

Project Insurance Claims May 15, 2018

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Outline of Contents

- Typical Project Insurance Claims
- Common causes of failures
- Property Damage claims
- DSU/ALOP Claims
- DSU issues and settlement challenges
- Examples of PI Claims

Claims

During the period of Insurance Whilst at the Project Site (or in storage) Marine Transit Natural Hazards (rainfall, storm, earthquake) Fire, Explosion Collapse Machinery Breakdown (during testing) Damage resulting from faulty design, workmanship and material Theft Third Party Liability DSU/ALOP

Causes of Damages/Failures

Civil Works Foundation sinking Concrete failure Flooding of Project site Excavation cave ins **Earthwork induced landslides**

Causes of Damages/Failures

Mechanical/Electrical works Handling failures – Crane accidents Fires caused during welding operations **Electrical connection errors** Due to faulty materials Due to substandard workmanship **Defects** in design

Incompetent Project supervision

Causes of Damages/Failures

During Testing & Commissioning Gas Turbines – Blade failures Wind turbines Lightning, Electrical Fires, Gearbox failure IC Engines Overheating, Lubrication failure Turbochargers – Fire, blade damage

Generators - Ruptures, Short circuits

Transformers - Explosions, Fire

Boilers - Explosion, Fire

Claim Examples

IPP Gas Turbine Rotor damage – EAR / DSU IPP HFO Diesel Generator – Alternator Damages – EAR/ DSU Hydropower Project loss due to unprecedented rainfall -CAR WTG Blade damage during lifting operation- EAR/DSU WTG Blade damage during transportation Marine /DSU Breakwater rock pitching washed away due to high tide at Deep water terminal -CAR Carbon Dioxide Compressor Failure at Chemical Plant – EAR Tunnel Boring machine damage at Hydro plant - CAR Flooding damage to 130 km bulk water supply scheme

DSU / ALOP

Project completion delay Additional Costs Customer LDs and Contractor Penalties Working Capital constraints Debt Servicing Loss of Market share - Intangible

OPERATIONAL PHASE CLAIMS

During the period of Insurance

During Warranty Period

Natural Hazards (rainfall, storm, earthquake)

Fire, Explosion

Collapse

Machinery Breakdown

Damage resulting from faulty design, workmanship and material Theft

Third Party Liability

Business Interruption

CAUSES OF DAMAGES/FAILURES

Mechanical/Electrical/Civil works

Operational Errors

Equipment Malfunction

Due to faulty materials - Metallurgical defects Defects in design – Under specification load

designs

Substandard Preventive and Routine Maintenance House keeping

Staff Qualifications and Training

CLAIM EXAMPLES

- IPP Gas Turbine Compressor Blade & Shaft damage MBD/ BI
- 730 MW Steam Turbine Plant Plant Flooded MBD/BI
- IPP Steam Turbine Rotor damage MBD/ BI
- Raw Meal Silo Collapse Structural Failure MBD
- Clinker bucket Conveyor collapse MBD
- IPP Compressor Rotor Blade failure MBD/BI
- IPP Alternator Damage due to design fault MBD/BI
- IPP Transformer Damage MBD/BI

BUSINESS INTERRUPTION

- BI Claims usually exceed Property damage costs
- Loss of market share Not recoverable
- Loss of reputation
- Shareholders dividends curtailed
- Working capital constraints
- Long lead times for Critical equipment

Nicoll Highway

View of collapsed area:





Hydro plant damage due to floods



Steam turbine damage



Damaged wtg blade due to crane accident



THANK YOU