LLOYD'S

Lloyd's Minimum Standards MS6 – Exposure Management

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MS6 – Exposure Management

Minimum Standards and Requirements

These are statements of business conduct required by Lloyd's. The Minimum Standards are established under relevant Lloyd's Byelaws relating to business conduct. All managing agents are required to meet the Minimum Standards. The Requirements represent the minimum level of performance required of any organisation within the Lloyd's market to meet the Minimum Standards.

Within this document the standards and supporting requirements (the "must dos" to meet the standard) are set out in the blue box at the beginning of each section. The remainder of each section consists of guidance which explains the standards and requirements in more detail and gives examples of approaches that managing agents may adopt to meet them.

Guidance

This guidance provides a more detailed explanation of the general level of performance expected. They are a starting point against which each managing agent can compare its current practices to assist in understanding relative levels of performance. This guidance is intended to provide reassurance to managing agents as to approaches which would certainly meet the Principles and Minimum Standards and comply with the Requirements. However, it is appreciated that there are other options which could deliver performance at or above the minimum level and it is fully acceptable for managing agents to adopt alternative procedures as long as they can demonstrate the Requirements to meet the Minimum Standards.

Definitions

Catastrophe Modelling: (also known as cat modelling) is the process of using computer-assisted calculations to estimate the losses that could be sustained due to a catastrophic event such as a hurricane or earthquake.

LCM: Lloyd's Catastrophe Model

Lloyd's Returns: this will include, but not be limited to: Broker Remuneration Return; LCM Submissions; PMDR; QMB; RDL; RDS; Related Parties Return; SBF; Self-Assessment of Compliance versus Lloyd's Underwriting and Claims Standards; Syndicate Business Plan; Syndicate Reinsurance Programme Return; Xchanging Claims

ORSA: Own Risk and Solvency Assessment

PMDR: Performance Management Data Return

QMA: Quarterly Monitoring Return – Part A

QMB: Quarterly Monitoring Return – Part B

RDL: Realistic Disaster Scenario (Light)

RDS: Realistic Disaster Scenario

Related Party: A related party shall mean:

- Any company within the same group as the managing agent
- Another syndicate managed by the same managing agent or a service company coverholder that is part of the managing agent's group.
- Any company which has two or more directors in common with the managing agent
- Any company within the same group as a corporate member of the syndicate which has a member's syndicate premium limit of more than 10% of the syndicate allocated capacity

Risk Appetite: Is the level of risk that an organisation is prepared to accept, before action is deemed necessary to reduce it.

SBF: Syndicate Business Forecast

SRP: Syndicate Reinsurance Programme

Syndicate Business Plan: means a business plan prepared by a managing agent in accordance with paragraph 14A of the Underwriting Byelaw.

The Board: Where reference is made to the Board in the standards, managing agents should read this as Board or appropriately authorised committee. In line with this, each agent should consider the matters reserved for the Board under the Governance Standard in order to evidence appropriate full Board discussion and challenge on the material items.

MS6 – Exposure Management

UW 6.1 Exposure Management System and Controls Framework

Managing agents shall have effective systems and processes to record, monitor and assess its underwriting exposures.

Managing agents shall:

- have effective, documented policies and procedures in place for managing exposure;
- include within policies and procedures:
    - risk appetite statements that specifically include exposure and, where applicable, catastrophe risk;
    - procedures for risk recording, loss estimation, control and monitoring;
    - clear identification of responsibility for ensuring that all relevant, material, quantifiable exposure and catastrophe related risks identified are represented in the internal model;
    - clear identification of responsibility for systematically considering exposure related risks that may not yet be explicitly represented in the internal model, including emerging risks;
    - the managing agent's approach to catastrophe risk, including how it is represented in the internal model; this shall be consistent across exposure management, underwriting, capital modelling and business planning;
    - the methodology for validating exposure management tools; and
    - managing the use of external models for exposure management.

Lloyd's expects all managing agents to have appropriate documentation to effectively manage exposure. There is no specific set list of documentation titles that an agent should hold but there are a number of areas that an agent will be expected to cover in their exposure management documentation as discussed below. The level and detail into which the agent will address these areas should be proportionate to the risk involved. Managing agents will have defined the level of exposure and risk (however expressed) that they wish to assume; and exposures and/or loss potential can be routinely monitored relative to the stated risk appetites.

There are many ways to express risk appetites. Common methods relating to exposure and loss potential include:

- probabilistic loss estimate (e.g. 1-in-100 OEP no greater than x);
- determinstic loss estimate (e.g. for scenario 1, losses no greater than x); and
- aggregate exposure (e.g county-level aggs for country 1 no greater than x).

Exposures and/or loss estimates must be capable of being monitored and reported in the same terms as the risk appetite.

'Catastrophe Risk' does not just mean natural catastrophes affecting property. It includes any class for which major non-independent events could occur, and also non-independence across classes.

Exposure managers are expected to understand how the material outputs have been used in the internal model and to be comfortable that any amendments made are appropriate. However, Lloyd's understands that not all emerging risks can be included in capital modelling, especially if the facts are still unclear and the level of risk uncertain. In such cases the risks may be handled through other means such as use of appropriate policy wording or sublimits.

Whilst the models should be consistent across the agency this does not mean that the internal model has to include all the complexity of pricing models, but that the core assumptions within each model should be consistent. Where complexity is omitted from the model it should be tested to ensure that this is not a material omission.

The documentation should additionally cover selection, validation (including approach, roles and responsibilities, frequency, and escalation of challenges made) and change of external catastrophe models and other loss estimation techniques.

UW6.2 Materiality, Risk Recording for Exposure Management and the Internal Model

Managing agents shall have clear processes for recording and considering all material accumulations of underwriting exposures and loss potential, and ensure appropriate representation within the internal model

Managing agents shall:

- define and clearly articulate the levels of exposure and/or loss potential which are considered material;
- have a process of risk ranking that reflects risk appetite and controls; and that clearly identifies the key risk data, exposure data and loss potential in assessing materiality; and
- ensure that data is obtained when risks are underwritten, and entered promptly into a robust risk recording system capable of capturing and storing risk and policy information, from which data can be extracted in a timely manner, with appropriate adjustment to give a complete risk profile;
- ensure that there is appropriate monitoring and reporting of both in-force and planned exposures against catastrophe risk appetite and other controls;
- have robust systems and processes whereby data outputs from Exposure Management systems and assessments of Non Modelled Risks are incorporated into the Internal Model; and
- ensure that Internal Model change management processes apply to Exposure Management.

Solvency II guidance specifies that data should be “accurate, complete and appropriate”.

[See internal model data standards for further detail on data requirements].

Lloyd's would expect all risks to be identified – even if approximately. The principle is that there should be no “gaps” in the agent’s view of the risks they have on the books.

The requirement for completeness in the context of risk-recording for exposure management will be strongly linked to materiality both of exposure and loss potential. For example, if US Hurricane is a very material catastrophe risk, data-capture would be expected to be sufficiently detailed to allow appropriate loss-modelling. This may include capturing street-level geo-coding and key building characteristics. Methods of loss-estimation for a less material region/peril may not benefit from this level of data-capture, and the requirement could be commensurately reduced.

Similarly, gauging “appropriateness” may involve deciding that loss-modelling techniques for a particular accumulation risk are not yet sophisticated enough to incorporate some characteristics of the insured risk. Therefore, it may be appropriate not to capture them.

Conversely, the available exposure-data may not be sufficiently detailed to be considered “accurate, complete and appropriate”, and insured (or other) values may require adjustment to make up for data deficiency.

Systems and processes, including data-capture, which may be appropriate when materiality is low, may not be when it is higher. Example actions would be to include appropriate adjustments / loading and managing agents need to have a plan how to address these.

Managing agents should note that planned exposures' means foreseeable movements in exposure levels in the near future, for example as a result of known corporate intentions including acquisitions, disposals or mergers, growth in classes that is in the plan (e.g. an intention to write international property).

When catastrophe risks are material, a syndicate's Internal Model may rely heavily on outputs from exposure management systems, whether exposure-based or estimates of losses, in representing accumulation risk. Exposure management outputs may include stochastic losses, exposure data, deterministic loss scenarios, etc. There may also be outputs from the process of systematically considering 'non-modelled risks'. The processes whereby these various outputs are incorporated into the Internal Model should be documented. Where the exposure management and capital modelling functions are performed by separate teams, the respective responsibilities of both teams for data-transfer, knowledge-transfer and peer-review should be considered and defined.

Possible 'disrupters' of the process can include new lines of business, new types of exposure and emerging understanding of risk. While these cannot always be foreseen, a close working relationship between exposure management and capital modelling will have the best chance of understanding them if and when they occur.

UW6.3 Exposure Management Methodologies for Loss Estimation and Assessment

Managing agents shall use appropriate loss estimation techniques for each managed syndicate.

Managing agents shall ensure that:

- exposure and loss potential are assessed using one or more documented, validated methodologies or models;
- the assessment / modelling is carried out by appropriately skilled and experienced personnel;
- there are formal processes to communicate material uncertainty to the Board or its nominated committees;
- following a material event, they review and adjust their existing models and underlying assumptions as appropriate;
- any external model used meets generally accepted and regulatory requirements for an internal model; and
- when outsourcing the operation of a catastrophe model (or other loss-estimation technique) responsibility for understanding the model, including selection, validation and change, remains with the managing agent.

The methods used in exposure management need to be (and can be shown to be) valid, robust, appropriately consistent and properly understood. This applies both to understanding exposures and estimating loss potential. The methodologies or models may be internally developed or externally sourced. The requirement for them to be documented, validated and understood remains the same.

Where differing methodologies in use or under consideration produce varying views of loss potential, the reasons for the variances should be investigated and understood. Lloyd's would encourage multiple views of risk to avoid over optimising to any one set of model assumptions.

Methods may differ depending on relative materiality of accumulation risk, or for other reasons. However, methods should generally be consistent within categories or classifications of materiality, as should levels of validation.

The communication of uncertainty is an emerging area of discipline and Lloyd's expects market practices to evolve. We encourage senior management awareness and understanding of the potential for uncertainty in reported exposures and (particularly) loss estimates. Uncertainties could include: data, key model parameters, available scientific consensus, in-model randomness, and omissions from the model.

Lloyd's understand that each event has unique characteristics, single events rarely invalidate models. Events may highlight data deficiencies or errors in assumptions which can be improved going forward – they may highlight areas of hazard that are omitted and indicate they are more material than thought. Before catastrophe modelling firms provide formal updates we expect firms to be make approximate adjustments if material and re-calibrate models as necessary as soon as practicable after an event.

When using an external model, whether internally or outsourced, agents should ensure that professional standards apply in the selection, validation and use of these models. All outsourced modelling should be adjusted if necessary so it is aligned to the agent's own view of risk.

UW6.4 Internal and External Review and Reporting of Exposure Management

Managing agents shall regularly review exposure and loss potential in line with exposure management policies and procedures, and report to the Board and Lloyd's as required.

Managing agents shall:

- ensure formal, evidenced sign-off of exposure-management reports at the appropriate level, including regular challenge and testing of assumptions independently of the exposure management function by individuals with sufficient knowledge and experience;
- regularly review their exposures against Lloyd's thresholds and seek Lloyd's approval for any actual or foreseeable exceedances;
- produce Lloyd's exposure management returns, as required; and
- ensure that recording practices and processes are regularly audited as appropriate by suitably experienced personnel, and that the audit findings are documented and evidenced.

The Board and senior management should be aware of exposure and loss potential; they should be able to relate these to cat-risk appetite and other controls; they should be able to discuss and consider exposures in the context of the wider business; and they should be appropriately aware of actual or potential exceedances against plan. The following may be helpful in considering appropriate frequency and detail of reporting to the Board:-

- the materiality of exposure to accumulation risks, for example different region/perils for property catastrophe;
- how much the portfolio is likely to be changing at different times during the year;
- levels of exposure and loss potential relative to cat-risk appetite; and
- recent loss experience.

In terms of frequency, the expectation for Board reporting is at least six-monthly. Annual is unlikely to be enough. Examples of evidenced sign-off include meeting minutes of the Board or its' nominated committee.

There should be a defined, documented process for regular challenge and testing of exposure assumptions, including identifying the role(s) which have this function. The process should specify responsibility for evidenced sign-off of challenge, and how this is reported. "Sufficient knowledge and experience" for independent review and challenge can come from a number of sources, including underwriting ("why has the RDS gone up so much in the last six months?") and capital modelling ("why is there an assumption of no dependency between these classes of business?"). Where a managing agent uses an external catastrophe model, the process of model validation will itself involve challenge and testing of assumptions; documentation of this process would constitute evidence of challenge.

The agent should ensure that the controls on exposure and loss potential are understood and taken seriously at all levels; that senior management are made aware of potential breaches as soon as possible; that there are processes for dealing with potential breaches; and that appropriate remedial actions follow actual exceedances. Materiality of an actual or potential exceedance will indicate what level of reporting and remedial actions, if any, may be required. There should be evidence of notification and discussion. Examples of early warning of potential breaches could include specific reporting when levels of exposure or loss potential are at x% of a threshold.

Recording exposures correctly, in the context of a managing agent's business, is fundamental to managing them. A key control is for managing agents' internal audit or oversight functions to regularly review the processes for recording exposures. Where a managing agent's internal audit or oversight team does not have the necessary experience to fulfil

this function, it should be outsourced. The audit should include the annual self-assessment against Minimum Standards. Conversely, the self-assessment against exposure management Minimum Standards should take account of the audit findings.