

Construction and infrastructure industry risk solutions

Marsh Advisory UK&I

**Initiation****Financing****Planning and design****Pre-construction****Contract and insurance****Commission/ Re-purpose****Operation and maintenance****KEY RISKS**

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| <ul style="list-style-type: none"> Identify developers and suppliers. Planning consents. ISO9001 ability to produce quality. Inter-personal relationships. Transparency of terms. Third-party objection. | <ul style="list-style-type: none"> Identify funding source. Supply chain financial security. Cost estimates and payment terms. Establish supply chain and trade credit. Tax liability. | <ul style="list-style-type: none"> Environment and sustainable materials. Planning regulations and local authority approvals. Indentification of land. Legal indemnity policies (Developers). Buildability and maintainability. Design fitness for purpose, (e.g. output specifications on either energy from waste or water treatment facilities). Materials design and combustibility, (e.g. cross-laminated timber (CLT) and traditional-timber, cladding). | <ul style="list-style-type: none"> Raw materials sourcing, sustainability and delivery on time. Trade controls on importing materials and workforce (Brexit). Material traceability and quality control. Ground risk – ground investigation reports. Building inspection, statutory undertakers, gas, electricity, water. Latent defects insurance. Contractor failure. | <ul style="list-style-type: none"> Health and safety. Workmanship. Time management (delays). Natural phenomenon, (e.g. flooding). Water management. New technology implementation, (e.g. drones, 3D and sensor driven PropTech). Third-party liability. Terrorism. | <ul style="list-style-type: none"> Quality control, workmanship, and materials. Integration and building management systems (BMS). Design flaws and defects. Inadequate testing and failure of inspection. Due diligence. Warranty and indemnity. Market demand. | <ul style="list-style-type: none"> Property risks. Effective facilities management and records management, (e.g. operations and maintenance (O&M) manual, operation and maintenance, accurate and up to date). Building information modelling (BIM) linking into O&M manual and BMS. |
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SPECIFICALLY APPLICABLE SOLUTIONS

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| <ul style="list-style-type: none"> Economic viability studies. Environmental, social and governance consulting. Natural catastrophe analytics. Security and terrorism consulting and analytics. | <ul style="list-style-type: none"> Cost and schedule quantitative risk assessments. Project insurability reviews. Risk and insurability assessment. Supply chain risk consulting. | <ul style="list-style-type: none"> Project concept design reviews. Professional liability risk reviews. Project underwriting information reports. Cyber risk consulting. Security and terrorism consulting and analytics. Property risk and fire protection consulting. Environmental, social and governance consulting. | <ul style="list-style-type: none"> Environmental, social and governance consulting. Supply chain risk consulting. Claims defensibility consulting. Insurance archaeology consulting. | <ul style="list-style-type: none"> Workforce strategies consulting – health and safety, mental health. Claims defensibility consulting. Cyber risk consulting. Major and complex loss preparation and advocacy. Security and terrorism consulting and analytics. Property risk and fire protection consulting. Resilience/business continuity management consulting. Project delay monitoring. | <ul style="list-style-type: none"> Economic viability studies. | <ul style="list-style-type: none"> Resilience/business continuity management consulting. Claims management strategy consulting. Claims defensibility consulting. Financial impact modelling and stress testing. Property risk and fire protection consulting. |
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UNIVERSALLY APPLICABLE SOLUTIONS

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| <ul style="list-style-type: none"> Project controls reviews. Captive feasibility, management and advisory. | <ul style="list-style-type: none"> Risk maturity assessments. Driving at work/fleet risk management consulting. | <ul style="list-style-type: none"> Enterprise risk management consulting – risk governance, risk registers. | <ul style="list-style-type: none"> Loss modelling and risk finance optimisation. |
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ADVISORY CASE STUDIES**Construction and infrastructure services firm – Risk manager secondment****Problem**

Client required ad-hoc support for their risk function.

Solution

We provided a consulting secondees for six months to support day-to-day activities, whilst working with the client to improve the operations of their risk function.

Result

The client benefitted from a revised approach to risk assessment that improved identification and tracking of current and emerging risks, and accountability for those risks. The client also updated their annual report, incorporating information from key stakeholders. The risk register was also updated and improved to directly reflect risks pertinent to operational resilience.

Road construction project – Material damage and liability assessment**Problem**

Client required evaluation of their insurable material damage (MD) and liability risks.

Solution

We facilitated an assessment workshop and developed question sets for considering insurable MD and liability risk exposures, that could arise during the project's construction phase. We tested the proposed construction insurance limit based on the workshop's evaluation of maximum credible loss scenarios.

Result

Client project team better informed their purchasing of insurance policy limits through an understanding of potential loss scenarios and probabilistic loss values.

Clean-coal power plant – Delay in start up (DSU) claim presentation**Problem**

Client wanted to undertake delay analysis to identify the impact of insured events on their commercial operation date.

Solution

We developed a preliminary DSU assessment using an 'as-planned' vs. 'as-built' window analysis, in line with Society of Construction Law Delay and Disruption Protocol guidance. Sub-analyses were also performed, such as identifying and comparing the baseline and actual critical path and progress s-curve analysis to substantiate delays.

Result

Our forensic accountants ensured that the client recovered its full entitlement of the loss from insurers. We established that the commercial operation date was impacted by 130 days due to insured events.

Construction and property development company – Risk finance optimisation study**Problem**

Client wanted an actuarial review of their employers' liability, public liability and professional indemnity insurance programme structures.

Solution

We built statistical models to forecast the client's losses and overlaid existing insurance programme structures. When designing alternative programme structures for professional indemnity, Marsh brokers advised that the client should explore coinsurance options. We calculated the client's ECOR¹ for their current programme structure and each of the alternatives.

Result

Client was presented with a professional indemnity coinsurance option that would deliver approximately GBP 500k ECOR savings, relative to their current insurance programme structure.

Infrastructure projects contractor – Professional indemnity (PI) advisory support**Problem**

Client wanted to understand their risks and cost estimates for PI-related risks.

Solution

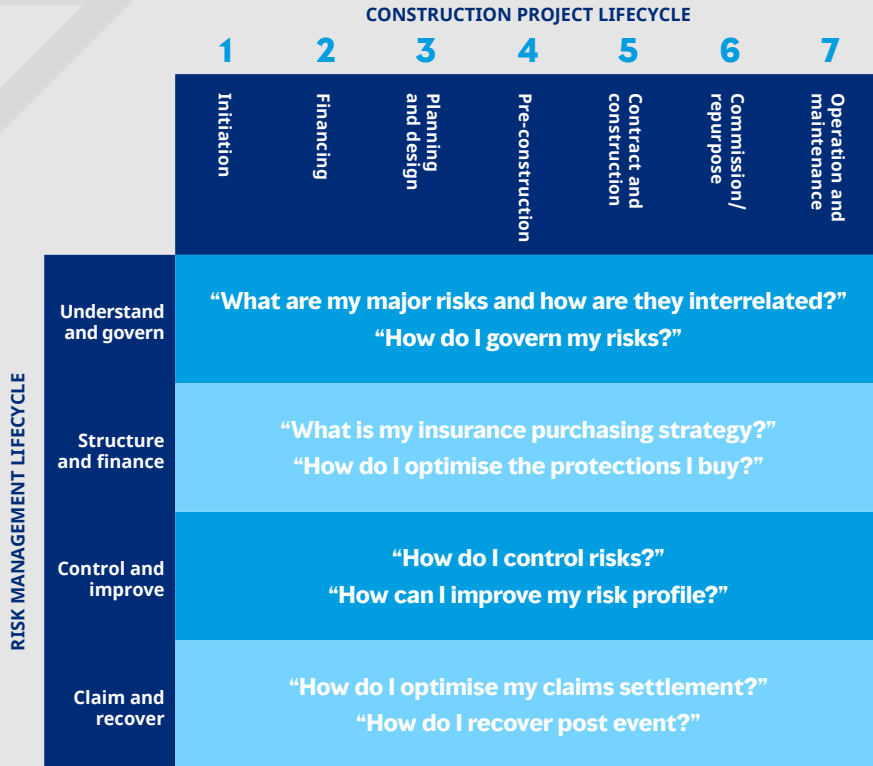
We mapped out end-to-end internal project processes and produced a detailed risk register, outlining failure points and scenarios that could impact the contractor's operations. We modelled potential insurance structures and agreed worst case scenarios with senior leadership, using Marsh's claims database to provide options for a bespoke PI insurance policy.

Result

Client was able to make an informed decision as to whether purchasing PI insurance was beneficial, given their risk profile.

1| ECOR (Economic Cost of Risk) = Annual expected retained losses + Premium (and taxes) + Implied cost of funding unexpected or uninsured losses with own capital.

Marsh Advisory can support organisations operating in the Construction sector at all stages of the project lifecycle and throughout the 'Risk Management Lifecycle', as illustrated below:



The Marsh Advisory team provides a wide array of services to help clients understand, measure and manage risk, and recover from losses. Our project management capabilities are also used particularly for larger or complex projects. Key services applicable to Construction are indicated below:




KEY CONTACTS

If you'd like to learn more about how we can support you with your key exposures or discuss one of our specific offerings, please contact the UK&I Marsh Advisory team at advisory.industries@marsh.com or contact one of the individuals below, who can connect you with one of our specialist risk advisors:

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About Marsh

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