



Risk Control Specialists – Subsea Cables

Subsea Power Cables:

Lessons Learned A Marine Warranty Surveyor's Perspective

7th November 2019

Capt. Chris Sturgeon



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Insurers might consider direct appointment of MWS.

How hard does the market have to be for insurers to support the MWS when push back from developers and contractors is prevalent, and increases the risk?

Presentation

Red Penguin & Penbridge Marine

Market influences

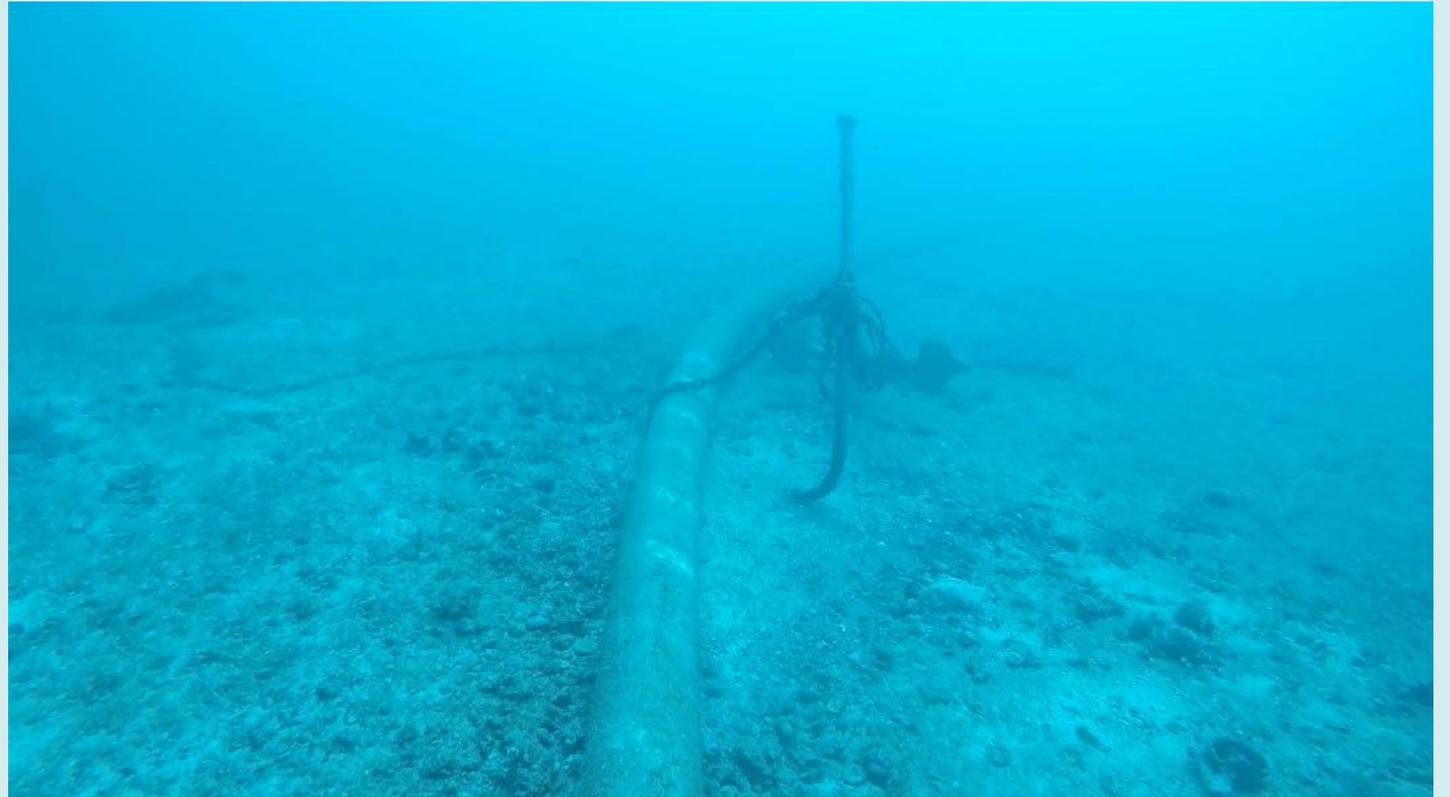
- The power cable market - context
- Losses
- Contributory causes?

Project Environment

- Phases
- Pressures
- Cable in context
- Risk Awareness

Lessons Learned

- Cause & effect
- Recent Experiences
- Summary



Anchoring Prohibited

Services

Project Assurance

Asset Management

Expert Services

Marine Warranty Survey (MWS)



Risk Control Specialists – Subsea Cables



A new company

Formalising an informal working arrangement between

Red Penguin and Cambridge Marine

Chris Sturgeon Master Mariner

Colin Campbell Master Mariner

Danny Wilson Master Mariner

Richard Goldring Principal Engineer

The same people

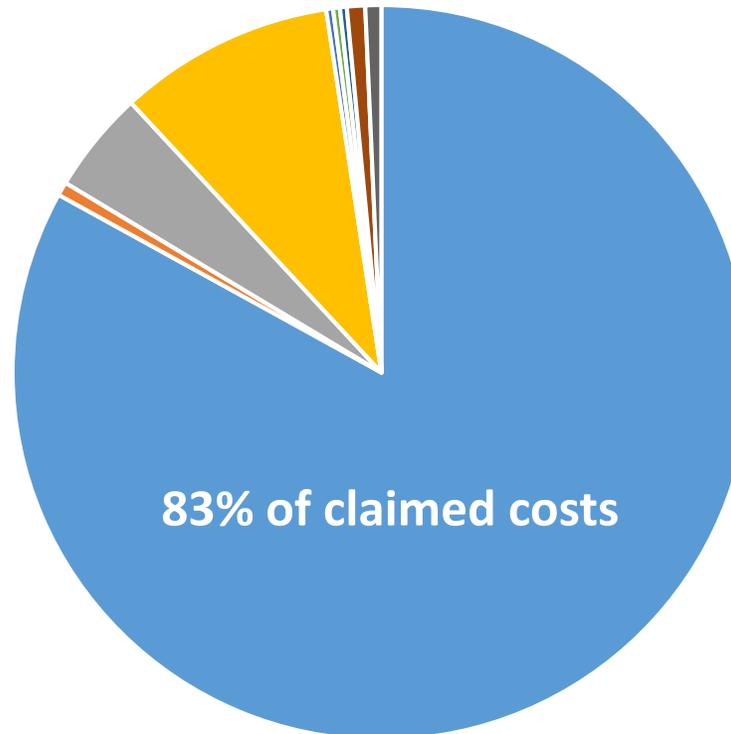
A different brand

What could possibly go wrong?



CAR Claims 2002 - 19

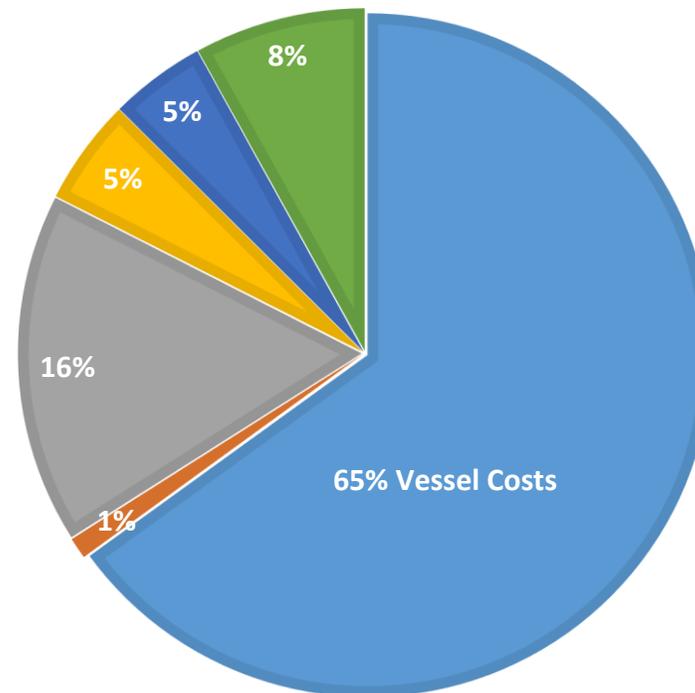
Share of total Claims Cost



■ Cable claims 83.2% ■ Collision 0.6% ■ Electrical 4.5% ■ Foundations 9.5% ■ Fire 0.3%
■ Lightning 0.3% ■ Blades 0.3% ■ Assembly 0.8% ■ Deductible 0.8%

CAR Claims 2002 - 19

BREAKDOWN OF COSTS



- Vessel Charges = 65%
- Special Machinery (Third Party) = 1%
- Site Works (contractor labour) = 16.5%
- Materials = 5%

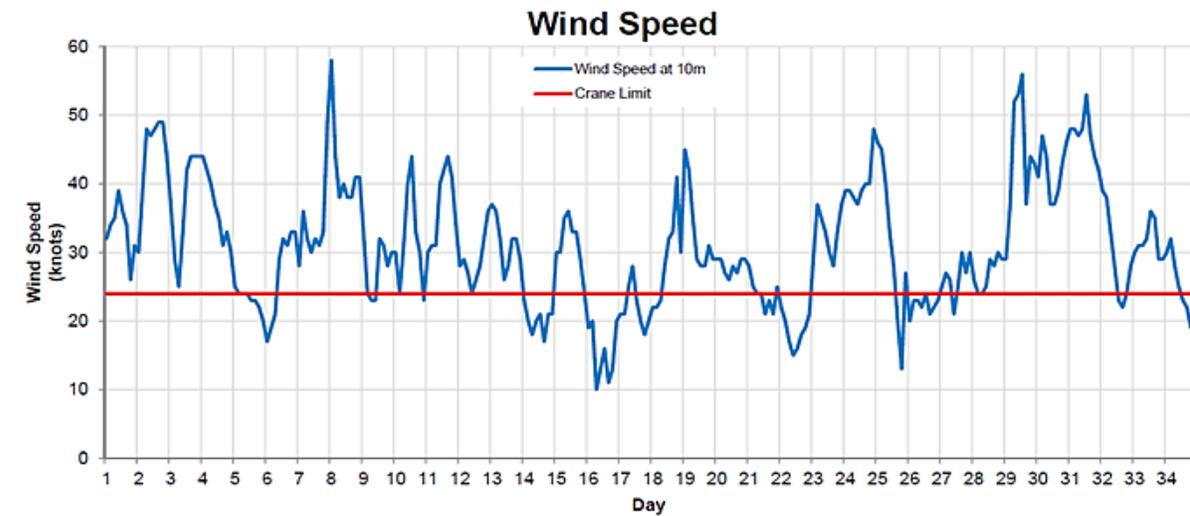
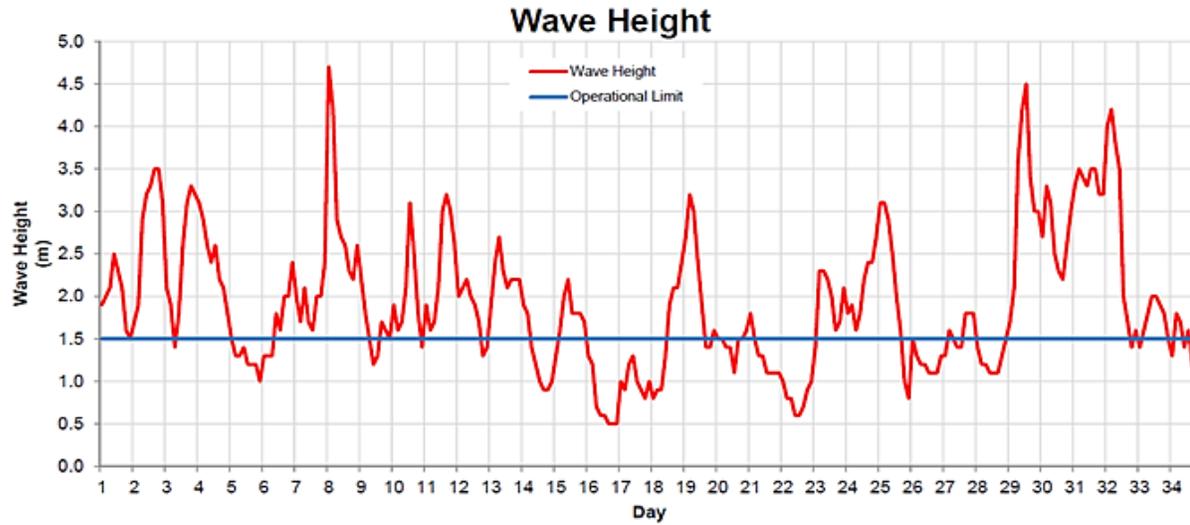
CAR Claims - Cables

- Average claim cost: EUR 2,500,000
- Inter-array cable damage: EUR 1,500,000 – 10,000,000
- Export cable damage: EUR 8,500,000 – 30,000,000

- 57 of the last 60 construction projects have experienced cable claims
- Vessel costs a major contributor (EUR 80,000 – 170,000 p/day)



Offshore – Standby / WoW



Key Issues

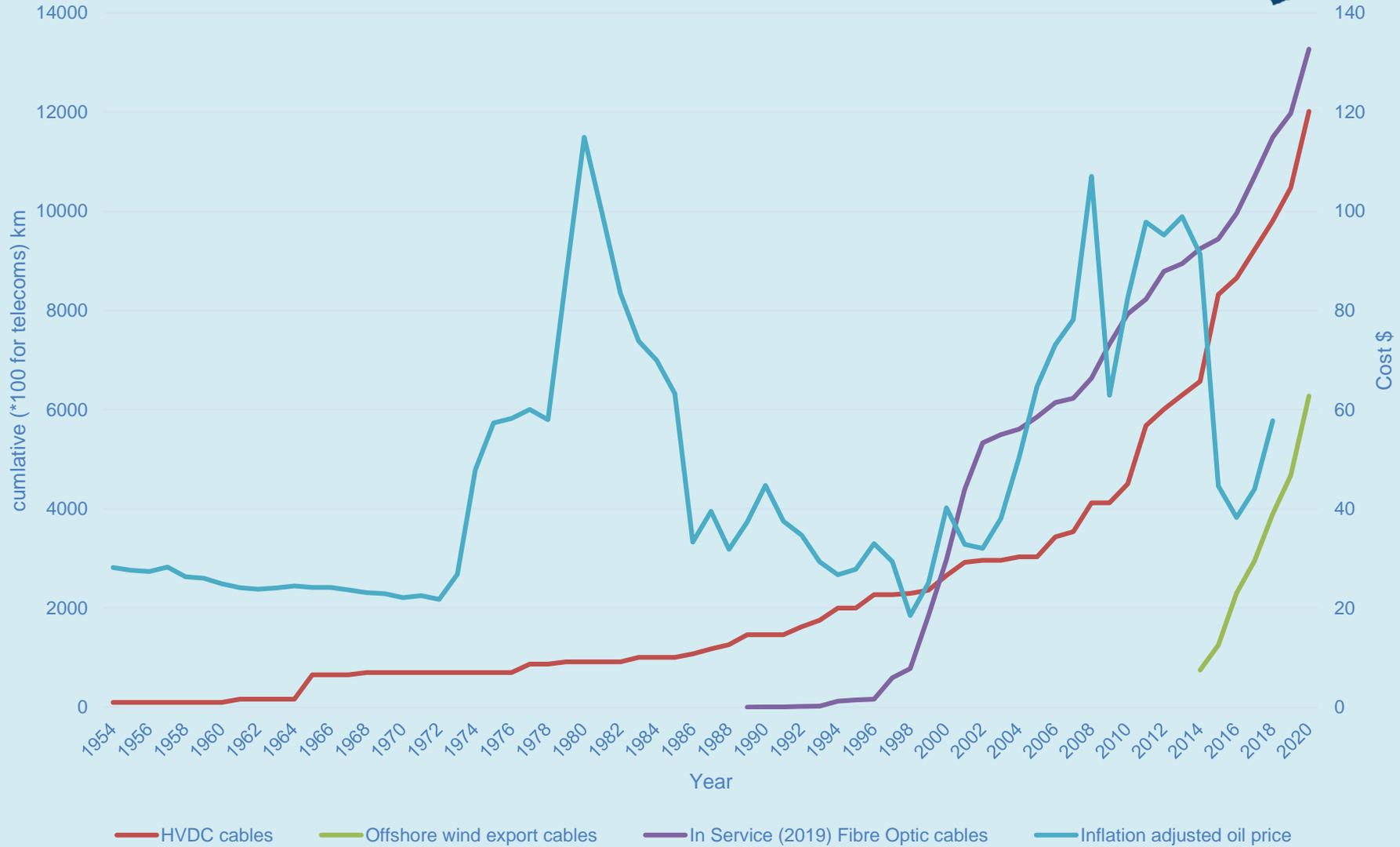


- Deskillling of cable manufacture
- Deteriorating QA in cable factories
- Inadequate forward planning
- Year round marine operations
- Lack of installation skills
- Market forces affecting long term investment
- Poor performance of MWS
- Undiminished loss record

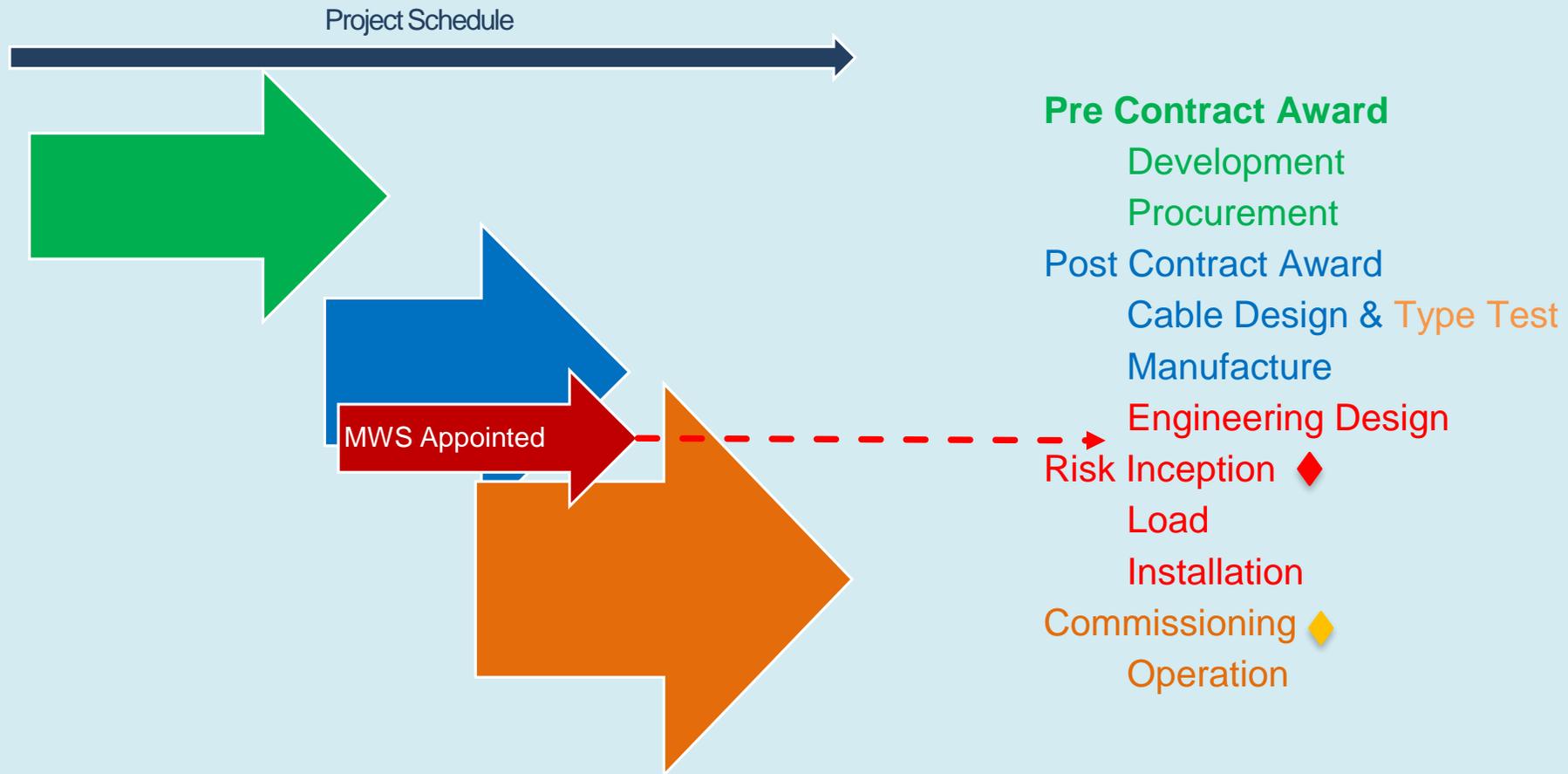
Market in context



Cable lengths and Oil prices



MWS SoW Key risk points in a project



Role of MWS



Insurers' Expectation

- Joint Rig Committee (JRC) Code of Conduct for MWS JRC2010/010
- Fundamental objective of the MWS is to reduce riskto an acceptable level in accordance with best industry practice
- Acting as an independent third party reviewer
- Possessing relevant skills and experience
- Noting insurers' interests
- Reviewing the project arrangements, suitability and monitoring compliance
- Provide written approval (CoA) & make recommendations (Assured to comply with)

Some Assureds' Expectations

- Low cost
- Augment / replace internal risk control
- An unwanted necessity (but it ticks a box)
- Typically engaged on a Consultancy contract
- Expect to have some control over MWS's work and impact
- Engage as late as possible to defer the cost

Type approval test (TAT), QC/QA, experience, consistency

24 hour monitoring?

Cable manufacturers make cable:

Control of loading, transportation and installing cable ensures the continued viability and efficiency of the production line...

If the manufacturer does not load, ship or install cable:

Are the project contract responsibilities clear?

How is transfer of risk managed?



Mind
Minimum
Bend Radius
(MBR)

Damage during loading



Joint in load port ?

- Factory jointers
- Low risk operations
- Delay

Leave in stow and joint at sea ?

- Field jointers
- Higher risk operations
- Contract issues?
- Delay
- Weather risk



Transportation



- Planning, planning & planning
- Risk control
- Experience & competence
- Tests and trials
- Contingency planning
- Operations
- Implement plans and procedures
- Manage change
- Identify root cause of incidents



Technical impact of losses

Failed Shore End Landing - HVDC Interconnector:

- Investigation of cause
- Cost of rectification engineering & planning - 8 months
- Delay > 6 months - ship time, support vessels
- Weather impact
- Consents and permits impact
- Negotiation, dispute resolution
- Schedule delay
- Complete installation works
- Additional rock protection and trenching



Claim: Circa EUR 10,000,000

Damage: 132kV Export Cable and submarine joint

Cause:

Lifting frame was incorrectly hooked up to manoeuvring points and not lifting points

Manoeuvring points failed dropping the cable and frame

Lessons Learned:

Operators were not familiar with the frame and its safe operation

The lifting points were not clearly colour coded, which is good practice



Claim: Circa EUR 10,000,000

Cause:

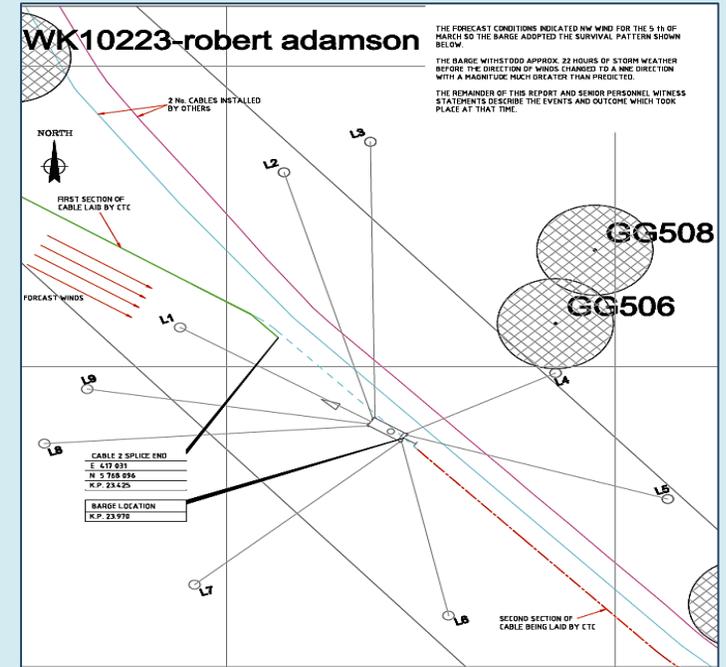
Small weather front which was un-forecast came through the area giving unexpected direction and wind speed. The barge was in survival position, but was not able to survive the almost-beam-on winds and swells from this unexpected system

Damage:

Significant damage to Export cable & Plough

Lesson Learned:

MWS provided strong recommendations to consider seeking shelter, Barge Master decided to continue





- Appoint a MWS with relevant & extensive experience; it's a false economy to go cheap
- Get MWS involved earlier in the project schedule; at least from engineering design review
- Let the MWS do their job; it can help everyone!
- Don't sweat the small stuff; there's lots of it...
- Confirm project teams' understanding of distinction between contract requirements and policy conditions
- Communication: It's good to talk – be frank
- Plan for the worst: It costs less at the desk.

Thoughts



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Thank you

