



# **Cyber Risk: Marine & Energy Insurance**

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# Cyber Risk: Marine & Energy Insurance

A

What is Cyber Risk?

B

Affirmative and “silent” cyber cover

C

Case Study and available insurance

# POLL

Question: How would you rate your knowledge of cyber insurance between 1 and 5?

1 - Nothing. What's cyber?

2

3

4

5 - I'm a cyber underwriter/broker.

A

## Categories of Cyber Risk

### Operational

- Risk to the availability of electronic systems and data. An emerging risk due to businesses' unprecedented reliance on electronic systems and data that are increasingly interconnected.
- Losses include: business interruption, liabilities for service interruption.

### Informational

- Risk attaching to data and information. An emerging risk because of the unprecedented increase in (i) volume and reliance on electronic data; and, (ii) the legal risks associated with holding that data.
- Losses include: data breach costs, privacy liability/sanctions, financial crime.

### Physical

- Risk to physical assets and the environment. An emerging risk because of the unprecedented connection between the physical and virtual worlds.
- Losses include: physical damage, environmental liability, bodily injury.



A

## Categories of Cyber Risk

### Informational



#### Hacked Brit shipping giant Clarksons: A person may release some of our data today

But ... we won't 'be held to ransom by criminals'

British shipping company Clarkson has 'fessed up to a data breach, saying a miscreant has accessed its systems and the public should expect some of it to be made public.

Clarkson PLC declined to answer *The Register's* inquiry about how much data had been compromised or whether it belonged to customers and merely referred us to the company's announcement (PDF) for any additional information.

### Operational

#### Global shipping feels fallout from Maersk cyber attack



About 90 percent of world trade is transported by sea, with ships and ports acting as the arteries of the global economy. Ports increasingly rely on communications systems to keep operations running smoothly, and any IT glitches can create major disruptions for complex logistic supply chains.

The cyber attack was among the biggest-ever disruptions to hit global shipping. Several port terminals run by a Maersk division, including in the United States, India, Spain, the Netherlands, were still struggling to revert to normal operations on Thursday after experiencing massive disruptions.

### Physical



#### Triton: hackers take out safety systems in 'watershed' attack on energy plant

**Sophisticated malware halts  
operations at power station in  
unprecedented attack which  
experts believe was state-  
sponsored**

A

## Typical cyber insurance coverage

### First Party Costs & Losses

- Non-physical business interruption (loss of profits/income)
- Breach costs (IT, legal, PR)
- Regulatory fines/penalties
- Fidelity/Crime

### Third Party Liabilities

- Claims against insured in respect of cyber event or data event
- Regulatory fines/penalties
- Defence costs

### Arising out of....

#### Cyber events

- Unauthorised access / use of Network & Computer Systems
- Denial of Service
- Unavailability (ransomware)
- Alteration or deletion of data

#### Data Events

- Data / Privacy law breaches
- Data Security breaches  
Claims/Circs

#### Other incidents

- Extortion
- Theft of moneys

### Widening coverage

- Network & Systems including those operated and controlled by third parties
- Negligence & system failure

## B

# Affirmative, “silent”, and excluded cyber cover



BANK OF ENGLAND  
PRUDENTIAL REGULATION  
AUTHORITY

Supervisory Statement | SS4/17

## Cyber insurance underwriting risk

July 2017

Firms must **identify, quantify** and **manage** cyber insurance underwriting risk under affirmative and non-affirmative cover.

For non-affirmative cover, firms should:

- Adjust premium to reflect the additional risk
- Introduce robust exclusions; and/or
- Attach specific limits of cover.

<b>CL380</b>	Institute Cyber Attack Exclusion Clause
<b>CL380 Hull Amended</b>	Institute Cyber Attack Exclusion Clause – (Hull Amended)
<b>LMA3030</b>	Terrorism Insurance Physical Loss or Physical Damage Wording
<b>LMA5272</b>	Cyber Incident Exclusion (Casualty Reinsurance)
<b>LMA5273</b>	Cyber Incident Exclusion (Casualty Reinsurance) (n/a Workers Comp & EL)
<b>LMA5274</b>	Cyber Act Exclusion (Casualty Treaty Reinsurance)
<b>LMA5275</b>	Cyber Act Exclusion (Casualty Treaty Reinsurance) (n/a Workers Comp & EL)
<b>JSC2015/005</b>	Cyber Attack Exclusion Clause
<b>American Institute</b>	Cyber Exclusion Clause
<b>NMA2914</b>	Electronic Data Endorsement A
<b>NMA2915</b>	Electronic Data Endorsement B
<b>LMA5240</b>	Cyber Loss Exclusion (property treaty reinsurance)
<b>LMA5241</b>	Cyber Loss Limited Exclusion (property treaty reinsurance)
<b>IMIA</b>	Advanced Cyber Exclusion
<b>Endorsement JS2018-001</b>	Cyber Attack Exclusion Clause and Write Back

B

## CL380 Institute Cyber Attack Exclusion Clause

### **INSTITUTE CYBER ATTACK EXCLUSION CLAUSE**

1.1 Subject only to clause 1.2 below, in no case shall this insurance cover loss damage liability or expense directly or indirectly caused by or contributed to by or arising from the use or operation, as a means for inflicting harm, of any computer, computer system, computer software programme, malicious code, computer virus or process or any other electronic system

1.2 Where this clause is endorsed on policies covering risks of war, civil war, revolution, rebellion, insurrection, or civil strife arising therefrom, or any hostile act by or against a belligerent power, or terrorism or any person acting from a political motive, Clause 1.1 shall not operate to exclude losses (which would otherwise be covered) arising from the use of any computer, computer system or computer software programme or any other electronic system in the launch and/or guidance system and/or firing mechanism of any weapon or missile.

10/11/03  
CL380

C

## Case Study



**Kubbex Oil & Gas**



C

## Case Study

### KUBBEX OIL & GAS

- Medium-sized oil and gas exploration and production company
- 150 licenses across 25 countries with 72 producing fields
- Production in Norway, UK, Africa, Asia and Arctic
- In 2017 produced on average 92,400 BOE/D
- Turnover USD2.2billion
- 10,200 employees
- Operates 7 vessels (including FPSO Arctic spirit)



### FPSO ARCTIC SPIRIT

- Built: 2014
- Length: 246m
- Oil production: 67,000 bopd
- Storage capacity: 850,000 bbls
- Crew: 100
- Cost: \$800m
- Flag: Singapore
- Class: Lloyd's Register (IACS)

**What cyber risks does this company face? What information might be needed to underwrite its cyber risks?**

C

## Case Study

### Questions to Underwrite



- Property and vessel values, types, age
- IT and Security Organisation
- Network structure and segregation between IT and production
- Patching and change management
- Security technology (Firewalls, Virus scanners, etc.)
- Security monitoring
- Incident management
- Business continuity management
- Security training and awareness
- Third parties' access

# POLL

**How much insurance should Kubbex buy for a cyber-attack\*?**

- (a) None**
- (b) \$10m**
- (c) \$50-100m**
- (d) \$100-250m**
- (e) \$250m+**

**\*Remember, insurance doesn't come free and the more you buy the more it will cost!**

C

## Case Study

### Claim Scenario – DAY 1



Oil &

### POLITE NOTICE

<WE ARE AN ELITE GROUP OF HACKERS WHO HAVE INFILTRATED YOUR COMPANY>

<WE HAVE YOUR DATA AND CONTROL OF YOUR SHIPS>

<YOU WILL PAY US \$10,000,000 OR ELSE>

<WE ARE IN YOUR COMMUNICATION SYSTEMS. DO NOT TELL ANYONE OR ELSE>

<YOU HAVE ONE WEEK TO COMPLY>

C

## Case Study

### Claim Scenario – DAY 5

- FPSO operating in Barents Sea
- Compressor surge due to emergency shutdown failure
- Surge leads to catastrophic compressor failure
- Initial cause analysis suggests malicious changes to electronic control panel

- **Replacement package long lead time = production curtailed 9-12 months**
- **6 weeks in yard to replace package = total loss of production**

Kubbex   
Gas

Oil &





C

## Case Study

### Claim Scenario – DAY 5



Oil &

#### What do we know after Day 5?

- Extortion threat ongoing.
- Verified malicious electronic act causing loss on vessel (not necessarily related).
- Significant financial losses caused to Kubbex.

#### What actions might Kubbex take?

What actions might Kubbex's insurers take in handling the claim?

# POLL

**How much will this cost Kubbex?**

- (a) \$10m**
- (b) \$50-100m**
- (c) \$100-250m**
- (d) \$250m+**

C

## Case Study

Financial loss to Kubbex



### Incident related costs/losses

<b>Investigation Costs</b>	USD 3,500,000
<b>Sue and Labour</b>	USD 25,000,000
<b>Physical Damage</b>	USD 75,000,000
<b>Loss of Production</b>	USD 200,000,000
<b>TOTAL</b>	USD 303,500,000

## C

# Case Study

## All Risks

- A. London Standard Platform Form
- B. Loss of Production Income

## Physical Damage

### Insuring Clause

Subject to its terms, conditions and exclusions this Insurance is against ***all risks*** of direct physical loss of or damage to the property insured, provided such loss or damage has not resulted from ***want of due diligence*** by the Assured, the Owners, or Managers of the property insured, or any of them.

### Free of Capture and Seizure

Notwithstanding anything to the contrary contained in this insurance there shall be no liability for any claim caused by, resulting from, or incurred as a consequence of:

- (g) Any act for **political or terrorist purposes** of any person or persons, whether or not agents of a Sovereign Power, and whether the loss, damage or expense resulting therefrom is **accidental or intentional**



## Loss of Production

### Coverage

Subject to the exclusions, conditions and definitions of the Policy, and also to the following additional exclusions conditions and definitions, this Section shall, following necessary interruption of the business, indemnify the Insured for:

- (i) Loss of Production during the Recovery Period at the Insured's Premises as defined hereunder;
- (ii) Increased Cost of Working as defined hereunder;

directly caused by either:

- (a) accidental physical loss of or physical damage to real or personal property; or
- (b) Well Out of Control as defined hereunder occurring while this Section is in force.

C

## Case Study

### Exclusions



THIS SECTION DOES NOT INSURE AGAINST:-

- E. Infidelity or any dishonesty or fraud on the part of the Insured or any officer or **employee** of the Insured.

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#### **INSTITUTE CYBER ATTACK EXCLUSION CLAUSE**

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C

## Case Study

Financial loss to Kubbex

Kubbex  Oil &  
Gas

### Incident related costs/losses

<del>Investigation Costs</del>	<del>USD 3,500,000</del>
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<del>Physical Damage</del>	<del>USD 75,000,000</del>
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<del>TOTAL</del>	<del>USD 303,500,000</del>

C

## Case Study

### What are the insurance options?

Kubbex   
Gas

Oil &

		<b>A NO COVER</b> <small>(self-insure/ risk too low)</small>	<b>B CL380 Buy-Back</b>	<b>C Typical Cyber Policy</b>	<b>D Integrated</b>
<b>Investigation Costs</b>	USD 3,500,000	x	x	✓	✓
<b>Sue and Labour</b>	USD 25,000,000	x	✓	x	✓
<b>Physical Damage</b>	USD 75,000,000	x	✓	x	✓
<b>Loss of Production</b>	USD 200,000,000	x	✓	x	✓

# POLL

## What would you buy?

		<b>A NO COVER</b> <small>(self-insure/ risk too low)</small>	<b>B CL380 Buy-Back</b>	<b>C Typical Cyber Policy</b>	<b>D Integrated</b>
<b>Investigation Costs</b>	USD 3,500,000	x	x	✓	✓
<b>Sue and Labour</b>	USD 25,000,000	x	✓	x	✓
<b>Physical Damage</b>	USD 75,000,000	x	✓	x	✓
<b>Loss of Production</b>	USD 200,000,000	x	✓	x	✓



# QUESTIONS



# POLL

Question: How would you rate your knowledge of cyber insurance between 1 and 5?

1

2

3

4

5