

Survey Protocol Study Group – Report 2015

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1 Introduction

It is evident that the membership is seeking fresh guidance and this report reviews the existing protocol and the issues and shortcomings associated with it. Building on experience since work first done by LEG in 1993 and the introduction of the current protocol in 2006, it offers updated procedures and guidance for application. The traditional engineering insurance philosophy of no insurance without inspection is also respected.

It will reflect on the difficulties of maintaining standards during the market cycle and especially in the soft market where risk management activity is arguably more vital in a climate of lower premiums, wider policy coverage and new / scaled-up technologies.

Current market practice, difficulties and opportunities will be examined, most importantly:

- Fee costings, collection and who pays
- The conduct and timeliness of surveys and the issuing of reports
- Roles and needs of the parties involved such as the Lead and Follow Underwriters as well as the Broker
- The increasing role of new technology, particularly the internet, in collecting and communicating information.

2 Background

Why are surveys undertaken, what are the objectives?

- To improve the risk by offering advice and recommendations, pointing out deficiencies and highlighting best practice. Evaluation based on insurers' experience of historic claims and loss potential
- To verify underwriting information supplied at the time of placing
- To monitor the progress of the project to ensure standards are maintained and recommendations followed
- To monitor the development of new developmental or scaled-up technology, such as witnessed in the power, oil and gas industries

What are the benefits?

- Reducing loss, or potential for loss, by implementing recommendations and pointing out best practice – further benefit to the Insured also derives from applying risk recommendations as the project progresses thus avoiding or minimising expensive retrofitting
- Enabling underwriters to better manage risk by reacting to positive and negative features, e.g. by modifying policy language and conditions in light of new information
- Promoting best practice by using the insurers' experience
- Demonstrating the benefit of expert insurance knowledge and, in particular, the valuable experience of the London Market
- An enhanced relationship and cooperation with strategic members of the project team
- Mutual cooperation towards enhancing the quality of future operational risks

3 Lead Underwriter Role

All underwriters will attest to the considerable investment of time, effort and money required to carry out a worthwhile risk engineering survey programme. While domestic or regional survey visits can be relatively straightforward, to arrange the vast majority of international projects requires a concerted effort and expense. The London Market, which is increasingly specialising in leading insurance policies for challenging construction projects in remote locations, relies on the reputation and experience of its underwriters. Alongside underwriting and claims servicing the capability to provide a robust risk engineering proposition is a recognised differentiating factor when appointing a lead insurance or reinsurance company.

3.1 Key Responsibilities

The implementation of a new risk engineering survey plan is usually driven largely by the Lead Underwriter working in close cooperation with the placing broker (See section 5).

The main expectations of the Leader are as follows:

- Proposal of the number and frequency of survey visits together with a clear substantiation for the contribution of any fees required from the Follow market (See Appendix 1)
- Appointment of experienced Risk Engineering personnel
- Approval of Survey Visit Agendas (See Section 4)
- Approval of Draft Survey Reports
- Consider hosting London Market debriefing presentation following the visit to interested Follow Underwriters.
- DSU Monitoring (See 3.2.3 below)

Should the Lead Underwriter and Broker wish to accompany the risk engineer on any visit (e.g. first and last visit) they will additionally have to make their own travel plans and prepare adequately for full involvement in the visit.

3.2 Practical Steps

3.2.1 Tracking Spreadsheet

Monitoring the risk engineering process across a large portfolio can be a time consuming activity. It is recommended that underwriters monitor the projects they both lead and follow via use of a tracking spreadsheet.

3.2.2 Market Presentations

Recent practice has seen several Lead Underwriters in the London Market host presentations following a survey visit to particularly complex projects. This provides an opportunity for the Leaders to demonstrate their expertise by showing the activities undertaken on site and also be openly accountable to the Follow Underwriters.

3.2.3 DSU Monitoring

The popularity of Delay in Start Up coverage has required Lead Underwriters to develop project monitoring plans which focus specifically on the exposures inherent in this section of cover.

3.3 Liability/Disclaimer

The Lead Underwriter's role and responsibility in the London insurance market is a highly unusual one within the wider financial services industry. The Leader is recognised as tacitly representing the interests of the panel of following or supporting underwriters on a "subscription market" policy. This relationship, although not formally codified in a contractual manner, forms the basis of a unique market practice where the Leader is expected to carry out a risk engineering survey programme on behalf of the entire panel of insurers or reinsurers. In supporting the Leader, the Following Underwriters are in effect endorsing the ability and reputation of the Leader and particularly so with regard to risk engineering activities.

The contents of a survey visit report are likely to contain opinions of the author and comments ultimately in the interest of the insurers or reinsurers. Furthermore, realistic loss scenarios with forecasted monetary amounts may be presented following first hand experience gained from being present on the actual construction site. It is therefore common practice for survey reports to contain a legal disclaimer discharging the Leader from liability under any circumstances for any loss arising in contract, tort or otherwise.

3.4 Follow Market

Follow markets must undertake to cooperate with and support the Lead Underwriters and the brokers in the pursuit of objective and ultimately successful risk engineering. This generally entails avoidance of unnecessary conflict and obstruction, albeit Follow markets are entitled to expect value for money and a platform to air concerns and grievances, whether related to the project itself as portrayed in risk engineering feedback or with the conduct of the risk engineering programme.

4 Survey Scope and Process

4.1 Purpose

The survey is a form of risk management undertaken by Insurers or Reinsurers for the combined benefit of the Insured, the Insured's Customers and Insurers alike through discussion of the following topics with site personnel:

- Positive and negative features or practices
- Loss prevention measures
- Agreement regarding risk improvement recommendations within acceptable timescales
- Assessment of action taken on previous recommendations
- Review of systems and procedures
- Industry 'Best Practice'
- Advice/lessons learned offered by (Re)Insurers as a result of their historic loss experience

4.2 Pre-Survey Preparation

It will normally be appropriate for the Lead Engineering Office to provide, in advance, an agenda for each site visit. The agenda is intended to assist the insured in ensuring that the correct personnel are available during the survey and that any requested information is prepared. This agenda should be sent to the broker to pass on to the Insured for agreement and will typically include:

- Proposed time schedule for visit
- Topics to be discussed
- Documentation and other information to be made available

- Site and other personnel to be present
- Areas of site to be viewed
- Any other specific requirements

4.3 Survey Schedule

Each survey programme will vary according to the individual features of the project. The programme will be determined in outline format by the Leaders at the outset and they will aim to make this available, on request, to the interested parties within 4 weeks of inception or acceptance of the project by the Leaders whichever is the latter.

The following summary is provided by way of illustration of what is generally considered to be best practice for a risk management programme of a typical construction project.

Event	Focus	Reporting
Pre-Survey Meeting	Meeting with project management (optional)	Abridged visit report
1 st Site Survey	Mid-way through civil construction phase with focus on: <ul style="list-style-type: none"> • Excavations/Foundations • Preparedness for equipment receipt and preservation • Establishment of site QA/QC, safety, loss prevention and security processes • Housekeeping 	<ul style="list-style-type: none"> • Summary site report during survey close out meeting to present initial findings • Draft survey report for insured comment • Final report to be issued to Broker for distribution to Insured and Follow insurers
2 nd Site Survey	During mechanical/electrical installation phase with focus on: <ul style="list-style-type: none"> • Equipment storage and preservation • Heavy lifts • Construction traffic movement • Hot work activities • Implementation of QA/QC, safety, loss prevention and security processes including review of documentation • Housekeeping 	
3 rd Site Survey	During pre-commissioning phase with focus on: <ul style="list-style-type: none"> • Preparation for introduction of feedstock / energisation • Handover protocols from construction to start-up • Start-up responsibilities • Fire protection status • Inspection of QA/QC records • Housekeeping 	
Continuous Analysis	<ul style="list-style-type: none"> • Monthly progress report review • Consideration of schedule monitoring for DSU cover 	<ul style="list-style-type: none"> • Progress monitoring report • Third Party DSU schedule / critical path monitoring

It is expected that the survey programme will be adapted to suit the requirements of the particular project under consideration. Such adaptations may include:

- Extended insurance period / phased handover may require additional surveys
- Short insurance period which may require fewer surveys
- Multiple locations (e.g. fabrication yards/remote storage) which may require additional surveys
- Pre-construction visits or conference call with project team to address outstanding subjectivities/areas of concerns

4.4 Survey Agenda

The survey agenda is used to define the format of the survey in order to ensure all areas of focus are addressed and also as advance notice to the project team to assist them in making available the correct resources at the project site.

Whilst the actual agenda will be based on the particular profile of the project, a recommended "standard" agenda is provided below to reflect the minimum expected survey scope.

Depending on the complexity and extent of the project site, a typical survey would be expected to last between 3 and 5 days. A typical survey would follow 3 distinct parts:

4.4.1 Part 1 – Office Based Meeting (TELL ME)

The office based meeting is intended to allow the Project parties to provide a general update of the project followed by specific updates in each of the key discipline areas. The current phase of the project will determine the specific focus for discussions, e.g. 1st visit will focus on foundation/excavation work and preparation for receipt of erection materials. It is recommended that the kick-off meeting be attended by all key site personnel involved in the survey and then followed by separate discussions attended by each discipline lead.

- Introduction and objectives (kick off meeting)
 - Discuss and agree visit programme in light of availability of personnel and site activities
 - Review previous risk improvement recommendations, if any
 - Underwriter queries and outstanding claims, if any
 - Project / schedule progress
 - Project management / organisation
- Information Request
 - Changes following submission / previous site visit
- Quality management
- Safety management
- Management of process / change
- Management of fire protections
- Material receipt, storage and preservation
- Civils construction management
- Mechanical and electrical construction management
- Testing and commissioning management
- Operations and maintenance management

4.4.2 Part 2 – Site Tour (SHOW ME)

The site tour provides the surveyor with an opportunity to validate the effectiveness of the process and procedures presented during Part 1. Typical focus areas, depending on the project phase, would include:

- Protection from natural perils
- Excavation – safety and stability
- Ground preparation / Foundation
- Traffic management
- Heavy crane lifts
- Static equipment : Boilers, reactors, vessels
- Rotating Equipment : Compressors, turbines, pumps
- Electrical : Supply, switchyard, transformers, distribution, MCC's
- Fuel : Delivery to site, storage and feed
- Cooling water intakes, cooling towers, tanks, condensers, pumps
- Main control area with control and monitoring systems
- Special contractors' plant & equipment
- Road , rail, marine access
- Tie-ins to existing services
- Fire protection : Tanks, pumps, fire main, hydrants, CO2
- Receiving of goods
- Warehouse and laydown areas
- Offsite storage/assembly
- Site security

It is also expected that the survey will undertake a high level review of implementation of processes (e.g. QA/QC) through the inspection of sample records

4.4.3 Part 3 – Wrap Up and Reporting

It is important that the survey concludes with a wrap-up meeting at which the findings of the survey are presented to the project team. The key purposes for this meeting include:

- Opportunity to have any misinterpretations corrected by the Project team
- Presentation of recommendations in order to achieve "buy in" by the Project team
- Set timescale for release of final report within 30 days of survey
- On visits taking place towards conclusion of the project, the opportunity may be taken to review future operational issues
- Thank Project team for assistance and time

Best practice in issue of the final report to the Broker is considered to be within 30 days of the survey taking place including time for the Insured to review and comment on the report. It is suggested that the following reporting timescales be followed in order to provide maximum benefit to the insurance panel:

On Site Report	Provided and discussed at wrap up meeting at end of survey
Draft Report	Issued to the broker for Insured review and comment within 2 weeks of the survey with Insured required to provide comments within further 2 weeks
Final Report	Issued to the broker within 4 weeks of the survey for onward distribution to the insurance panel

5 Broker Role

On brokered placements, the Broker provides the interface not just between Insured and Insurers but also between the Lead insurer and the Follow market. As such, the broker has an important role to play in the implementation of the risk management programme as well as distribution of the programme deliverables.

The following chart details the recommended roles and duties of the broker in supporting a successful risk engineering programme.

	Pre-Inception	Pre-Survey	Post Survey
Insurer Specific	<ul style="list-style-type: none"> • Deliver Lead insurer risk proposal to Follow markets • Provide any Follow insurer comments to Lead insurer • Confirm fee collection practice (upfront or as incurred) 	<ul style="list-style-type: none"> • Receive request and proposed survey agenda from Lead insurer • Advise Follow insurers of intended survey 	<ul style="list-style-type: none"> • Receive draft survey report from Lead insurer • Provide client feedback on draft report to Lead insurer within 2 weeks of issue • Receive final survey report from Lead insurer and distribute to Follow insurers • Collate comments and queries from Follow insurers and submit to Lead insurer for response • Distribute invitations to report presentation if proposed by Lead insurer • Collect fees if on an as incurred basis
Insured Specific	<ul style="list-style-type: none"> • Obtain agreement and commitment of Insured to the risk proposal 	<ul style="list-style-type: none"> • Obtain Insured agreement to proposed survey date and agenda • Assist with logistical arrangements and site contacts 	<ul style="list-style-type: none"> • Issue draft survey report to Insured for comment / approval • Issue final survey report to Insured

6 Costing and fee collection practice

For reasons already given it is in the (Lead) Insurers' interest to maintain control and undertake the Risk Engineering for a risk which they write / lead. The following offers some guidance on how the costs incurred in undertaking the surveys and report writing can be best managed.

6.1 Fee Allocation

It is generally accepted in the London market that the cost of undertaking risk engineering surveys and the preparation of the survey report should be borne proportionately by all markets on the (Re)insurance placement. A proportion of a given risk may be carried by a local insurer or panel of local co-insurers fronting to the controlling reinsurers and, often to a more significant extent, by a Captive insurer. Although these parties may benefit from the Risk Engineering being undertaken, it is not always a straightforward task to recover the shares of such parties and a section on this issue appears in a later part of this paper.

Historically, the most common method of raising funds for the conduct of risk engineering is the imposition of an arbitrary fee, usually 2.5% of slip premium. This fee can be imposed as a "flat" fee, rather than "as incurred", which has, in recent years, led to considerable disquiet amongst Follow markets for a number of reasons including:

- Lead Insurers may automatically receive the 2.5% and could potentially view this as an additional revenue stream without Risk Engineering being undertaken.
- The 2.5% Risk Engineering fee, in some instances, could be more than is required to cover the cost of the service undertaken (no prescribed mechanism for rebating any surplus to the panel of insurers).
- The 2.5% Risk Engineering fee, in some instances, could be less than is required to cover the cost of the service undertaken (no prescribed mechanism for obtaining the additional fees from the panel of insurers).

The market consensus is that there is great value in risk engineering and it is crucial that this is undertaken and control retained by the insurers. In order for this to continue, a fair and transparent method of allocating fees at the inception of the risk is vital as it informs the panel of the Leader's intentions for risk engineering and could minimise problems in fee allocation as the risk develops.

Attached in Appendix 1 is an example of a spreadsheet which can be used to calculate the risk engineering fee in detail along with the expected dates on which the Surveys will be undertaken. This tool will enable Insurers to calculate the costs incurred for the risk engineering surveys with a reasonable level of accuracy and provide evidence to the co-insurers of where the fee is being spent. Obviously, as the project develops, the values estimated at inception may change and additional surveys may be required which were initially not foreseen, but with the panel aware of the costs involved, negotiation for additional funds should be made easier.

6.2 Fee Collection

The Risk Engineering Fees have historically been deducted from the premium instalments by the broker when they are due to the panel and the amount transferred to the Lead insurer. The involvement of the Broker for the collection and assignment of the fees to the Lead insurer is the most logical approach as the premium is already being handled by them. To reduce the burden on the Broker, the number of transactions for risk engineering fees should ideally be kept to a minimum and the following are suggestions of how this could be best achieved:

- The total estimated risk engineering fee is taken 100% with the first premium instalment and paid to the Lead insurer. Any additional fees required can be invoiced separately as and when required. This is more likely to be a process handled by the broker rather than direct from Leader to Follow market although we need to caution against the possibility of failure by brokers to prioritise these duties. Any surplus fees must be reimbursed to the panel at expiry of the policy and the mechanism for this should be clear from the outset.
- Each survey is invoiced separately when the related survey report is issued to the panel.

For either option it is important that the Leader keeps accurate records of expenditure which can be distributed in support of invoices for original, rebated and additional costs and that details of the fee collection mechanism are clear at inception.

It is also reasonable to assume that Follow markets can and will object to paying contributions to:

- Any survey exercise for which they do not receive reports and feedback on implementation decisions on recommendations arising therefrom in a timely manner.
- The costs incurred by underwriting personnel attending and/or supervising the risk engineering visits. This is a decision for Follow markets to make for themselves but it should be borne in mind that Lead companies derive secondary advantages such as client contact and kudos and lines to stand. Against this, they carry reputational risk when conflicts arise.

7 Substandard Risks and Specialist Services

Not all risks presented in the London market justify payment of risk engineering costs by participating risk carriers. The ultimate sanction for risks of inferior quality is, of course, declinature but if the unattractiveness of a risk centres on certain specific aspects it may be possible to offer a solution avoiding any unreasonable transfer of risk.

In such circumstances, it may be argued that the prospective Insured should pay for or contribute to risk engineering costs. This will be infinitely better for the Insured than a declinature. Transparency is also an issue here with the Insured probably to be commended for their attention to disclosure. Alternatively, further investigation may demonstrate an even more deep-rooted problem.

Whether due to risk quality or risk complexity, specialist and costly additional services may be required in order to fully discharge the risk engineering brief, e.g. sprinkler design advice, Business Continuity Planning (BCP). In such circumstances, there may again be justification for the Insured paying for or contributing to the associated costs.

8 Business Continuity Planning

Business Continuity Planning (BCP) is a recurrent contemporary theme with ever-increasing relevance to the underwriting of Delay in Start Up covers. As the subject name suggests, it relates to the preparedness of a (construction) project to respond positively to a potentially crippling incident. Clearly, the concern of insurers is the extent of planning against a covered event but sophisticated and proactive Insureds will be looking to establish an all-inclusive “living” document catering for responses to a wider range of contingencies including epidemics (e.g. bird or swine flu), terrorist attack, market and socio-political change. The requirement to have a BCP in place may be imposed on the Insured by the Lenders.

The relevance to insurers centres on advance planning against insured loss to the core project and also at the premises of customers, suppliers and utilities. Ultimately, for underwriters, it is part of the process of achieving a better understanding of DSU exposures and will become an important aspect of Risk Engineering investigations. As well as much preparatory work on the part of the Insureds themselves, it may require the input of specialist advisors (see **Substandard Risks and Specialist Services** above).

The following are some of the key factors to be checked:

- Business Continuity Policy of Insured.
- Risk Register – key scenarios, impact, responsibilities and response.
- Disaster Recovery plan – and stress testing of plan, annual disaster drill.
- Appointment of Crisis Management Team
- Succession Planning – assumption of tasks / roles when delegated staff incapacitated.
- Version control on all BCP documents.

9 Use of internet

The use of internet, even in the remotest places in the world makes access to information easier and potentially limitless. A number of organisations utilise portals for the storage of project information and access to these portals, even if limited will provide underwriters and risk engineering personnel with up to date information direct from the project team.

Web conferences and the use of webcams are other ways in which information on project progress and development can be gained and can be useful as part of the Risk Engineering site visit planning to ascertain what areas will need to be discussed in detail and what documentation needs to be seen.

Some manufacturers of mining equipment and turbines use the internet to obtain real time monitoring of their equipment during testing, commissioning and operation. Whilst access to real time monitoring data may not be possible as it is likely to be proprietary information, it may be viable to obtain reports / updates.

A word of warning – if undertaking searches on the internet regarding projects / parties involved in a project be mindful to verify the source and accuracy of the data obtained.

10 Conflicts

10.1 Leaders and Followers

Although, ultimately, the panel of Construction Insurers can only succeed with a harmonised approach to Risk Management, conflicts may arise between Lead and Follow markets, key examples of which are as follows:

- Disagreement on the validity of (non-technical) costs declared for contribution. The concept of Lead office remuneration for the general costs of underwriting is a thorny subject requiring separate debate.
- Difference of opinion on the scale of the risk management exercise, number of visits and associated costs.
- Timely and effective pursuit of implementation of recommendations listed in survey reports. This introduces concerns about value for money as a means of loss prevention or mitigation.

10.2 Brokers

- Broker controlling the risk engineering process or obstructing it out of an over-protective attitude towards the Insured. The Brokers' interests, in wishing to be diplomatic and positive about the condition of their clients' risk, may conflict with the more Power markets and is seen as something Construction Insurers wish to avoid. Furthermore, if the control lies with Insurers as an unyielding principle it can be generally concluded that there is no need or budget for an objective risk quality driven standpoint of Insurers. It is, in any event, the generally held prerogative of the insurers to exercise risk management control. This practice arises primarily in Property, Energy and Operational duplicate service being provided by Brokers and dealing direct with the Insured on survey arrangements may sometimes be the best option.
- Allied with the above, Brokers may be seeking to offer risk engineering as means of generating income, often with the objective of supplementing inadequate Broker fees / commissions resulting from aggressive tendering for appointments.

10.3 Other

- The activities of independent risk management consultants and in-house technical service providers are usually underpinned by waivers. These are generally respected by Follow markets. However, in an increasingly litigious environment, the possibility of survey findings and recommendations affecting a loss scenario or other project issue may require further consideration. Not only could they provide an Insured with validation of an indemnifiable occurrence but there might also be a difference of opinion between Lead and Follow insurers, some of whom may have been able to visit the risk, with or without their technical representatives, and form strong views.
- Attitudes vary between clients, industries and territories and a lack of cooperation and transparency on the part of some Insureds is not uncommon. This is often resolved by placing emphasis on the objectives of insurers and how their contribution, underpinned by experience of other similar projects, may aid rather than hinder the Insured and help to avoid the hidden uninsured consequences of failure such as reputational damage.

11 Conclusions

The aim of this paper has been to revisit constituent aspects of Best Practice in risk engineering, albeit recognising that to achieve desirable performance will, in reality, be very challenging in prevailing market conditions.

In order to fully appreciate the ideas and recommendations contained in this paper it may be necessary to take a step back from the commercial practicalities faced on a daily basis and think in terms of fairness, consistent quality of service, the credibility and reputation of Lead Underwriters operating in the London market and, ultimately, the effect on bottom line results.

In summary, Lead and Follow markets share common interests and goals. Lead roles tend to be assumed by a relatively small number of major, well-resourced companies and their ability to conduct risk engineering programmes is a key differentiator between them and a more entrenched group of Follow markets.

Lead Underwriters should be well aware of their responsibilities in terms of conduct and execution of the risk engineering survey programme and impact under-performance could have on future reputation.

In an era of increased globalisation of placement activity on any given project, it is equally important for markets outside of London to understand and act on the principles we expound. Thus LEG must recognise the role it needs to play in continually seeking improved standards on risks which are shared across regional markets and on which captive or other non-traditional insurance support is provided.

Whilst a significant part of this paper addresses cost and related apportionment and administration, it is hoped that the underlying message conveys the principle of adding value for all interested parties by the exercise of a solid risk management programme on a substantially “at-cost” basis. Longer term, the application of this approach would reap its own rewards and suppress moves by underwriters and brokers to earn additional income as a by-product.

12 Appendices

1. Costing spreadsheet example