

Model Change Guidance

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1 Introduction

1.1 Purpose

This document provides guidance on syndicate internal model changes at Lloyd's. It is intended to be used by managing agents to inform and support their model change processes.

This document builds on the minimum standards to provide more detailed requirements and guidance for managing agents. This document collates all model change guidance previously issued together into one document and can be read as a standalone document – a cover note accompanies this guidance outlining changes from previous versions and expectations around the implementation of this guidance. It supersedes all previous versions of the model change guidance, including the exposure management note EM236 dated January 2018 relating to catastrophe model change.

This document does not seek to repeat existing Solvency II requirements on model change. Managing agents should continue to refer to the Solvency II requirements and the model change sections of Lloyd's MS12: Scope, Change & Use minimum standards, as well as modelling and validation requirements outlined in MS13 and MS14, see: www.lloyds.com/the-market/operating-at-lloyds/lloyds-minimum-standards.

2 Lloyd's Guidance on Model Change

2.1 Background

Lloyd's recognises that changes can be made to previously approved models for various reasons, e.g. addressing model limitations, addressing regulatory feedback, addressing validation and audit findings, improvements driven by ongoing use of the model and changes to business profile.

All model changes should have:

1. A structured rationale as to why they are being made,
2. A rationale describing how they have been prioritised over other changes,
3. Demonstration of governance procedures surrounding the changes.

For avoidance of doubt, the above list does not prescribe any documentation that must be submitted to Lloyd's alongside any major model change application or with the model change template return. Documentation requirements are covered in section 3. Please note, however, that Lloyd's reserves the right to request additional information, which may include evidence of the above considerations.

2.2 Change Types

Lloyd's has high-level and detailed change types, as detailed below and in Appendix 1. It is not mandatory for managing agents to adopt the Lloyd's model change types in their own model change policies. However, agents are required to select a Lloyd's change type for each change when submitting a Model Change Template or Major Model Change Application. Lloyd's therefore requires managing agents to map their own change types to the high-level Lloyd's change types.

Lloyd's definitions cover the following change types: data updates, risk profile changes, parameterisation changes, changes to model methodology and model design, non-functional changes, and changes in governance/controls. A description of each of these is set out below.

Whilst Lloyd's does not prescribe the model change categories that agents should use, Lloyd's will give feedback on these and require restatement of change aggregation if it is considered these are not applied appropriately.

| Change type | Definition | Accu- mulates? |
|--------------------------------|---|-------------------|
| Data | <ul style="list-style-type: none"> • a change to any direct inputs into the model that are not designated as either an underlying risk profile change or a parameter change • this does not include any changes to data sources that are not direct inputs to the model. Changes to data sources should be reported under other categories, as appropriate | No |
| Underlying risk profile | <ul style="list-style-type: none"> • significant changes to the nature, scale and complexity of the risk profile of the syndicate • includes material changes in the business model, business strategy, products and lines of business, emerging risks and any other relevant changes to the risk profile (materiality defined as per agent's model change policy) • significance should be justified on a quantitative or qualitative basis (i.e. using indicators specified in the policy) | Yes |
| Model parameterisation | <ul style="list-style-type: none"> • represents a change to the input parameters of the model. These might be driven by data – e.g. due to additional data being available, the perception of risk has changed; due to risk profile; or due to other considerations • includes changes to the assumption and the parameter, or the methodology and process to derive such an assumption or parameter • significance should be justified on a quantitative and qualitative basis | Yes |
| Model methodology | <ul style="list-style-type: none"> • changes to the methods used to calculate the probability distribution forecast including external models and data • Lloyd's interpretation is that this change reflects changes of the data sources, but excludes data updates • significance should be justified on a quantitative or qualitative basis | Yes |

| Change type | Definition | Accumulates? |
|----------------------------|---|--------------|
| Model design | <ul style="list-style-type: none"> a change in the underlying structure or design of the model including use of IT systems and platforms, moving to a newer version of the platform, increase/ decrease in the number of simulations, switching from bootstrapping to claim simulation in order to measure reserving risk, moving from scenario testing to stochastic method for a certain risk module, change from RMS to AIR significance should be justified on a quantitative or qualitative basis. | Yes |
| Non-functional | <ul style="list-style-type: none"> a change relating purely to the efficiency of the model calculation, the reporting capabilities or other operational improvements to the model significance should be justified on a quantitative basis and the movement in SCR should be due to simulation error only | No |
| Governance/controls | <ul style="list-style-type: none"> a change to the control framework in which the model is operated e.g. switch from internal to external independent review, or to governance framework within which model output is used e.g. establishing a new committee the significance of these changes will always be determined qualitatively | Qualitative |

2.2.1 Data / Risk Profile Changes

Lloyd's requires data changes to be out of scope of the model change policies. Data changes will still need to be reported in the model change report and subject to Lloyd's review as part of LCR submissions.

Lloyd's recognises that the distinction between data and risk profile changes is not always clear cut, e.g. a change in asset allocations is usually a data change – however, if the change in allocation is material enough then this should be a risk profile change. A guideline is that all inputs to the model are either data or parameters – and data changes can become risk profile changes when significant enough (and might then also require some parameter changes). Lloyd's requires managing agents to set out a clear distinction between these two change types in their model change policy, including the qualitative and quantitative indicators which will be considered to classify a change as either a data or a risk profile change. It is not acceptable for no changes or hardly any changes to be classified as data changes. Lloyd's needs to ensure sufficient focus in major model change reviews is given to the most material changes, therefore some changes need to be excluded from the accumulation of minor changes to achieve this.

The indicators might include:

Quantitative:

- x% change in uSCR : exposure ratio (Exposure could be defined as prem + ½ reserves)
- x% change in 1-yr SCR : uSCR ratio
- x% change in premium risk : premium ratio
- x% change in reserve risk : reserves ratio
- x% change in prem volume : reserve volume
- x% change in Net to Gross premium ratio
- Cat risk: material change in region/peril AEPs
- Asset portfolio split incl. ratio of risk-free to risky assets
- x% change in market risk: available assets

Qualitative:

- Significant change in class balance (premium or reserves) e.g. moving from predominantly cat to predominantly long-tailed lines
- Material change in reinsurance programme (including Adverse Development Covers or Loss Portfolio Transfers)
- Material change in average reinsurer credit rating
- New business line (with at least £xm planned premium in the first year)
- Removal or acquisition of business through RITC, merger, closing lines of business

The above lists are non-exhaustive and are not intended to define the indicators that agents should use. Lloyd's recognises that defining the indicators can be challenging and policies will necessarily require some flexibility. The syndicate should consider the nature of the risk profile – e.g. a fast-growing or shrinking syndicate might require larger thresholds to allow for organic growth than a more stable syndicate. Size of the syndicate and hence stability of the metrics might also be a consideration when defining them. However, Lloyd's does require that some minimum

levels are set on pre-defined metrics to ensure more objectivity in assessing when data changes should be assessed as being re-classified as a risk profile change. Lloyd's will require agents to justify the classification of items as data where they could be interpreted as representing risk profile. Lloyd's does not expect material changes in the Reinsurance Contract Boundary (RICB) adjustment to result in a major model change. It is recommended that this change always be treated as a data change.

2.2.2 Parameter changes

Parameters are usually set based on data – however any input that requires some level of expert judgement to determine its value should be classified as a parameter change instead of a data change and accumulated. Even if the parameterisation is automated, a parameter change is still likely to require expert judgement, and therefore be classified as a parameter change. For example, suppose a change in the size in reserves triggers a change in CoVs. In that case, a judgement is made on how the CoV should change with volume changes. If a parameter change is classified as a data change, Lloyd's will require managing agents to evidence that no expert judgement was involved in the change.

Further details outlining Lloyd's views on categorisation of data, risk profile, and parameter changes are included in Appendix 1.

2.2.3 External Models

Changes in the versions of external models are in general either data or parameterisation changes – because either the underlying data or the method of parameterisation is changing. However, in certain cases, this can also be a methodology change (e.g. if the new version of an ESG uses a refined methodology). Managing agents should classify the model change according to a “look-through” approach, i.e. depending on the specific changes to the external model. Agents should justify their categorisation decision.

2.2.4 Non-Functional Changes

Non-functional changes relate purely to the efficiency of the model calculation, the reporting capabilities or other operational improvements to the model which do not have an impact on model output.

Non-functional changes only cause numbers to move due to simulation error. Managing Agents should be able to provide evidence to support this. Agents are required to not accumulate these changes – as these changes should not accumulate towards major model change thresholds. This includes, for example, the following changes that do result in a change in capital that is only due to simulation error:

- Changes to reports/model output
- Code changes improving the efficiency of calculations without changing any methodology or underlying calculations
- Changes to Group Models which do not impact the syndicate model
- Other operational model improvements

As a minimum, Lloyd's would expect the following conditions to hold true for non-functional changes and for this to be reviewed at least annually and escalated internally if found to not hold true:

- The aggregate accumulation of multiple non-functional changes should tend to zero, since these are expected to be unbiased.
- Any single change should be less than simulation error, as evidenced by prior stability testing.
- Agents should be able to evidence that single changes are within simulation error and unbiased through multiple seed runs, if requested.

2.3 Minor and Major Model Changes

Any model change must be defined as either a minor or major change, depending on the impact on the SCR (quantitative) or a significant change to the internal model governance or controls (qualitative), as detailed below.

A change can be qualitative, quantitative or both. Any change that has a potential or actual quantitative impact on the SCR must be captured as a quantitative change (or both a quantitative and qualitative change, if this is in line with the agent's internal model change policy).

Implementation of a methodology change that has zero impact on SCR at the time, may potentially impact SCR later. Review of such a methodology change should not be missed, either by the agent nor by Lloyd's. For example (as per MS12 SCU 5.1), a change in methodology with respect to holding equities would have no effect if no equities are held at that point in time; the SCR may remain constant. However, a change in investment portfolio at a later date could then increase the SCR significantly and so the potential impact must be considered when determining if a model change is major or minor. Therefore, Lloyd's expects such a methodology changes to be reviewed either at

the time of the change, or as part of later risk profile change. Likewise, Lloyd's will not review such a methodology change twice i.e. at the time of change of implementation with zero impact on SCR and then again at the point it triggers a risk profile change (or similar).

A major change application can either be a major change in its own right or a major change due to the aggregation of minor changes. Whatever approach agents adopt to classify changes (as either minor/major, and quantitative/qualitative), they should ensure that it is clearly explained in their model change policy together with a rationale as to why they consider that it meets the EIOPA guidelines. The points below relate to quantitative changes or qualitative changes that can be quantified.

Four trigger points are required for quantitative major model changes within an agent's model change policy:

- Aggregate trigger point in relation to the 1-year SCR;
- Aggregate trigger point in relation to the ultimate SCR;
- Absolute trigger point in relation to the 1-year SCR; and,
- Absolute trigger point in relation to the ultimate SCR.

For definition:

- The aggregate value refers to the sum of a number of smaller values e.g. +8%, -2% = 6%.
- The absolute value refers to the sum of smaller values irrespective of their signage e.g. +8%, -2% = 10%.

It is acknowledged that the ordering of minor changes can have an impact on whether a major change application is triggered. This is partially mitigated by absolute thresholds, but the possibility still exists. As such, to avoid any bias within the ordering of model changes, Lloyd's recommends that changes are reported in chronological order.

Lloyd's expects the aggregate trigger points to fall between 10% and 15% of the SCRs and expects the absolute trigger points to be no greater than double the aggregate trigger points. This expectation is intended to trigger major change at the same overall level of change as the relative threshold (assuming change is equally likely to be upwards/downwards) and avoids agents being able to make large volumes of offsetting change that is not visible to the change approval process.

The rationale for the level of trigger points should be documented in the agent's model change policy and agents should back-test their model change trigger points to challenge their chosen thresholds. It is noted that the levels above are considered to allow for meaningful model change to take place between Lloyd's reviews. Any minor changes made (by nature or magnitude) can be challenged and potentially rejected as part of Lloyd's review of capital submissions for coming-into-line. Agents are required to provide strong justification if the trigger points fall outside the levels stated above. When selecting the trigger points, the overarching principle that agents should keep in mind is that a major model change should be triggered by any accumulation of changes or single change that reflect a material change in the syndicate's capital requirements, risk profile, and/or modelling changes that require the Board's attention and approval. Lloyd's will engage with managing agents with thresholds that do not clearly give appropriate Board visibility of change.

The above mandatory triggers must capture aggregation of all in-scope model changes; Lloyd's will not accept triggers which do not relate to all model changes if these triggers mean that the four trigger points above could be exceeded without a major model change being triggered, e.g. it is not acceptable to aggregate changes by risk type separately or by change category.

For qualitative changes the differentiation between minor and major changes is not as straightforward due to the nature of the changes. The classification should be guided by the principle of visibility to the board. Lloyd's would advise syndicates to make policies as generic as possible by e.g. using role names instead of names of people etc. If syndicates are unsure on the classification, they are asked to engage with their capital point of contact.

A "pure governance" qualitative major model change, i.e. a major model change which only includes governance related changes, does not require the submission of a model change template. Nor will any preceding minor changes be reviewed as part of Lloyd's review and therefore, the approval of such a change will not reset the accumulation of changes described below.

2.4 Model Changes and SCR Review Process – Resetting Change

Any major change application must include all minor changes since the last model change approval or the last approved SCR. Unless otherwise stated, consideration of the accumulation of minor changes re-starts from one of the following points:

- i) a major change being approved by Lloyd's (excluding a "pure governance" qualitative major model change),
- ii) the SCR being approved for coming-into-line in December or June.

This is the case whether it is a major change driven from a combination of minor changes or a major change in its own right. As part of the SCR review process, Lloyd's can review and challenge any minor changes that have occurred since the last major model change submission or the last SCR review even if a major change has not in itself been triggered. This includes any changes to the methodology used or adjustments made to syndicates' models due to review feedback. As part of the SCR submission, there should in any case be suitable Board visibility of any changes to the capital model since the previous approved SCR whether or not a major change has been triggered.

Lloyd's approval of SCR for coming-into-line at either year-end or mid-year, with or without capital loadings, does not automatically constitute a decision to accept or reject any accompanying major model change application. Whilst the two processes clearly overlap, the primary focus of Lloyd's at these times of year is to ensure appropriate capital is held by all syndicates, and therefore Lloyd's cannot guarantee a decision on any accompanying major model change application. Lloyd's will clearly communicate whether the model changes are approved with the agreed capital for coming-into-line.

2.5 Batching Changes

Batching of changes refers to the reporting of more than one model change as a single change to the internal model. Unrelated changes should not be batched, but instead split out in a suitable level of detail that would allow a technically competent reviewer to understand the drivers of change in capital and to accumulate the changes in a way that sufficient visibility of change to the Board can be achieved

In particular, the update of different data sources should usually not be batched. For example, an "update of the business plan" can include the update of premiums/expenses and loss ratios of various classes at the same time – however it cannot also include an update of the technical provisions, parameter updates and updates of the asset portfolio. These updates should be reported as several changes as it is otherwise unlikely that the reviewer has enough detail to make themselves comfortable with the change. Furthermore, agents should consider whether updates to gross values and reinsurance should be reported separately (particularly where the model is used for reinsurance planning / purchasing decisions), but there may be instances where it is appropriate to batch changes on a net basis, e.g. if a line size is increased for a class with reinsurance purchased in order to keep the line size as per previous plans. It is expected that justification of any batching is provided.

For parameter changes, regulatory guidelines recognise that there are likely to be a large number of individual parameters within an internal model and that it may be appropriate to consider the impact of changes to these parameters in batch, rather than individually. Lloyd's considers it acceptable for agents to batch changes that are related to updating or refreshing the same existing parameters across classes of business or related parameters for one risk type.

Another source of batching is where various updates are made to the same data source at various points in the year. For example, if a syndicate runs various versions of a business plan then these changes can be batched together and reported as one data or risk profile change if it is appropriate to do so. Also, if the asset portfolio and/or ESG is updated at various points in the year, then the syndicate can batch these changes together. However, the agent should make sure that any changes reported reconcile with the model change logs reported to Lloyd's in March and September – this means if changes have already been reported in March they cannot be batched with later changes, and the agent is able to provide a breakdown of the various updates made upon request.

Agents should ensure that they explain which changes have been batched and reported as one when they submit their major model change application or model change templates to Lloyd's, together with a short rationale as to why it is appropriate that such changes are batched together. The agent's model change policy should also provide sufficient detail on how they have considered and applied batching within their internal model change processes.

However, changes in unrelated parameters, changes in methodology or changes to separate data sources should not be batched together. If Lloyd's does not receive sufficient granularity of change to allow an appropriate level of review, we will require the managing agent to produce more granular change splits before changes can be accepted.

2.6 Special Purpose Arrangements (“SPAs”)

Where the model change applies to a SPA the agent should report the changes and resulting SCR impact for each syndicate/SPA separately.

2.7 Group Models

Where the syndicate model forms part of a larger group model, Lloyd's only requires changes that impact the syndicate model to be reported e.g. a new line of business that is written by a group company but not the syndicate does not need to be reported to Lloyd's, unless it changes the syndicate SCR. New business lines will not be considered as model scope extensions until the agent proposes to write them in the syndicate, when model change approval will be required, even if they are already modelled elsewhere. However, model stability issues might mean that the result for the syndicate is impacted slightly and the syndicate will have to report the change in the model change report in order to allow for full bridging between SCRs. If this is the case, the change is non-functional should not contribute to the accumulation of minor changes and can be out of scope for the syndicate model.

2.8 Board Sign-Off

In line with minimum standards, the agent's Board must approve major model changes, including accumulation of minor changes to a major model change. This should be evidenced through the submission of Board papers and minutes showing that the changes were discussed and challenged at a formal Board meeting.

It would be acceptable for a managing agent to make an initial application with a confirmation from the Senior Nominated Person (SNP) that the appropriate Board approval has been achieved. If this approach is taken, this will initiate the Lloyd's process and approved Board minutes should be submitted to Lloyd's as soon as they are available. The Board minutes can be provided in draft if the approval of the minutes would hold up the application materially.

Where the detailed review of a major model change is delegated to a committee of the Board, the Board must still discuss and challenge the change. An information paper from a delegated committee is not sufficient.

2.9 Model Change Template

The model change template (MCT) is both a regular submission requirement to Lloyd's and a method by which agents can manage their recording of model changes and their accumulation on both an aggregate and absolute basis.

The model change template has to contain all changes, no matter if minor or major, qualitative or quantitative or in or out of scope of the model change policy regarding change accumulations. The most up to date version of Lloyd's model change template can be found on Lloyds.com.

Agents can use this template as the method of establishing when a major change is triggered and how accumulation of minor changes work. The model change template should be updated at the same time as changes are approved by syndicate internal governance. The model change template should accompany any LCR submission (CiL submission and any resubmissions). A template submission will also be required with any major model change application (see Section 3.3) that is not a “pure governance” major model change. Lloyd's may request ad hoc submission of the template at any time.

The template should contain the changes from the last approved model. So if a syndicate only has one annual submission then the model change template should cover all changes made in that year. However, if a syndicate has re-submitted an LCR at any point in the year due to material movements or due to a major model change application, then changes from that point to the current submission should be covered.

Lloyd's will utilise the information collected in the model change report to aide SCR reviews and expects that it bridges the changes between submissions. For the avoidance of doubt there should be no restatement of historically reported changes in subsequent template submissions.

3 Process for Application of a Major Change

3.1 Pre-Application

Lloyd's wishes to engage with managing agents to understand material planned changes to syndicate models and to syndicates' views of catastrophe risk in internal models, as early as possible. Lloyd's does not require agents to submit model development plans; however, the capital point of contacts will engage with agents at the beginning of the year to discuss their development plans for the year and agents are encouraged to discuss medium term change planning with Lloyd's.

When a major model change is planned, agents should provide the following information to Lloyd's:

- A summary of the planned model change(s),
- the reasons for the change(s),
- the potential impact (both qualitative and quantitative),
- the intended timescales for implementation.

This information will provide Lloyd's with the opportunity to provide feedback on potential concerns (e.g. on intended timescales) or suggest changes that the agent could consider ahead of any application, to enable a smoother review process for both parties upon application. Please note that if the volume of model change applications throughout the market remains as high as in recent years, Lloyd's may have to restrict the number of model change applications made. Early engagement on plans and timescales will give agents the greatest chance of being able to make their application.

Agents should ensure they have addressed any outstanding feedback and especially loads before submitting a major model change (feedback could relate to prior capital or major model change reviews). Applications might not be accepted if material loads/feedback are outstanding and the major model change is not made in response to these.

3.1.1 Material changes in an agent's view of natural catastrophe risk

Changes in an agent's view of catastrophe risk within the internal model should be flagged to Lloyd's Exposure Management ("EM") at the earliest possible opportunity, certainly prior to implementation. This includes changes which are deemed to be minor by the managing agent's own model change policy.

The degree of discussion, validation and/or evidence required by Lloyd's will vary according to materiality of syndicate contribution of cat risk to Lloyd's, materiality of cat risk relative to syndicate overall SCR and materiality of the region/peril within overall cat risk, as well as Cat Risk Oversight Framework ("CROF") position. This will be agreed by the EM Manager in conjunction with the managing agent, on a case-by-case basis.

Agents should be aware that any changes to View of Risk for LCM5 perils will need to be approved by Lloyd's EM.

3.2 Application Process

Once an agent has been through their internal governance process to approve a major change, a major model change application form (Appendix 3) and all other required documents as set out in section 3.3 should be uploaded to the agent's SecureStore site and a notification should be sent to SCRReturns@lloyds.com and your capital point of contact.

Lloyd's will conduct an initial assessment of the completeness and quality of the application and will give agents an expected review timeframe within 2 weeks of the submission. Lloyd's will review the major model change application according to its own model governance process, the target being 8 weeks from receipt of the submission. Lloyd's discourages agents to submit major model changes which are not due to risk profile or parameterisation changes with the capital submissions in September/October and March. For submission at these times, approval of the model change can be delayed given the priority of approving capital for coming-into-line. Model design changes (e.g. platform changes) and model methodology changes should be submitted:

- By 17th June to guarantee feedback before the September/October SCR submission
- By 4th January to guarantee feedback before the March SCR re-submission

Any methodology/model design changes submitted later than this may lead to the review being delayed until after the coming-into-line deadline. This does not apply to risk profile or parameterisation changes: these will be reviewed in line with the capital submissions.

Notes for review timeframes:

1. Lloyd's expectation is that a major model change application only contains one (quantitative) major model change, and that only one major model change application is open with Lloyd's at any time. Lloyd's accepts that there might be exceptions to this expectation – for example, a model platform change might identify issues with the model methodology that result in a further major model change. These are exceptions and should be discussed with the agent's capital point of contact as early as possible who will advise you on how to proceed.
2. Agents should have operational contingency plans in place to allow for rejection of any submitted major model change application. When a major model change has been triggered, an application should be made and the agent should consider the operational issues involved in having to reverse the change when making any more changes to the model before Lloyd's has concluded its review and assessment (see section 3.4).
3. There may be reasons that Lloyd's is unable to meet or commit to the eight-week target. For example, if a major model change application contains more than one major model change or is particularly complex in nature, the review may take longer.
4. During the review the technical review team may ask questions or request further information from the agent to form an opinion on the change. If the quality of the application or subsequent responses are poor and several iterations of further requests are necessary, the time to review the change will exceed the target given above.
5. In order to achieve timely approval from Lloyd's, agents should ensure they submit high quality major model change applications. This includes providing sufficient information up front, communicated effectively, as a complete application, and proactive engagement with Lloyd's during the review.
6. If the volume of change remains as high as in recent years Lloyd's may have to restrict the number of major model change applications made. Early engagement and no delay to communicated plans are the best ways for syndicates to ensure that their major model changes can be reviewed.

3.3 The information to be provided with a model change application

When a major model change application is made the following documents are required as a minimum:

- Application form
- Model Change Template (for major model changes that are not "pure governance" changes)
- A response to any prior feedback which has been requested to be addressed as part of the next MMC submission
- Supporting validation documentation (quantitative changes only)
- Supporting documentation, including an analysis of change (AoC) (one-year and ultimate SCR, for quantitative changes only).
- The amended expert judgement log (if relevant)
- Underlying model documentation that is materially affected by the model change, or that would be useful as reference documentation for the purposes of review (with tracked changes if possible)
- Information presented to Board
- Board minutes evidencing discussion, challenge and sign-off (can follow shortly after application, see section 2.8).
- All LCR forms for quantitative changes. These should be provided via MDC as a hypothetical submission (i.e. ensure the hypothetical submission option is ticked on form 012).
- Evidence how prior feedback/loadings has been addressed if the deadline for feedback/loadings was the next MMC submission.

The following should be contained in the supporting documentation – the principle of proportionality can be applied here for minor changes:

- Description of the major change and all other changes that have occurred since the last approved model change
- Rationale/justification for the change. This can be included in the analysis of change document
- The analysis of change should draw out and explain (as Lloyd's will query these points):
 - Any changes where the impact on the one-year SCR is materially different to the ultimate SCR
 - Any changes where the impact on SCR is not in line with expectations.
- The analysis of change should link back to the model change template (i.e. impact of changes should reconcile) and should explain impact on one-year and ultimate SCR as well as the SCR Risk Category Breakdown.
 - If relevant, class level information should also be included to facilitate review. As a guideline the information provided should be sufficient for a knowledgeable independent individual to understand the change. See Section 14: Appendix A in '[Capital Guidance](#)' for further details on analysis of change requirements.
- The analysis of change is also important for an accumulation of minor changes which trigger a major model change. The main cause(s) that gives rise to a major model change being triggered should be highlighted, justification provided, and relevant validation test signposted.
- Demonstration of ongoing compliance with Use Test requirements
- For changes with a specific risk impact this should be isolated, even if the overall capital impact is not material. For example, for changes to Catastrophe Risk the impact on catastrophe risk should be isolated. Similarly, for

changes to Market Risk the change on pure asset risk (excluding the impact of discounting on the liabilities) should be included to facilitate the review.

Lloyd's may also request additional information once a major model change has been submitted.

Appendix 2 provides a longer (but non-exhaustive) list of examples of documentation / justification / validation requirements.

It is Lloyd's expectation that changes justified by the first line. This includes checking the correct implementation of the change, explaining the capital impact (overall, and by risk category/class) and any deviations from the expected impact. Where the actual impact differs to that expected, this should be escalated, and the cause should be investigated. This could result in corrections in the implementation or an explanation provided in the documentation submitted with the model change application.

All major model changes must be validated. Validation must be independent (see section 2.2 of ['Validation Guidance'](#)) but can be carried out internally or externally, relative to the agent. That is, by an independent in-house team or consultancy. The validation is expected to review the work of the first line (e.g. justification, the implementation and how this has been checked as well as the analysis of change and raise any issues/questions. Furthermore, additional validation tests (like sensitivity tests, scenario tests, testing against experience, testing of alternative methods etc.) should be carried out when deemed necessary – the principle of proportionality should be applied here. If the major model change application accompanies the annual LCR submission some model changes (like e.g. parameterisation changes) might be covered by the usual annual validation exercise. However, validators should tailor the validation report to include specific validation of model changes when required.

3.4 Specific Requirements for Platform Changes

Software platform changes should automatically trigger a major model change application to Lloyd's. The following are specific requirements for submission with a platform change. The over-arching principle is that the model being replaced should be replicated as far as possible in the new platform. Any deviations from this should be submitted as a separate model change as they do not represent part of a platform change per se.

- Reasons for migrating the model;
- Any impacts on model use;
- Extent to which standalone distributions at an overall SCR, risk and class of business level differ between old and new models;
- Testing should not be restricted to the 99.5th percentile. We expect to see testing and explanations of differences at various points of any distribution;
- Testing of dependency structures. Please note that it is not sufficient to rely on standalone distribution being similar and aggregating to the same Risk or SCR level. We expect to see testing done on the dependency structure specifically, which might include a comparison between the old and new models of:
 - JEP's; or
 - contribution to capital by risk/class of business
 - input vs output correlation tests;
- Sensitivity testing showing the two models have similar drivers;
- The validation report should make it clear what the criteria are for a test to pass/fail and also for escalating issues. Where distributions are being compared in the two models we would expect the criteria for escalation of differences to be linked to stability testing of the two models;
- We would wish to see visibility in the documentation of tests being "failed", and the process that has been followed to address this. We would expect all escalations to have been handled in accordance with your validation policy. Furthermore, we would expect to see the results of the escalation, e.g. a change to the model or acceptance of a limitation in the modelling;
- Reverse Stress Testing should be applied to the new model and the results of this analysis compared to those on the old model;
- Description of key expert judgements (including materiality and falsifiability) and how these have been validated;
- Where relevant, how any previous validation points have been addressed or an explanation of why these are no longer relevant.

In all cases, we would expect to see detailed explanations of any differences between test results on the old and new models.

As far as possible the major model change application for the model migration should exclude methodology and parameter changes. These should form separate model changes and should be subject to their own validation and investigation. Any methodology changes should be clearly reported, and their impacts analysed; similarly, for any associated parameter changes. Syndicates should carefully assess the need to review methodology and parameters in conjunction – so if a methodology is changed that involves setting a new or different level parameter than the changes should be made in one application and the parameterisation change not delayed to a later BAU exercise.

It is understood that some migrations may result in unavoidable methodology/parameter changes as the methodology in the old platform may not be exactly re-producible. In such cases the impact of the different methods should be quantified, explained and bridged, often by using separate (temporary) models. This does usually result in bespoke coding being required and syndicates should factor this in when planning their major model change application. An unavoidable change does not include changes associated with moving from one standard model in one platform to another in a different platform. Instead, unavoidable changes refer to cases where one of the platforms is unable to be changed to match the other e.g. moving from AIR to RMS or where certain methods are proprietary, e.g. adjusting correlation matrices to achieve positive definiteness. Unavoidable changes are not out of scope of review, agents must quantify the impacts of these and validate the changes. The principle of proportionality may be applied, for example, if the impact of the methodology change has an immaterial impact on overall capital and by risk type. However, in such cases, the agent should demonstrate how the conclusion of low materiality has been obtained. In summary, any such unavoidable changes, must be made visible and the impact on the validation tests, results and conclusions made clear.

3.5 Specific Requirements for External Model Vendor Changes

Changes to external model vendors would be expected to trigger a major model change, due to changes in methodology and parameters/assumptions. The following are specific requirements for submission of an external model vendor change.

- Rationale for change
- Explanation of how the external model meets the Use test standard (as per MS12 SCU 2.3).
- Evidence of Agents and Boards understanding of the model (as per MS12 SCU 2.2), including model limitations.
 - Document reasons for using the model, including why alternative models not chosen
- Evidence of enough resource and expertise to run the chosen model/select the assumptions and validate it
- Detailed Description including:
 - Modelling software and version used,
 - any alterations made to standard model assumptions and settings
 - for cat vendor changes:
 - which perils have been modelled, and where geographically (e.g. US windstorm, Japanese earthquake)
 - details of data used in model and any alterations made for planned prospective year underwriting
 - any blending of model results
- Provide an expert judgement log, clearly highlighting which judgements/assumptions have changed from the previous model and any adjustments to the new model's default parameters.
- Appropriateness of assumptions and methodology (as per MS13, MDI 2.2 and 3.1). Agents can apply the principle of proportionality but should cover:
 - how assumptions are considered to be realistic and justifiable, understanding of assumptions which may be false, and how the assumptions/methodology are considered to be in line with the agent's risk profile.
- Demonstration of model completeness e.g. with respect to unmodelled elements of catastrophe losses
- Validation of changes in expert judgments, parameters, methodology or data.
- Evidence of independent review
- Any updated documentation and demonstration of how this complies with minimum standard (MS12 SCU 2.3)
- The following quantitative impacts should also be provided:
 - For cat vendor change:
 - Impacts on overall capital, standalone cat risk, and by class and peril. Including evidence how the impact is deemed to be reasonable.
 - Reinsurance and how the impact on net cat risk is deemed reasonable
 - Actual vs Expected i.e. model output vs actual loss experience and how model output is deemed reasonable.
 - For ESG vendor change:
 - Impacts on overall capital, standalone market risk, and by subclass. Including evidence how the impact is deemed to be reasonable.
 - Insurance risk with regards to the impact on discounting claims which is dependent on interest rates
 - Diversification benefit between insurance risk and market risk, and within market risk.

3.6 Use of a Changed Model

Agents should have contingency plans in place to allow for rejection of any submitted major model change application. In the period between a major change application being made to Lloyd's and Lloyd's concluding its review, agents must have the ability to reverse the change if required by Lloyd's. This may require agents running

licences on two different model versions or platforms, and the practicalities associated with this should be taken into consideration by agents when planning their major model changes. In this interim period, managing agents should use the most current version of the model (including the changes for which approval is sought) for decision making. On this basis, there should be no issue in relation to ongoing compliance with the Use Test requirements to ensure that managing agents have a clear view of model output. The ability to reverse changes naturally applies to the situation where a major change application has been rejected.

Appendix 1 – Detailed Lloyd’s Change Types

| Change type | Detailed Change Type |
|--|--|
| Data updates (<i>excluded from scope, but still reported in model change template</i>) | Data Changes |
| | Changes as a result of movements in exchange rates |
| Underlying risk profile | Risk Profile |
| Model parameterisation | Parameterisation and Parameterisation Methodology |
| Model methodology | Dependencies |
| | Insurance – Underwriting (Non-Catastrophe) |
| | Insurance – Underwriting (Catastrophe) |
| | Insurance – Reserves including Risk Margin |
| | Operational Risk |
| | Market Risk |
| | Credit Risk |
| | Other |
| Model design | Dependencies |
| | Insurance – Underwriting (Non-Catastrophe) |
| | Insurance – Underwriting (Catastrophe) |
| | Insurance – Reserves including Risk Margin |
| | Operational Risk |
| | Market Risk |
| | Credit Risk |
| | IT changes – including change in modelling platform |
| | Other |
| Governance/controls | Governance – including Change Policy, Validation, Scope and Model Use |
| Non-functional | Non-functional – including changes to reports, code changes, or other operational improvements |
| | Changes to Group Models |
| Other | Other |

The following table provides further detail on the Lloyd's change type definitions:

| Change Type | Description |
|---|---|
| Design/methodology - Dependencies | Any change to the dependency structure used in the internal model, for example: <ul style="list-style-type: none"> • Introduction of new dependency between classes of business and/or risk types or removal of existing dependency (whether driver or copula) • Change in copula used e.g. from Gumbel to student • Change in dependency structure used • Change in methodology applied to model tail drivers |
| Design/methodology - Insurance - Underwriting (non- catastrophe) | Any change to the methodology used in modelling non-catastrophe insurance losses, for example: <ul style="list-style-type: none"> • Change in modelling total losses to a frequency severity approach • Change in the loss distribution used • Change to methodology of generating 12-month losses compared to ultimate losses • Changes in modelling of existing outwards reinsurance program - introduction of new program would be captured by changes in risk profile |
| Design/methodology - Insurance - Underwriting (catastrophe) | Any change to the methodology used in modelling catastrophe losses, for example: <ul style="list-style-type: none"> • Change to vendor model used e.g. change in RMS model version or change from AIR to RMS • Introduction of new perils |
| Design/methodology - Insurance – Reserves including Risk Margin | Any change to the modelling of technical provisions, for example: <ul style="list-style-type: none"> • Change to distribution used • Change to simulating incurred losses instead of paid losses • Change to calculation of risk margin • Change to granularity of classes modelled |
| Design/methodology - Operational Risk | Any change in the modelling of operational risk, for example: Change to distribution used Introduction of new scenarios (if this falls within the definition of model change) |
| Design/methodology - Market Risk | Any change in the modelling of market risk, for example: <ul style="list-style-type: none"> • Change to ESG provider • Introduction of new asset classes or currencies (or removal) • Change in time horizon used to model market risk |
| Design/methodology - Credit Risk | Any change to the modelling of credit risk, for example <ul style="list-style-type: none"> • Change to distribution used for generating defaults or loss given defaults • Allowing for impact of security held against credit risk e.g. LOC's, funds with-held • Inclusion of new source of credit risk |
| Design/methodology - Other | Any design/methodology change falling outside of the above - this must be explained under 'Description of change' |

| Change Type | Description |
|---|---|
| Parameterisation & parameterisation methodology | Change to the parameterisation or the methodology used to parameterise the internal model. For example: <ul style="list-style-type: none"> • Use of new data sources to parameterise assumptions • Changing adjustments to historic data within the parameterisation process • Changes to parameters as a result of data updates • Changing the degrees of freedom in a copula • Changes as a result of a change in expert judgement • Change in external model calibration |
| Risk Profile | Changes to the risk profile used in the internal model as a result of business developments, for example: <ul style="list-style-type: none"> • Introduction of a new reinsurance program • New classes of business being written or a significant change to existing classes • Change in asset allocation |
| Governance | Including changes to Model Change Policy, Validation Policy, Model Scope & Model Use |
| IT changes – including change in modelling platform | For example, change from ReMetrica to Igloo OR vice versa |
| Non-functional | Any change that is expected to have no effect on the uSCR or one-year SCR, but causes a small change in one or both capital numbers due to simulation error. These include: <ul style="list-style-type: none"> • Changes to reports/model output • Code changes improving the efficiency of calculations without changing any methodology or underlying calculations • Changes to Group Models which do not impact the syndicate model • Other operational model improvements |
| Data changes | A change to any direct inputs into the model that are not designated as either an underlying risk profile change or a parameter change. Changes as a result of movements in exchange rates (for example, when re-running the model for year-end reassessment in March) |
| Other | Anything outside of the above. |

Data, risk profile, and parameter changes

Section 2.2 includes guidance on categorisation of changes as data, risk profile, or parameter changes. In particular, Lloyd's specifies a parameter change as an "input that requires some level of expert judgement". The below lists provide further guidance on what Lloyd's could consider to be a reasonable categorisation as either a data (or risk profile) or parameter change. The below lists are non-exhaustive and non-binding; agents would still be required to justify their selected categorisation.

Data (or risk profile) updates

- Changes to existing business plan
- New business plan
- Changes to outwards reinsurance programme (e.g. new contracts, limits, reinstatements, coverage etc.) and RICB
 - o NB. Changes to reinsurance modelling, where the underlying reinsurance contracts have not changed, would not usually be considered a data/risk profile change
- Reinsurer credit ratings

- Updates to technical provisions
- Cat data input
- Asset mix
- FX changes
- EIOPA discount rates

Parameter updates

- Volatility parameters
- N:G ratios, if used in reserve risk
- Correlation parameters
- Degrees of freedom in copula
- Updates to non-modelled cat risk parameters
- RI default probabilities
- Operational risk event likelihoods and severities

Where a single change could be considered as either a data or parameter change, agents should make an appropriate judgement on the best categorisation in line with Lloyd's guidance and their own internal model change policy.

Appendix 2 – Validation Activity for Different Change Types

All major model change submissions require a full set of documentation highlighting what has changed from the approved model and a summary of the rationale/justification for the change. This document gives examples of what additional validation and quantitative information may be required to assess continued compliance with validation and modelling minimum standards. The supporting documents submitted with a major model change thus should inform Lloyd's about the change along with information on the validation work performed.

This section provides further guidance on the type of documentation and level of validation (see last table for examples of validation at different levels) that could be undertaken to support a major model change submission. Note that this list is not exhaustive or prescriptive and agents should contact Lloyd's for clarification, if required. Lloyd's may also request more information once a major model change has been submitted. Different model changes have been grouped into different sections in this appendix. This segmentation is for the purposes of this appendix only and syndicates are not required to comply with this set of segmentation.

We expect type II sensitivity tests to be carried out as part of validation, when relevant. Type II sensitivity tests are carried out to test plausible alternative assumptions. The impact of these plausible alternative assumptions should be reviewed. This can help give comfort to the selected parameters, especially when there is a large degree of subjectivity. Also, stress and scenario tests should be carried out, in order to sense check the model. See sections 3.2.2 Plausible alternative set of assumptions ("ST-2") and 3.4 Stress and scenario tests, within '[Validation Guidance](#)' for further details on these tests.

| Change type | Detailed change type | Example(s) | Potential Documentation/validation* |
|--------------------------------|---|--|---|
| Underlying risk profile | Insurance risk: underwriting risk (non-catastrophe) | <ul style="list-style-type: none"> i. Addition of a new class of business / significant change to existing classes ii. Change of volume of premium written | <ul style="list-style-type: none"> i. - Details of modelling methodology and parameterisation for the new class of business (level of detail dependent on materiality of the class) - Validation tests to support the new assumptions, methodologies and parameters. For example, stress tests to validate selected parameters, sensitivity tests to assess materiality of the change to the SCR and scenario tests to check adequacy of capital/risk - Amount of validation required is dependent on materiality of the change; please contact your MRC analyst for more specific requirements. ii. - Details of reasons for change e.g. change in plan, market conditions |
| | Insurance risk: underwriting risk (catastrophe) | <ul style="list-style-type: none"> iii. Introduction of new perils | <ul style="list-style-type: none"> iii. - Details of any new perils. |

| Change type | Detailed change type | Example(s) | Potential Documentation/validation* |
|-------------|--|--|--|
| | | | <ul style="list-style-type: none"> - Validation tests on new assumptions, methodology and parameters. If these changes require new methodologies, please refer to the 'model methodology / design' section below. |
| | Insurance risk: reserve risk (including risk margin) | iv. Material deterioration of reserves | iv. <ul style="list-style-type: none"> - Validation tests on new assumptions, methodologies and parameters (including backtesting). If no changes are made to the reserve risk parameterisation, rationale explaining why this is appropriate would be required. |
| | Credit risk | v. Change of reinsurance programmes / reinsurer panel vi. Change of reinsurance default rates | <ul style="list-style-type: none"> v. <ul style="list-style-type: none"> - Summary of the changes and supporting rationale - High level justification that the quantitative impact is reasonable e.g. increase of quota share cession rate should lead to an increase in reinsurance credit risk and fall in premium risk (quantum should also be validated). - Copies of expert judgement log / review of parameter changes. vi. <ul style="list-style-type: none"> - As above |
| | Market risk | vii. Change in asset portfolio/allocation viii. Change in ESG provider | <ul style="list-style-type: none"> vii. <ul style="list-style-type: none"> - Details of the changes of the asset portfolio/allocation. - High level justification that the quantitative impact is reasonable e.g. a movement from equities to cash should reduce market risk and profit. - If these changes require new methodologies, please refer to the 'model methodology / design' section below. viii. <ul style="list-style-type: none"> - Rationale for change. - How the external model meets the Use test standard (as per MS12 SCU 2.3) - Evidence of enough resource and expertise - Detailed descriptions of model e.g. software and version used - An expert judgement log, highlighting which judgements have changed |

| Change type | Detailed change type | Example(s) | Potential Documentation/validation* |
|-------------------------------|------------------------------|---|---|
| | | | <ul style="list-style-type: none"> - Justification of how assumptions and methodology are deemed appropriate, in line with market practice and agent's risk profile - Description of material changes between ESG versions. - Justification that the quantitative impact is reasonable - Quantitative impacts to overall capital, standalone market risk, insurance risk (as a result of change in discount benefit dependent on interest rates) and on dependency between insurance risk and market risk. |
| | Operational risk | ix. Change of risk register | <ul style="list-style-type: none"> ix. - Details of the changes to the risk register. - High level justification that the quantitative impact is reasonable. - If these changes require new methodologies, please refer to the 'model methodology / design' section below. |
| Model parameterisation | Parameterisation methodology | <ul style="list-style-type: none"> i. Use of new data sources to parameterise assumptions e.g. credit ratings from S&P to AM Best ii. Changing adjustments to historic data within the parameterisation process iii. Changes to parameters as a result of data updates. iv. Changing the degrees of freedom in a copula | <ul style="list-style-type: none"> i. - Description of, assumptions behind and rationale for, using new data sources. ii. - Description and rationale of adjustments made. - Validation and/or justification of new parameters. iii. - High level justification that the changes are appropriate. iv. - Description and rationale of the choice of degrees of freedom. - Validation and/or justification that this is appropriate. - Expert judgement log, if applicable. |
| | Parameterisation | v. Update to intra-class correlation matrix | <ul style="list-style-type: none"> v. - Validation and/or justification that the changes and the resulting dependency structure is still appropriate. |

| Change type | Detailed change type | Example(s) | Potential Documentation/validation* |
|-----------------------------------|---|--|---|
| | | vi. ESG version update | vi. - Please refer to the 'Underlying risk profile' section above. |
| Model methodology / design | Insurance risk: underwriting risk (non-catastrophe) | i. Change of method of modelling of attritional / large / catastrophe claims. ii. Change in modelling total losses to a frequency severity approach. iii. Change in the loss distribution used. iv. Changes in modelling of existing outwards reinsurance program (requiring a change to the model methodology) | i. - Details of the new methodology, impact on other risks and relevant validation tests should be included. ii. - As above. iii. - As above. iv. - As above. |
| | Insurance risk: underwriting risk (catastrophe) | v. Change to vendor model used e.g. change in RMS model version or change from AIR to RMS | v. - Rationale for change. - How the external model meets the Use test standard (as per MS12 SCU 2.3) - Evidence of enough resource and expertise - Detailed descriptions of model e.g. software and version used - An expert judgement log, highlighting which judgements have changed - Justification of how assumptions and methodology are deemed appropriate, in line with market practice and agent's risk profile - Justification that the quantitative impact is reasonable |

| Change type | Detailed change type | Example(s) | Potential Documentation/validation* |
|-------------|--|---|--|
| | | | <ul style="list-style-type: none"> - Quantitative impacts to overall capital, standalone cat risk, by class and peril, on reinsurance and impacts on net cat risk as well as actual loss experience vs model output - . |
| | Insurance risk: reserve risk (including risk margin) | <ul style="list-style-type: none"> vi. Change of method of calculation of risk margin vii. Change to distribution used viii. Change to simulating incurred losses instead of paid losses | <ul style="list-style-type: none"> vi. - Analysis of change of risk margin. - Validation tests on this new methodology. vii. - Full validation tests on new distribution e.g. scenario tests to validate the shape of the distribution. viii. - Rationale detailing the reasons for this change. - Full validation tests on new methodology |
| | Credit risk | <ul style="list-style-type: none"> ix. Change in approach to modelling downgrades x. Change to distribution used for generating defaults or loss given defaults xi. Allowing for impact of security held against credit risk e.g. LOCs, funds with-held xii. Inclusion of new source of credit risk | <ul style="list-style-type: none"> ix. - Relevant sections of the supplementary questionnaire. - High level justification that the quantitative impact is reasonable. - Full validation tests on new methodology and any new expert judgements x. - As above xi. - As above xii. - As above |

| Change type | Detailed change type | Example(s) | Potential Documentation/validation* |
|-------------|----------------------|---|---|
| | Market risk | xiii. Introduction of new asset classes or currencies xiv. Change of methodology (e.g. from a scenario-based approach to using an ESG) | xiii. - Documentation detailing how the new asset classes/currencies have been modelled and rationale for doing so. - Full validation tests on new methodology. xiv. - Documentation detailing the new modelling approach and its rationale. - Full validation tests on new methodology. |
| | Operational risk | xv. Change in method of modelling operational risk xvi. Introduction of new scenarios (if this falls within the definition of model change) | xv. - Documentation detailing the new modelling approach and its rationale. - Full validation tests on new methodology. xvi. - Documentation detailing the new scenarios and their rationale. |
| | Dependencies | xvii. Change from correlation to driver-based dependency approach xviii. Introduction of new dependency between classes of business and/or risk types or removal of existing dependency (whether driver or copula) xix. Change in copula used e.g. from gumbel to student-t | xvii. - Documentation detailing the new methodology design and rationale. - Re-run of validation tests on the new dependency structure and new tests if appropriate. xviii. - Analysis of change of the joint exceedance probabilities between material classes of business and/or risk types. - Validation and/or justification of resulting dependency structure e.g. reasonability check on change in output correlations xix. - Documentation detailing the new methodology design and rationale. - Re-run of validation tests on the new dependency structure and new tests if appropriate. - Copy of updated Expert Judgement Log |

| Change type | Detailed change type | Example(s) | Potential Documentation/validation* |
|------------------------------|----------------------|---|---|
| | One-year methodology | xx. Change to methodology of generating 12-month losses compared to ultimate losses | xx. - Documentation detailing the new methodology design and rationale. - Re-run of validation tests on the new methodology and new tests if appropriate e.g. sensitivity testing of new one-year emergence parameters |
| Model platform change | Vendor change | i. Change in vendor (e.g. Igloo to ReMetrica) | i. See section 3.4 for specific requirements for platform changes. |
| | Other change | ii. Change in platform version where there have been several methodology changes (e.g. Igloo GBM to ICE) iii. Change in platform version with no methodology changes | ii. - Documentation detailing structural, methodology and assumption changes. - Parallel run on both models as at last approved SCR date. - Explanation of differences by risk type. - Quantitative evidence may be required in some cases e.g. Analysis of change template. iii. - Evidence that no changes in methodology have occurred. https://www.lloyds.com/~media/files/market-resources/validation-guidance-july-2019.pdf?la=en |
| Governance / controls | Model Change policy | i. Quantitative amendment to model change policy (e.g. change of thresholds) ii. Qualitative amendment to model change policy | i. - Documentation detailing the reasons for the quantitative amendment to model change policy. - Depending on the level of the amendment, validation e.g. backtesting of the new trigger would be required. - No MCT is required ii. - Outline of rationale for the change - Evidence that the change followed the correct governance process including final sign-off. |
| | Scope | iii. Addition of a new legal entity | i. - High level justification that these changes are appropriate. |

| Change type | Detailed change type | Example(s) | Potential Documentation/validation* |
|--------------|----------------------|--|---|
| | | <ul style="list-style-type: none"> iv. Novation of a syndicate to a new agent or merged with another syndicate v. Changes in the material ownership of managing agencies | <ul style="list-style-type: none"> - Documentation detailing any structural, methodology and assumption changes made to the model. |
| Data | Data | <ul style="list-style-type: none"> i. Update to reflect year-end technical provisions | <ul style="list-style-type: none"> i. - Outline of drivers of the change - Refer to the relevant sections above if parameter/methodology changes are made as a result of this |
| Other | Other | <i>Please initially refer to your Lloyd's capital point of contact for further guidance.</i> | |

Appendix 3 – Lloyd’s Major Model Change: Application Form

Lloyd’s Major Model Change: Application Form

| | |
|------------------------------------|--|
| Agent | |
| Syndicate | |
| Date of change | |
| Model change policy version | |
| Board approval date | |

| | |
|---|--|
| Lloyd’s change type (if single change), or accumulation of minor changes | |
| Agent change type | |
| Quantitative/Qualitative/Both | |

| | | |
|---|------------------------------|--|
| Aggregate SCR(U) <i>relating to the major model change</i> | Percentage impact (%) | |
| | Aggregate impact (£) | |
| Aggregate SCR(1) <i>relating to the major model change</i> | Percentage impact (%) | |
| | Aggregate impact (£) | |

In addition to completing the above table, please complete the below table if there are any preceding changes not captured above.

| | | |
|---|------------------------------|--|
| Aggregate SCR(U) <i>Relating to all changes from previous approved model or SCR(U)</i> | Percentage impact (%) | |
| | Aggregate impact (£) | |
| Aggregate SCR(1) <i>Relating to all changes from previous approved model or SCR(1)</i> | Percentage impact (%) | |
| | Aggregate impact (£) | |

Details of trigger for major model change

| |
|--|
| |
|--|

Driver of change (e.g. addressing model limitation)

| |
|--|
| |
|--|

Description of change and implication of change on the design and operation of the model

| |
|--|
| |
|--|

Description of independent validation undertaken on the model change

| |
|--|
| |
|--|

Any further information

| |
|--|
| |
|--|

Please confirm the following documents are included as part of the application (Yes/No):

| | |
|--|--|
| Application form (<i>this template</i>) | |
| Board minutes | |
| Information presented to Board | |
| Other supporting documentation | |
| Validation | |
| Model Change Template (<i>if applicable</i>) | |
| Analysis of change | |

Name of contact at agent**Title of contact at agent**

| | |
|--|--|
| | |
| | |