Main procedure

Yes

No

Use monthly sub-process^

Use quarterly sub-process^^^

Calculating current month, is it a quarter end?

No

Yes

Exit and log an error

No

Are we calculating for a past month?

Yes

Use monthly sub-process^^

Are we calculating for a future month?

No

Is the policy terminated?

Yes

Use termination sub-process^

^ Termination sub-process

Set all balance and transaction columns to 0 (STAT and GAAP, Beginning and Ending)

Are we calculating for a future month?

STAT Case reserve -> STAT loss paid;

STAT Salvage reserve -> STAT loss recovery;

STAT LAE reserve -> STAT LAE paid;

STAT LAE Salvage reserve -> STAT LAE Recovery

New termination – last set ending balances to 0 (STAT and GAAP), and GAAP transaction columns to 0

New termination – second set transaction columns to equal (-1) \* beginning balances (STAT only)

New termination – first set beginning balance to equal previous ending balance plus transition adjustment (STAT and GAAP)

Set all balance and transaction columns to 0 (STAT and GAAP, Beginning and Ending)

No

Yes

Is the termination already in ABOB losses as of previous month?

No

Yes

^^ Monthly sub-process

First set beginning balance to equal previous ending balance plus transition adjustment (STAT and GAAP)

Update ITD Paid to include Paid this month

Set GAAP PL Paid to Paid this month

Set GAAP PL Paid to Paid this month

Set GAAP PL Paid to 0

Set end Contra to 0

Set end Contra to 0

Set end Contra to beginning Contra + Paid this month

MTM

FG

REFI

Set end GAAP reserve to beginning GAAP reserve

Set end GAAP reserve to beginning GAAP reserve

Set end GAAP reserve to 0

Next determine if the policy is FG, REFI or MTM

^^^ Quarterly sub-process

Set end GAAP reserve to beginning GAAP reserve

Set end Contra to 0

Set GAAP PL Paid to Paid this month

Set end GAAP reserve to 0

Set end Contra to 0

Set GAAP PL Paid to Paid this month

First set beginning balance to equal previous ending balance plus transition adjustment (STAT and GAAP)

Next determine if the policy is FG, REFI or MTM

REFI

FG

MTM

Use FG Contra sub-process^^^^

Update ITD Paid to include Paid this month

Update ITD Paid to include Paid this month

^^^^ FG Contra sub-process

Is the FG policy set to “Bypass Other Income”?

Current Other Income Balance = Previous Other Income Balance

Is Excess Recovery < 0?

Excess Recovery = ITD Paids – ITD Recoveries – Previous Other Income Balance + Max (Total Expected Loss, 0)

Current Other Income Balance = -1 \* Excess Recovery

Current Other Income Balance = 0

Current Other Income Balance = Previous Other Income Balance + QTD Other Income delta

Yes

Yes

No

Is there an user override?

QTD Other Income Delta = override value

QTD Other Income Delta = Current Other Income Balance – Previous Other Income Balance

Yes

No

Recoveries = Recoveries + LAE Recoveries;

Paid = Paid + LAE Paid + TSC + Wrap bond purchase;

Total Expected Loss = Expected Loss + Expected LAE – Expected Salvage – Expected LAE Salvage

No

May need to apportioned the re-class between Paid and Wrapped bond, if we are re-classing pays FROM S&S into Contra (but not re-classing recoveries FROM Contra into S&S); need the apportioning here so that we have correct interim contra paid vs contra wrapped;

QTD Anticipated S&S through P&L = -1 \* (QTD S&S Delta – Re-class between S&S and Contra this quarter)

Calculate Re-class between S&S and Contra this quarter \*\*\*\*

Interim Contra Balance = Previous Quarter End Contra Balance + QTD Paid + QTD Other Income delta

QTD S&S Delta = Ending S&S Balance – Beginning S&S Balance

Ending S&S Balance = min [-1 \* Total Expected Loss, max (0, ITD Total Paid)]

Ending S&S Balance = 0

Expecting Recovery

Expecting Loss

Is the Total Expected Loss >= 0?

“Total” = Interim Contra balance - Re-class between S&S and Contra this quarter

If QTD Anticipated S&S through P&L is positive, it is a “Benefit”, so we add it to the S&S Incurred Benefit;

If it is negative, then it is a “Paid”, so we reduce the S&S Incurred Benefit by that amount

S&S Incurred Benefit = max (Beginning S&S Incurred Benefit + QTD Anticipated S&S through P&L, 0)

Limiting S&S balance by ITD Total Paid

Total Expected Loss = Expected Loss + Expected LAE – Expected Salvage – Expected LAE Salvage

>= 0

< 0

If we in S&S position and we have Incurred Benefit remaining, then take Contra Paid through P&L until Incurred Benefit is exhausted

Apportion Contra through P&L first; later we also need to apportion Re-class between S&S and Contra;

Effect is Paid would tend to go through P&L, while Wrapped Bond would tend to stay in Contra (or S&S)

Apportion Contra through P&L between Paid and Wrapped Bond \*\*\*\*\*

Contra through P&L this quarter = Contra through P&L this quarter + Breach Amount \*\*\*\*\*\*

Breach amount = 0

Calculate Breach Amount \*\*

Yes

No

Exp. Loss breach check\*\*

Breach amount = 0

QTD Anticipated S&S through P&L = QTD Anticipated S&S through P&L + “Total”

Yes

No

No

Calculate Breach Amount \*

Yes

Is (Beginning or Ending S&S Balance>0)?

UPR breach check \*

Recovery Direction

Paid Direction

No

“Total” = “Total”- Contra through P&L this quarter

Is this “Total” in the Paid direction or Recovery direction?

Yes

Contra through P&L this quarter = min (“Total”, S&S Incurred Benefit)

If this “Total” is Paid, AND if Ending S&S Balance > 0 AND S&S Incurred Benefit > 0

S&S Incurred Benefit = max (S&S Incurred Benefit – Contra through P&L this quarter, 0)

Recovery goes through Anticipated S&S in this case

Interim Contra Paid (or Wrapped Bond) Balance = Interim Contra Paid (or Wrapped Bond) Balance – Contra Paid (or Wrapped Bond) through P&L – Re-class Paid (or Wrapped Bond) amount

The Interim balance at this step reflects only beginning balance and QTD paid, and re-class FROM S&S into Contra; Need to update this with the through P&L amount, to facilitate the re-class apportioning next

The apportioning of re-class at this step is all about re-class FROM Contra INTO S&S, either paid or recoveries; re-class of paid FROM S&S into Contra is done early; there is no such thing as re-class of recoveries FROM S&S into Contra, it is always interpreted as re-class of paid FROM Contra into S&S instead;

Processing Overrides

Update ITD Paid to include Paid this month

Calculate GAAP Case Reserve and GAAP LAE Reserve \*\*\*

Apportion S&S balance between Salvage Reserve and LAE Salvage Reserve ~

Note that the Interim Contra Paid (or Wrapped Bond) Balance at this step has already reflected the “through P&L” amount; now only need to reflect the re-class amount

The general priority rule is to let regular Paid (paid, recovery, LAE, TSC) go through P&L, and let Wrapped Bond stay in Contra/S&S; see later page for details

Ending Contra Paid (or Wrapped Bond) Balance = Interim Contra Paid (or Wrapped Bond) Balance – Re-class between Contra Paid (or Wrapped Bond) and S&S

Apportion Anticipated S&S through P&L between Paid and Wrapped Bond\*\*\*\*\*

Apportion Re-class between Contra and S&S between Paid and Wrapped Bond\*\*\*\*\*

\* Although UPR breach check is basically Contra + Previous S&S Balance + Expected Loss + Expected LAE – UPR, we are rearranging the formula into 2 variances, depending on whether Expected Loss is in the Paid direction or Recovery direction, to emphasize the role of QTD S&S Delta (instead of previous S&S Balance):

UPR breach check \*

Is the policy expecting loss or recovery?

Expecting Recovery

Note that UPR breach check takes place AFTER Incurred Benefit check; so it is assumed that there is 0 Incurred Benefit when we are doing UPR breach check under S&S scenario

Yes

No

Breach Amount = Min (Breach Check, Interim Contra – QTD S&S Delta)

Breach Amount = 0

Is Breach Check > 0?

Breach Check = (Interim Contra - QTD Re-class S&S and Contra) - UPR

Breach Check = (Interim Contra - QTD Re-class S&S and Contra + Expected Loss + Expected LAE) - UPR

Expecting Loss

\*\* Expected Loss check is to allow a buildup of Contra Paid Recovery Balance (“Negative Contra”) when the policy is expecting future loss; instead of moving these recoveries through P&L, we are holding them in Contra because we are expecting to have loss in the future to balance them out; on the other hand, if the policy is expecting future recovery, then there is no need to hold recoveries already received in contra;

Exp. Loss breach check\*\*

Because (Interim Contra - QTD Re-class S&S and Contra) < 0, this branch means Expected Loss > UPR, and the breaching results in Case Reserve/LAE Reserve; no contra is necessary

No

Yes

No

Breach Amount = Breach Check

Breach Amount = 0

Breach Amount = Interim Contra – QTD Re-class S&S and Contra

Yes

Is Breach Check < 0?

Is Breach Check > UPR?

Expecting recovery (process should never get into here, as ending S&S balance > 0 in this case)

Breach Amount = 0, exit logic branch

Breach check = (Interim Contra – QTD Re-class S&S and Contra) + Expected Loss

Expecting loss

Is the policy expecting loss?

\*\*\* We are changing the logic on how to calculate GAAP Case Reserve and GAAP LAE Reserve. There is a priority rule – when sum of Expected Loss plus Expected LAE breaches UPR, we want to have GAAP Case Reserve first, and only after all Expected Loss becomes GAAP Case Reserve, do we start setting up GAAP LAE Reserve.

Calculate GAAP Case Reserve and GAAP LAE Reserve \*\*\*

Using the Ending Contra/S&S here, since the Contra/S&S through P&L would already been considered

Breach Check = (Expected Loss + Expected LAE + Ending Contra Paid + Ending Contra Wrapped Bond + Ending S&S Balance) - UPR

Yes

No

No

Yes

Case Reserve = min (Expected Loss, Breach Check)

LAE Reserve = Breach Check

Is Breach Check < 0?

LAE Reserve = Breach Check – Case Reserve

Is Expected Loss < 0?

Case Reserve = 0

LAE Reserve = 0

Case Reserve = 0

\*\*\*\* Only in limited circumstances would we have Re-class between S&S and Contra, most of the time, Delta S&S would go through P&L instead of Re-class;

Calculate Re-class between S&S and Contra this quarter \*\*\*\*

All other scenario, no re-class

If we have recovery in contra, and we are or were in S&S scenario, then re-class the recovery to S&S

If S&S is releasing paid, and we have paid in contra, but we do NOT have enough incurred benefit to cover S&S released paid, then re-class the potion that cannot be covered

If S&S is releasing benefit, and we have paid in contra, then re-class the benefit to contra until the paid is exhausted

If S&S is releasing paid, and we have paid in contra, but we have incurred benefit to cover the S&S released paid, then nothing needs to be re-classed

QTD Re-class S&S and Contra = 0

No

QTD Re-class S&S and Contra = 0

QTD Re-class S&S and Contra = Interim Contra

Yes

If Interim Contra < 0 and (Beginning S&S Balance > 0 or Ending S&S Balance > 0)

No

Yes

QTD Re-class S&S and Contra = min (S&S Incurred Benefit, Interim Contra)

If (Interim Contra >= 0 and QTD S&S Delta > 0)

No

QTD Re-class S&S and Contra = S&S Incurred Benefit + QTD S&S Delta

Yes

No

If (Interim Contra >= 0 and QTD S&S Delta <= 0) and (S&S Incurred Benefit + QTD S&S Delta < 0)

If (Interim Contra >= 0 and QTD S&S Delta <= 0) and (S&S Incurred Benefit + QTD S&S Delta >= 0)

Yes

Yes

\*\*\*\*\* There are 3 “movements” that require apportioning between Paid and Wrapped Bonds – these are Contra through P&L, Re-class between S&S and Contra and Anticipated S&S through P&L; once these “movements” have been apportioned, we can then use the result to calculate the individual balances.

No

No

Yes

Yes

Contra Wrapped Bonds through P&L = Contra through P&L – Contra Paid through P&L

Is Interim Contra Paid > 0?

Is Contra through P&L > 0?

Contra Paid through P&L = Contra through P&L

Contra Paid through P&L = min (Contra through P&L, Interim Contra Paid)

Contra Paid through P&L = 0

Apportion Contra through P&L between Paid and Wrapped Bond \*\*\*\*\*

Apportioning the Re-class between Contra and S&S happens in two steps (as noted in the main logic flow chart); if it is FROM S&S INTO Contra, the apportioning happens after S&S logic, and before Contra logic; but if it is FROM Contra INTO S&S, then the apportioning happens after Contra logic, more specifically after the Contra through P&L apportioning;

Paid leaving S&S and into Contra;

Recoveries leaving Contra and into S&S;

No

Yes

Re-class amount < 0 means pays leaving S&S and into Contra, or recoveries leaving Contra and into S&S;

No

Re-class Paid = Re-class amount

Re-class Paid = max (Re-class amount, -1\* Beginning S&S Paid balance)

Is Interim Contra Paid > 0?

Re-class amount > 0 means pays leaving Contra and into S&S;

Yes

No

Yes

Is Interim Contra Paid > 0?

Re-class Paid = min (Re-class amount, Interim Contra Paid)

Re-class Paid = 0

Is Re-class amount > 0?

Apportion Re-class between Contra and S&S between Paid and Wrapped Bond\*\*\*\*\*

Re-class Wrapped Bonds = Re-class amount – Re-class Paid

Apportioning the S&S through P&L always takes place last among the 3 apportionments;

If booking a benefit, always take it from Paid

If S&S from paid < 0, book the negative as benefit through P&L

No

Yes

Yes

No

Anticipated S&S Wrapped Bonds through P&L = Anticipated S&S Total through P&L – Anticipated S&S Paid through P&L

Anticipated S&S Paid through P&L = S&S from Paid balance

Anticipated S&S Paid through P&L = min (Anticipated S&S Total through P&L, S&S from Paid balance)

Is Anticipated S&S Total through P&L > 0?

Anticipated S&S Paid through P&L = Anticipated S&S Total through P&L

Is S&S from Paid balance > 0?

Apportion Anticipated S&S Total through P&L between Paid and Wrapped Bond\*\*\*\*\*

~ Apportion Ending S&S balance between Salvage Reserve and LAE Salvage Reserve

If Net Expected LAE Recovery > 0 and Ending S&S balance > 0

LAE Salvage Reserve = Ending S&S Balance – Salvage Reserve

No

Salvage Reserve = Ending S&S Balance

Salvage Reserve = min [max (Net Expected Recovery, 0), Ending S&S Balance]

Yes

Net Expected Recovery = Expected Recovery – Expected Paid

Net Expected LAE Recovery = Expected LAE Recovery – Expected LAE Paid