy insurer.
- 25+ years’ experience.
- 80GW of renewable energy projects insured in 60+ countries.
- ‘A+’ rated security and lender/finance accepted.
- USD 300m underwriting capacity any one project – 100% line.
- Commitment to collaboration with our clients.
- 50+ years combined loss control experience.
- 2400+ / USD500m+ paid claims.
- Regular client meetings, discussions and workshops.

Geographic Spread

- United States 43%
- United Kingdom 15%
- Netherlands 9%
- Italy 7%
- Germany 3%
- Portugal 3%
- Belgium 2%
- Romania 2%
- Panama 1%
- Australia 1%
- South Africa 1%
- Spain 1%
- Thailand 1%
- Rest of World 9%
✓ 70+ Offshore Wind Projects c. 11 GW
✓ USD 50m+ paid claims.
✓ Underwritten offshore risks in over 20 countries across three continents
✓ Dedicated offshore wind team
✓ Recognised leader in floating wind insurance
✓ Leader in Floating Offshore Wind
✓ Biennial Risk Manager Seminar
✓ Vocal contributor to industry initiatives
Introduction to Offshore Wind

Vindeby Offshore Wind Farm (Photo: Danish Wind Industry Association)

Coastal Virginia Offshore Wind (Photo: Dominion)
Introduction to Offshore Wind
Poll Question:

How competitive is new offshore wind per MWH in the US?

Options:

A – USD 52.00 per MWH
B – USD 65.00 per MWh
C – USD 235.75 per MWh
Introduction to Offshore Wind

Source: BEIS Projections

https://www.thecrownestate.co.uk/en-gb/our-places/asset-map/#tab-2
Loss Expectancy

(Illustrative purposes only)
Shim plate has fallen off, caught between inside of hammer and top of MP flange. This causes a depression in the flange that is not easily repairable – leads to multi-million € claim…
Claims: Foundations
Operational Claims: Export Cable
Operational Export Cable Claims: Root Cause?

- RCA results:
  - Exterior of cable (armouring, insulating electrical tape, etc.) fine
  - Fibre optic core (FOC) disintegrated
  - Hole found in lead sheath of power core 3

Above likely damaged
FOC semi-conducting
sheath $\rightarrow$ sea water
ingress $\rightarrow$ corrosion of
aluminium armouring
under sheath + standing
voltage on FOC $\rightarrow$
degradation of insulation
$\rightarrow$ BANG
Part of inter-array cable exposed, out of the water. Wave action over prolonged period damaged the cable.
Operational Claims: Transformer/Substation loss
US Challenges: Jones Act

- Goods travelling between any two US ports need to be transported on ships built, owned and operated by US citizens or permanent residents.

- Once a foundation is installed in US waters it becomes a US port meaning this will apply to US offshore wind installation – no US installation vessels / crew currently.

- Can either use a non-US port as a base (e.g. Canada) or use a ‘feeder-barge’ solution – both more expensive & increases risk.

- Act presents large, but not insurmountable challenges.
New Technology

33kV

66kV

7 or 8 MW Wind Turbine
- Export Cables
- Collector Cables
- Inter-Turbine Cables

GCube
Thank You