Global Marine Renewable Energy Conference

Washington, DC

April 15-16, 2009

WWW.GCUBE-INSURANCE.COM Insurance today for a greener tomorrow

Risk Management for Marine Renewable Energy Projects

Continually ask yourself four questions concerning risk, should the owner

(i) absorb (retain)

(ii) deflect (transfer)

(iii) make adjustments (renegotiate)

(iv) or establish contingencies (plans)?

The answer to all four inquiries is <u>Yes</u>, but only the proper combination of these will result in a winning project

Absorb (Retention)

Through a combination of risk mapping and loss control engineering, a determination can be made as to the owner's appetite for risk

That is, the threshold between retaining risk and transferring it through the purchase of insurance or other means

Deflection (Transfer)

For the most part, effectual risk transfer involves the purchase of insurance. This act shifts risk to accredited third party insurers whose business it is to warehouse a portfolio of (construction) risks.

The coverage duration runs through commissioning and testing at which an operational insurance program is put in place.

Deflection (Transfer)

Typical construction insurance program includes:

- **Professional liability coverage**
- **Builder's risk / construction all risks (CAR)**
  - **with delay in start-up (DSU) / Advance Loss of Profits (ALOP)**
- **Marine liability / Protection & Indemnity**
- **Charterer's Legal Liability**
- **Hull coverage**

Insurable Risks

Direct property damage

- collision
- equipment in transit / handling
- contractors property

Indirect consequential loss

- cost of removing debris
- income loss – business interruption
- increased financing costs

Legal liability

- third party negligence – property damage
- personal injury – negligence to others
- design errors

Personnel related

- employee bodily injury
- cost to replace employee

Resultant business losses

Adjustment (Renegotiate)

The owner is likely to enter into a number of legally binding contracts no more so important than the Engineering, Procurement, and Construction (EPC) document

The owners will seek assurances that the EPC has the expertise, man-power, and financial ability to perform the conditions set in the contract

These contracts are onerous under and it is recommended that the owner (owner's representative) pay particular attention to, what constitutes a force majeure event; indemnification clauses; penalties (liquidated damages) for cause; etc.

GCube™

Contingency (Planning)

Project risks are identified and quantified with subsequent modeling demonstrating the severity certain risks pose to the project

More severe risks may be covered by insurance, but not all

Establish contingency plans so if a risk, not previously covered, were to become a reality there is a course of action in which to mitigate the threat

GCube™

GCube™

WindPro®

HydroPro™

WavePro™

BioPro™

SolarPro™