LLOYD'S

Lloyd's Catastrophe Model Return Template

User Manual
10 January 2019

Contents

1 CSV Templates

It is important to adhere to the naming convention provided in the template file. The name is used as part of the Lloyd's validation process hence any deviations requires extra work both for the syndicate and Lloyd's. The two csv templates should adhere to the following structure:

'Table Form'_'Return Date'_'Syndicate Number'_'Extra Info'.csv

The two template forms are as follows:

ELT_YYYYMM_SY0000_1.csv

YLT_YYYYMM_SY0000_1.csv

1.1 Table Forms

There are two csv template table forms: Event Loss Tables (ELT) and Year Loss Tables (YLT). The nature of the data submitted defines which template is used.

RMS = Event Loss Table

DFA = Year Loss Table

AIR = Year Loss Table

1.2 Return Date

The return date is the year and month of the LCM return in the 'YYYYMM' format for in-force reporting. Forecast curves are expressed as YYYYForecast. The possible variants of this part of the file name are as follows (with 2018 as the example year):

201801 = January LCM

201804 = April LCM

201807 = July LCM

2019Forecast = Forecast curves for 2019 submitted during CPG in 2018

201810 = October LCM

1.3 Syndicate Number

The syndicate number should be that of the syndicate submitting the data, and should be presented in the form 'SY0000'. Two and three digit syndicate numbers should be entered as four digits with leading zeros (i.e. SY0033, SY0623).

1.4 Extra Info (Suffix)

Any further information with regard to the file can be added to the end. It does not matter what is entered within this part of the name. It could be a version number or some other relevant useful note (e.g. v1).

2 Event Loss Tables

RMS tables, including those submitted with gross losses only in conjunction with related DFA data.

The ELT tables are organised in the following columns:

- ModelVendor
- ModelVersion
- Region
- Peril
- ClassOfBusiness
- EventId
- Annual rate
- GL
- NL
- FNL

ModelVendor	ModelVersion	Region	Peril	ClassOfBusiness	EventId	AnnualRate	GL	NL	FNL

Please do not alter the spelling of these columns, or their order. To do so will cause the Lloyd's validation process to fail.

Please make sure that that the columns **do not** contain data entries that are enclosed in inverted commas, even if they are strings (i.e. "US" should be US). The syndicate may be unaware their data is enclosed in inverted commas as their presence is caused by the methodology used to generate the csv. The inverted commas will not be visible in Excel but will become apparent in Notepad.

2.1 ModelVendor

The model vendor used to generate the ELT, i.e. RMS.

2.2 ModelVersion

The version of the model used to generate the ELT. For RMS this could be 9, 11, 13, 15, 16, and 17. Please put in the number with no extra letters such as 'v' or 'version'.

Different model version output can be entered in the same template (see Example 1).

2.3 Region, Peril and ClassOfBusiness

Populate these fields with the Lloyd's prescribed abbreviations, and their combinations, as highlighted below.

Region/Peril

Region	Peril	Description
US or GM	WS	Atlantic Basin Windstorm
UC	EQ	United States and Canada Earthquake
EU	WS	European Windstorm
JP	EQ	Japan Earthquake
JP	WS	Japan Windstorm

Class of Business

Class	Description
BR	Binder
DF	Direct & Fac
EN	Energy
OT	Other
TR	Treaty

Please do not use any other form of abbreviation, or abbreviation combination, as this will cause the Lloyd's validation process to fail.

2.4 EventId and AnnualRate

Enter the eventid and corresponding rate used by the syndicate.

2.5 GL, NL and FNL

Enter the relevant loss estimates in these fields. These must be reported in GBP units. All entries must be numbers, must not contain commas and ideally have no more than 2 decimal places. No #N/As should be present.

In addition the following must be included in the loss estimates:

- Any allowance required to account for non-modelled / uncaptured risks
- Any allowance required for loss adjustment expenses

EXAMPLE 1

ModelVendor	ModelVersion	Region	Peril	ClassOfBusiness	EventId	AnnualRate	GL	NL	FNL
RMS	17	US	WS	DF	2892252	1.43E-05	1000000	500000	500000
RMS	16	JP	WS	TR	144993	0.0004642	500000	250000	200000
RMS	15	EU	WS	BR	3184841	0.000106809	750000	275000	250000

3 Year Loss Tables

DFA and AIR tables, including AIR data with gross losses only submitted in conjunction with related DFA data.

The YLT tables are organised in the following columns:

- ModelVendor
- ModelVersion
- Region
- Peril
- ClassOfBusiness
- ModelYear
- GL
- NL
- FNL
- EventId

ModelVendor	ModelVersion	Region	Peril	ClassOfBusiness	ModelYear	GL	NL	FNL	EventId

Please do not alter the spelling of these columns, or their order. To do so will cause the Lloyd's validation process to fail.

Please make sure that that the columns **do not** contain data entries that are enclosed in inverted commas, even if they are strings (i.e. "US" should be US). The syndicate may be unaware their data is enclosed in inverted commas as their presence is caused by the methodology used to generate the csv. The inverted commas will not be visible in Excel but will become apparent in Notepad.

3.1 ModelVendor

The model vendor used to generate the YLT. I.e. DFA or AIR.

3.2 ModelVersion

The version of the model used to generate the YLT.

For DFA data this must be the syndicate number **with no leading zeros**.

For AIR please enter the Catrader version which could be 16, 18 or 19. Please put in the number with no extra letters such as 'v' or 'version'. See below for the Catrader to Touchstone mapping.

Catrader Version	Touchstone Version
19	5
18	4

17	3
16	2

Different model version output can be entered in the same template (see Example 2).

DFA and AIR data can be entered in the same template, or in separate templates.

3.3 Region, Peril and ClassOfBusiness

Populate these fields with the Lloyd's prescribed abbreviations, and their combinations, as highlighted below.

Region/Peril

Region	Peril	Description
US or GM	WS	Atlantic Basin Windstorm
UC	EQ	United States and Canada Earthquake
EU	WS	European Windstorm
JP	EQ	Japan Earthquake
JP	WS	Japan Windstorm

Class of Business

Class	Description
BR	Binder
DF	Direct & Fac
EN	Energy
OT	Other
TR	Treaty

Please do not use any other form of abbreviation, or abbreviation combination, as this will cause the Lloyd's validation process to fail.

3.4 ModelYear

The simulation year within the model (i.e. from 1 to 10k in AIR, or numerous possible ranges for DFA 1 to 50k, 1 to 100k etc.).

3.5 GL, NL and FNL

Enter the relevant loss estimates in these fields. These must be reported in GBP units. All entries must be numbers, must not contain commas and ideally have no more than 2 decimal places. No #N/As should be present.

In addition the following must be included in the loss estimates:

- Any allowance required to account for non-modelled / uncaptured risks
- Any allowance required for loss adjustment expenses

EXAMPLE 2

ModelVendor	ModelVersion	Region	Peril	ClassOfBusiness	ModelYear	GL	NL	FNL	EventId	
AIR	18	US	WS	DF	1178	1000000	500000	500000	270067004	10k sims
AIR	17	JP	WS	TR	854	500000	250000	200000	600031408	10k sims
DFA	2407	EU	WS	BR	78431	750000	275000	250000		100k sims

3.6 EventId

For AIR please enter the eventid where available.

For DFA please leave the eventId column blank, submitting data aggregated to simulation.

4 LCM Data Validation Tool

To aid in submitting the LCM csv data in the required structure Lloyd's are providing an 'LCM Validation Tool'. This is stored in the 'Lloyd's Catastrophe Model' secure store. This tool will check that some of the requirements above are adhered to. It will indicate where there are problems with the data that need to be rectified before submission.

There are notes and tables (headed in pink) within the tool indicating what the expected entries are within the given fields.

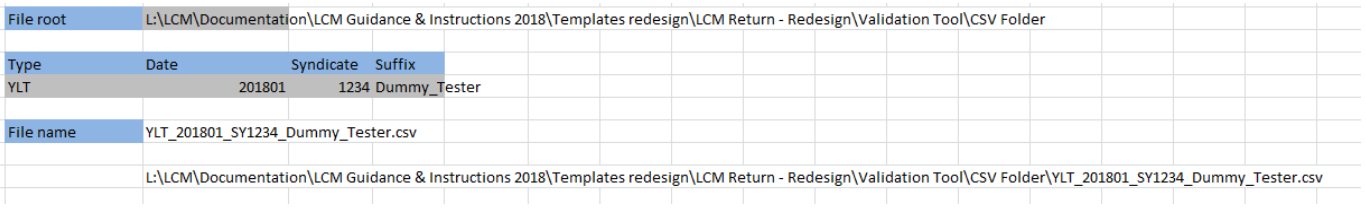
The amount of time the validation tool takes to run depends on the size of the file. It takes roughly 5 minutes per 1 million rows to run.

4.1 File Name Control

On the 'Validate Process' tab enter the following:

1. The file root in cell L2. This is the directory and folder the data to be submitted is stored in.
2. The return 'Type' in cell K5. ELT or YLT.
3. The return 'Date' in cell L5. The data as at date in the form 'YYYYMM' or 'YYYYForecast'.
4. The Syndicate making the return in cell M5.
5. Any additional identifier used in the file name should be placed in the 'Extra' cell in N5.

The cells to be completed are marked in grey.



This information will feed into cell L7 to give the link to the file to be tested, which feeds into the background vba.

4.2 Running the Validation Tool

Upon pressing the validate button on the validation process tab the background vba will ask a list of questions and run a suite of tests. The results will appear in the validation results tab.

4.3 The Data Completeness Question Checks

Check 1: please make sure all losses are in units. If they are not please correct the data so it is in units

Check2: please make sure all losses have been converted to GBP. If they are not please correct the data so it is in GBP.

Check 3: please make sure all losses have been uplifted to represent 100% of exposures. If they are not please uplift the data so it is 100% complete.

Check 4: please make sure all losses have been uplifted for 'Loss Adjustment Expenses'. If they are not please uplift the data so it includes LAE.

Please make sure there is no white space in your data entries (I.e. spaces before or after). Any white space will cause the LCM validation process to fail.

4.4 The Data Correctness Validations

If a validation is passed it is indicated via an 'OK', if not via 'ERROR'

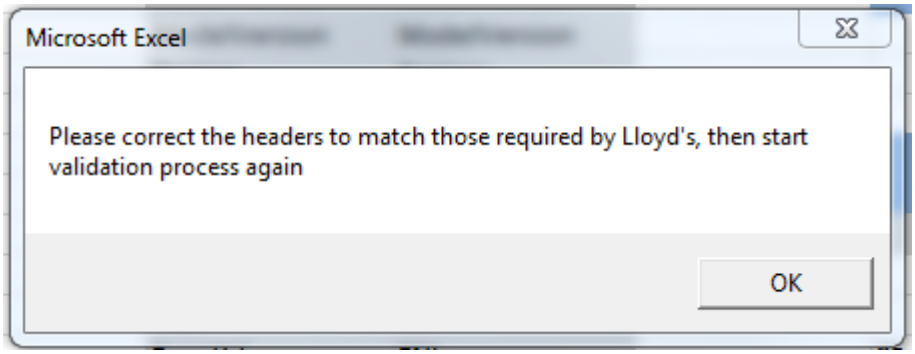
Valid entries are indicated via the pink tables on the 'Validation Results' tab.

All strings should be in upper case.

4.4.1 The Header Check

This checks that the headers on the original template have not been changed. If they have been the problem headers will be indicated, and the validation will stop, with a pop-up message appearing.

Header Check
Header error: should be ModelVendor
Header error: should be ModelVersion
Header error: should be Region
Peril header name correct
Header error: should be ClassOfBusines
Header error: should be ModelYear
Header error: should be GL
NL header name correct
Header error: should be FNL
Header error: should be EventId



Check carefully through the header check column to see which headers are not as required (i.e. Header error)

Pressing OK will reset the validation run. Correct the headers and try again.

4.4.2 The ModelVendor and ModelVersion check

This checks that valid combinations of vendor and version are entered into the first two columns.

For DFA please use syndicate number	
Vendor	Vendor check
AIR10	ERROR
AIR18	OK
AIR19	OK
DFA1234	ERROR
DFA1301	ERROR
DFA33	OK

Any erroneous model abbreviations or combinations will be indicated. These will need to be corrected before submission.

Note: for AIR we require the Catrader version. The Touchstone to Catrader version mapping is provided on the 'Validation Results' tab.

4.4.3 The Region:Peril check

This checks that valid combinations of the Lloyd's prescribed region and peril abbreviations are entered into the relevant columns.

Region:Peril output	Region:Peril Check
EUWS	OK
GMWS	OK
JPEQ	OK
JPTy	ERROR
JPWS	OK
NAws	ERROR
UCEQ	OK
USHU	ERROR
USWS	OK
euqke	ERROR

Any erroneous abbreviations or combinations will be indicated. These will need to be corrected before submission.

Note: all prescribed Lloyd's region and peril abbreviations are provided on the 'Validation Results' tab.

4.4.4 The Class of Business check

This checks that Lloyd's prescribed class of business abbreviations are entered into the relevant column.

Class of Business output	CoB Check
BN	ERROR
BR	OK
DF	OK
EN	OK
OT	OK
TR	OK
all	ERROR
df	ERROR

Any erroneous abbreviations will be indicated. These will need to be corrected before submission.

Note: all prescribed Lloyd's class of business abbreviations are provided on the 'Validation Results' tab.

4.4.5 The EventId check

This checks that the eventIds provided are consistent with the model, model version, region and peril indicated in the earlier columns.

Eventid Check RP_Eventid Output	ModelVendor	Region	Peril	EventID prefix	RP_Eventid Check
	DFA	GM	WS		
	DFA	US	WS		
EUWS41	AIR	EU	WS	41	OK
JPEQ52	AIR	JP	EQ	52	OK
JPWS60	AIR	JP	WS	60	OK
UCEQ13	AIR	UC	EQ	13	OK
USWS27	AIR	US	WS	27	OK
USWS99	AIR	US	WS	99	ERROR

Any inconsistencies will be flagged, and will need to be corrected before submission.

Note: DFA data should not have eventids attaching, please provide for AIR where available.

4.4.6 The ModelYear check

This will check that the number of distinct years within the model year column is similar to the maximum model year reported (I.e the number of simulations). This field has occasionally been completed with the current year throughout (i.e. all rows populated with 2018). In addition on occasion the ModelYear range has started from '0' rather than '1', which also produces problems in the LCM validation process.

ModelVendor	AIR	DFA	
Largest modelYear	10000	9000	If ELT will be blank
Count of modelYear	8	3	If ELT will be blank
	CHECK	CHECK	

Any problem will be indicated, and will need to be rectified before submission.

4.4.7 Numeric Check 1

This checks that all entries in the loss columns (GL, NL and FNL) are numeric. If any entries are strings (e.g. "-", N/A, comma separators etc) the check will indicate via a count how many.

Numeric Check 1: All Numbers		
GL	NL	FNL
7	5	4
CHECK	CHECK	CHECK

Entries which are strings should be amended before submission.

Note: blank cells will be picked up in this check. This is OK in gross ELTs / YLTs submitted with DFA data, but will need to be populated otherwise.

4.4.8 Numeric Check 2

This checks if there are any negative values in the loss columns.

Numeric Check 2: Negatives		
GL	NL	FNL
1	1	1
CHECK	CHECK	CHECK

This does not necessarily highlight an error, but does check that the LCM loss estimates are submitted as positives rather than negatives as in the RDS.

4.5 The Overall Result

This worksheet indicates whether any of the tests and checks have failed. This gives a quick view on the validity of the data.

TEST	RESULT
HEADER	PASS
MODELVENDOR	FAIL
REGION:PERIL	FAIL
CLASS OF BUSINESS	FAIL
EVENTID	FAIL
MODELYEAR	CHECK
LOSS NUMERIC	CHECK
LOSS NEGATIVE	CHECK

If the tests/checks fail please check and correct before submitting. Only the negative loss check can be left as failed. Some of the numeric checks may not have failed, but need to be double checked for problems before submission.

To get a more detailed idea of why tests have failed please refer back to the 'Validation Results' worksheet. This can either be done manually, or double clicking on the relevant test cell will move the workbook to the relevant region on the 'Validation Results' worksheet.

4.6 Rerunning the Validation

To speed up the validation process rerun buttons have been placed next to the test results output panels on the 'Validation Results' worksheet. Pressing the button will rerun the test in isolation. In this way upon making changes the relevant test can be rerun to check it passes without rerunning the whole validation.