

## NST.08, NST.09, NST.10 – Variable Annuity P&L Attribution (Liability, Asset, Other)

04 March 2016

### 1. GENERAL GUIDANCE & REQUIREMENTS

#### 1.1 OBJECTIVE & SCOPE

The Central Bank of Ireland ('Central Bank') has specified three National Specific Templates ('NST') relating to the reporting of variable annuity ('VA') P&L attribution data under Solvency II. These are as follows:

- NST.08 – Variable Annuity P&L Attribution (Liability)
- NST.09 – Variable Annuity P&L Attribution (Asset)
- NST.10 – Variable Annuity P&L Attribution (Other)

This paper provides guidance on the completion and submission requirements for each of the above three National Specific Templates, referred to collectively in this document as NSTs 08-10.

Sections 2 and 3 provide the full technical specification for each template and include cell references to the templates. In reviewing these sections, the reader should consult the accompanying NST business templates which include corresponding cell references.

Other documents related to NSTs are published and maintained on the Central Bank's website. These include:

- Annotated templates containing information specific to the XBRL reporting framework
- Validation rules which are implicit in NST submission requirements.

#### 1.2 GENERAL REQUIREMENTS

This section specifies the general requirements which apply to the completion and submission of each template.

No.	TOPIC	REQUIREMENT
1.2.1	<b>Companies in Scope</b>	Unless otherwise advised by the Central Bank, NSTs 08-10 must be submitted by the following: <ul style="list-style-type: none"><li>- All insurance and reinsurance undertakings which have acquired and retained variable annuity type risks on their balance sheet.</li><li>- High impact undertakings, as classified by the Central Bank's PRISM framework, which have acquired variable annuity type risks and reinsured them outwards.</li></ul>
1.2.2	<b>Balance Sheet Coverage</b>	NSTs 08-10 should be completed for a company's variable annuity business only. <ul style="list-style-type: none"><li>- NST.08 should reflect the impact on the liability option value associated with all VA liabilities.</li><li>- NST.09 should reflect the impact on the value of hedge assets used to manage the risks associated with the VA business.</li></ul>
1.2.3	<b>Reinsured Risks</b>	Where reinsured VA risks are being reported, this should be on a 'look-through' basis. That is, the P&L attributions should look through to the reinsurer's balance sheet for reporting the VA risks in scope.
1.2.4	<b>Submission Frequency</b>	Each template should be submitted on a quarterly basis.  The quarterly submission deadline is the same as that applying to the quarterly Quantitative Reporting Templates under Solvency II.

No.	TOPIC	REQUIREMENT
1.2.5	Submission Format	The templates should be submitted in the XBRL format. Please refer to the technical details and XBRL taxonomy for NSTs which has been published separately on the Central Bank's website.
1.2.6	Daily P&L Attribution	<p>Companies performing dynamic hedging should submit a daily P&amp;L attribution for each trading day within the reporting period.</p> <p>The daily attribution is provided in row <b>R0400</b> of each of NSTs 08-10. Firms must add a separate line within this field for each trading day being reported.</p> <p>A unique date within the reporting period must be provided for each line of the P&amp;L attribution (<b>C0100</b>), and these must be common across NSTs 08-10.</p>
1.2.7	Quarterly Reconciliations	For NST.08 and NST.09, rows <b>R0500</b> to <b>R0700</b> (and for NST.08 only, <b>R0800</b> & <b>R0900</b> ) should be completed on a quarterly basis, using the final reporting date of the reporting period.
1.2.8	Reporting Period	<p>The reporting period comprises all dates falling within the quarterly period to which the report relates.</p> <p>E.g., for Q1 reporting each year, the reporting period comprises all dates between 01/01/YYYY and 31/03/YYYY (inclusive).</p>
1.2.9	Reporting Basis	<p>The daily P&amp;L attribution (<b>R0400</b>) must be provided on either a Solvency II basis or the company's own hedging basis.</p> <p>The daily P&amp;L attribution and accompanying reconciliations (<b>R0500</b> to <b>R0700</b>) should be completed as follows:</p> <ul style="list-style-type: none"> <li>- For NST.08, only the impacts on the VA liability value should be reported (i.e. gross of any offsetting impacts due to hedging, reinsurance, etc.)</li> <li>- For NST.09, only the impacts on hedge assets used to manage the VA risks should be reported.</li> <li>- For NST.10, only cashflows relating to VA exposures should be reported in <b>R0400</b>.</li> </ul>
1.2.10	Reporting Convention	<p>The P&amp;L and cashflow reporting convention is at the discretion of companies, but should be consistent between reporting periods.</p> <p>The following convention is suggested:</p> <ul style="list-style-type: none"> <li>- For NST.08: <ul style="list-style-type: none"> <li>▪ <b>R0400</b> - Impacts which lead to an increase in the liability option value (loss for the company) should be reported as negative values (and vice-versa).</li> <li>▪ <b>R0800 &amp; R0900</b> – Liability option values which are actual liabilities for the company should be reported as positive values (and negative values for assets).</li> </ul> </li> <li>- For NST.09, impacts which lead to an increase in hedge assets (gain for the company) should be reported as positive values (and vice-versa).</li> <li>- For NST.10 (<b>R0400</b>), cash inflows should be reported as positive values (and vice-versa for cash outflows).</li> </ul>

No.	TOPIC	REQUIREMENT
1.2.11	<b>Reconciliation across Hedging Bases</b> <b>(NST.08 &amp; NST.09)</b>	<p>Where a company reports on its own hedging basis and makes changes to this basis during a reporting period, a reconciliation showing the impact of the change in hedging basis over the reporting period must be provided <b>(R0500)</b>.</p> <p>(A copy of the revised hedging strategy should also be separately submitted to the Central Bank, via the company's regular supervisory contact.)</p>
1.2.12	<b>Reconciliations to Solvency II Basis</b> <b>(NST.08 &amp; NST.09)</b>	<p>Where a company's own hedging basis is used, two quarterly reconciliations should also be provided, as follows:</p> <ol style="list-style-type: none"> <li>1. Quarterly reconciliation between own hedging basis and the amended Solvency II basis (defined below) <b>(R0600)</b>.</li> <li>2. Quarterly reconciliation between the amended Solvency II basis and the Solvency II basis used by the company for regulatory valuation <b>(R0700)</b>.</li> </ol>
1.2.13	<b>'Amended Solvency II Basis'</b>	<p>The amended Solvency II basis is defined as the normal Solvency II basis used by the company for regulatory valuation without the impacts of the Ultimate Forward Rate and Credit Risk Adjustment (and any other adjustments for which the company has been granted approval, e.g., the matching adjustment and volatility adjustment).</p>
1.2.14	<b>Other P&amp;L Items</b> <b>(NST.08 &amp; NST.09)</b>	<p>Where a company regularly monitors and measures P&amp;L attribution items which fall outside of the listed risk factors in C0200 to C5700, these may be reported as 'Other' attribution items <b>(C5800)</b>.</p> <p>One-off attribution items should be reported as unexplained items <b>(C6800)</b>, and should be described in the separate qualitative disclosure for unexplained items, as required (see below).</p> <p>Where a company does report 'other' attribution items (C5800), it is mandatory to provide a more granular split using up to 9 additional attribution fields <b>(C5900 to C6700)</b>.</p> <p>When considered over the entire reporting period, no single 'other' attribution item (C5900 to C6700) should account for more than 25% of the total other attribution (C5800).</p> <p>Each source of 'other' attribution items should be appropriately labelled in <b>R0100</b> (see requirement 2.1).</p>

No.	TOPIC	REQUIREMENT
1.2.15	<b>Unexplained P&amp;L Items (NST.08 &amp; NST.09)</b>	<p>NST.08 and NST.09 set out a range of possible risk factors which firms may wish to include in the P&amp;L attribution. Firms should identify the material risk factors to which they are exposed and populate the relevant sections of the P&amp;L attribution templates.</p> <p>Firms must choose a sufficient number of modelled risk factors to ensure that a sufficiently low level of unexplained P&amp;L (<b>C6800</b>) is reported.</p> <p>In exceptional cases, there may be known one-off items that drive the unexplained P&amp;L but do not fit into the standard P&amp;L attribution (C0200 to C6700). Where such items, or some exceptional event, cause a breach of the unexplained P&amp;L limits (below), firms must provide a separate qualitative submission which details this. This submission should be provided to the firm's regular supervisory contact.</p> <p>The magnitude of the unexplained P&amp;L (C6800) is subject to the following limits:</p> <ul style="list-style-type: none"> <li>- 10% of the Total (C6900) on a daily basis, and</li> <li>- 5% of the Total (C6900) over a 10-day rolling period.</li> </ul> <p>Alternatively, the magnitude of the daily unexplained P&amp;L should be less than an absolute threshold which will vary with the characteristics of the firm's risk exposures. The purpose of the absolute threshold is to cater for situations where a relative limit breaks down. The Central Bank will communicate bilaterally with companies regarding their individual absolute threshold.</p> <p>It should be noted that the unexplained P&amp;L limits apply separately to NST.08 and NST.09.</p>
1.2.16	<b>Liability Option Value (NST.08)</b>	<p>For NST.08, the opening and closing Liability Option Values for the reporting period should be stated using the same reporting basis as for the P&amp;L Attribution (<b>R0800 &amp; R0900</b>).</p>
1.2.17	<b>Reporting Currency</b>	<p>The reporting currency for all monetary values is the same as that used by the company for reporting the Quantitative Reporting Templates.</p> <p>Where a company has VA exposures in multiple currencies, a single currency translation rate should be used for converting the daily P&amp;L attribution of each foreign currency to the reporting currency. (Note that a foreign currency here means a currency other than the reporting currency.)</p> <p>The single translation rate should be the translation rate at the close of business on the final trading day of the reporting period.</p> <p>In NST.10, <b>R0500</b> to <b>R0800</b>, companies may name up to four foreign currencies (<b>C0100</b>) and disclose the translation rates used (<b>C0200</b>) for converting foreign currency exposures to reporting currency. At a minimum, this information should be disclosed for any foreign currency which represents 25% or more of the company's VA exposures.</p> <p>The format for reported translation rates is: (Foreign Currency Exposure)*(Translation Rate) = (Reporting Currency Exposure).</p>

## 2. SPECIFIC GUIDANCE & REQUIREMENTS – NST.08 & NST.09

This section provides specific guidance in relation to the data fields within NST.08 and NST.09.

No.	ROW / COLUMN REF.	DATA ITEM	REQUIREMENT
2.1	<b>R0100</b>  <b>C0600 – C1400</b> <b>C1600 – C2400</b> <b>C2700 – C3500</b> <b>C4500 – C5300</b> <b>C5900 – C6700</b>	Text field for explanation of more granular risk factor reporting (Buckets).	<p>Wherever a risk factor is reported using a more granular, bucketed split in the Daily P&amp;L Attribution (R0400), the bucket must be named in R0100.</p> <p>All entries in R0100 must be common across NST.08 and NST.09 (with the exception of C4500 to C5300 which do not appear in NST.08).</p> <p>Where these entries change between reporting periods, the rationale for the change should be explained in a separate qualitative submission.</p>
2.2	<b>R0200</b>	Text indicator field certifying whether a risk factor is attributed.	<p>Field accepts “TRUE” and “FALSE” only.</p> <p>Wherever a non-zero entry is reported for a risk factor in the Daily P&amp;L Attribution (R0400), R0200 must be marked “TRUE”.</p> <p>All entries in R0200 must be common across NST.08 and NST.09.</p>
2.3	<b>R0300</b>	Text indicator field certifying whether a risk factor is hedged (fully or partially).	<p>Field accepts “TRUE” and “FALSE” only.</p> <p>Wherever a non-zero entry is reported for a risk factor in the Daily P&amp;L Attribution of NST.09 (R0400), R0200 must be marked “TRUE”.</p> <p>All entries in R0200 must be common across NST.08 and NST.09.</p>
2.4	<b>R0400</b>	Daily P&L Attribution	Each line entered should provide the P&L Attribution for a single trading day, split by the appropriate risk factors.
2.5	<b>R0500</b>	Reconciliation across Hedging Bases	<p>The reported date of the reconciliation (C0100) should be the last date of the reporting period.</p> <p>The reconciliation should be completed for all attributed risk factors.</p> <p>(See requirement 1.2.11 for general requirements)</p>
2.6	<b>R0600</b>	Reconciliation to Amended Solvency II Basis	<p>The reported date of the reconciliation (C0100) should be the last date of the reporting period.</p> <p>The reconciliation should be completed for all attributed risk factors.</p> <p>(See requirements 1.2.12 and 1.2.13 for general requirements)</p>
2.7	<b>R0700</b>	Reconciliation to Solvency II Basis	<p>The reported date of the reconciliation (C0100) should be the last date of the reporting period.</p> <p>The reconciliation should be completed for all attributed risk factors.</p> <p>(See requirement 1.2.12 for general requirements)</p>

No.	ROW / COLUMN REF.	DATA ITEM	REQUIREMENT
2.8	<b>R0800 &amp; R0900 (NST.08 only)</b>	Opening & Closing LOV	The reported dates (C0100) should be the opening and closing dates of the reporting period.  (See requirement 1.2.16 for general requirements)
2.9	<b>C0100</b>	Attribution Date	Only dates within the reporting period should be reported. Reported dates must be common across NSTs 08-10.  (See requirements 1.2.6 to 1.2.8 for specific requirements)
2.10	<b>C0200</b>	Equity Delta	Change in liability option value (NST.08) or hedge assets (NST.09) with respect to the change in underlying share price in the reporting currency (FX delta considered separately).
2.11	<b>C0300</b>	Equity Gamma	The second derivative of the liability option value (NST.08) or hedge assets (NST.09) with respect to the underlying share price.
2.12	<b>C0400</b>	Equity Realised Volatility	A measure of the losses incurred due to frequency and timing of rebalancing of delta hedges.  Assume zero realised volatility between rebalancing of delta hedges, i.e. volatility effects allocated to gamma.  Realised volatility equals cumulative volatility observed since last delta hedge rebalancing less gamma effects observed since the last delta hedge rebalancing. For daily rebalancing (or intra-day trading) assume zero realised volatility with all volatility effects allocated to gamma.
2.13	<b>C0500</b>	Equity Vega	Equity vega is the derivative of the liability option value (NST.08) or hedge assets (NST.09) with respect to the implied volatility of the underlying shares.  The calculation should be performed based on the exposure at the start of each daily observation period.
2.14	<b>C0600 – C1400</b>	Equity Vega by Bucket	If equity vega is attributed (C0500), the reported results may be split further using up to 9 additional durational buckets.  The sum across the bucketed results for each daily attribution should equal the total equity vega (C0500) for that day.
2.15	<b>C1500</b>	Rho	Measure of the change of the liability option value (NST.08) or the value of hedge assets (NST.09) with respect to a variation in the interest rate level.
2.16	<b>C1600 – C2400</b>	Rho by Bucket	The attributed rho result (C1500) may be split further using up to 9 additional durational buckets.  The sum across the bucketed results for each daily attribution should equal the total equity vega (C0500) for that day.

No.	Row / COLUMN REF.	DATA ITEM	REQUIREMENT
2.17	C2500	Rho Gamma	Rho gamma measures the second derivative of the liability option value (NST.08) or hedge assets (NST0.9) with respect to the level of interest rates.
2.18	C2600	Interest Rate Vega	Interest rate vega is the derivative of the liability option value (NST.08) or hedge assets (NST0.9) with respect to the implied interest rate volatility.  The calculation should be performed based on the exposure at the start each daily observation period.
2.19	C2700 – C3500	Interest Rate Vega by Bucket	If interest rate vega is attributed (C2600), the reported results may be split further using up to 9 additional durational buckets.  The sum across the bucketed results for each daily attribution should equal the total interest rate vega (C2600) for that day.
2.20	C3600	FX Delta	<b>NST.08</b> The change in liability option value with respect to the change in underlying fund price due to currency movements.  <b>NST.09</b> The change in the value of hedge assets with respect to currency movements.
2.21	C3700	FX Gamma	FX gamma measures the second derivative of the liability option value (NST.08) or hedge assets (NST.09) with respect to FX rate.
2.22	C3800	FX Vega	FX Vega is the derivative of the liability option value (NST.08) or hedge assets (NST.09) with respect to the implied exchange rate volatility.  The calculation should be performed based on the exposure at the start of each daily observation period.
2.23	C3900	Theta	Measure of the sensitivity of the liability option value (NST.08) or hedge assets (NST.09) to the passage of time.  The daily impact should equal the change in the time value of the liability option value or the hedge assets over each daily observation period.
2.24	C4000	Equity Delta & Yield Curve	Measure of the sensitivity of the delta of the liability option value (NST.08) or hedge assets (NST.09) to the level of interest rates.
2.25	C4100	Rho & Equity Market Level	Measure of the sensitivity of the rho of the liability option value (NST.08) or hedge assets (NST.09) to the level of equity markets.

No.	ROW / COLUMN REF.	DATA ITEM	REQUIREMENT
2.26	C4200	Vanna	Measure of the sensitivity of the delta of the liability option value (NST.08) or hedge assets (NST.09) with respect to volatility of the underlying.
2.27	C4300	Volgamma	Measure of the sensitivity of the vega of the liability option value (NST.08) or hedge assets (NST.09) with respect to volatility of the underlying.
2.28	C4400 (NST.09)	Basis Risk	<p>Measure of the financial gain/loss in each daily observation period due to the mismatch between hedge assets and liability option value.</p> <p>As basis risk is a net impact between the hedging assets and the liability option value, the daily basis risk P&amp;L results are reported in NST.09 only.</p>
2.29	C4500 – C5300 (NST.09)	Basis Risk by Source	<p>The attributed basis risk result (C4400) may be split further by reporting up to 9 additional sources of basis risk.</p> <p>For each daily P&amp;L attribution, the sum across the individual sources of basis risk should equal the total basis result (C4400) for that day.</p> <p>Each source of basis risk should be appropriately named in R0100.</p>
2.30	C5400	Mortality & Lapse Impacts	Measure of the financial gain/loss for the liability option value (NST.08) or hedge assets (NST.09) in each daily observation period due to the deviation between expected mortality and lapses, and actual experience.
2.31	C5500	Assumption Changes	<p><b>R0400:</b></p> <p>Measure of the change in the liability option value (NST.08) or hedge assets (NST.09) due to a change in the valuation basis.</p> <p><b>R0500:</b></p> <p>The reported figure should be the residual impact due to a change in the valuation basis which is not recorded within the other risk factors of R0500.</p>
2.32	C5600	Model Changes	<p><b>R0400:</b></p> <p>Measure of the change in the liability option value (NST.08) or hedge assets (NST.09) due to a change in the valuation model. (This excludes impacts due to changes in the assumption basis, which are covered in C5500).</p> <p><b>R0500:</b></p> <p>The reported figure should be the residual impact due to a change in the valuation model which is not recorded within the other risk factors of R0500.</p>



No.	ROW / COLUMN REF.	DATA ITEM	REQUIREMENT
2.33	C5700 (NST.08)	Hedge Premium	<p>Daily increase in the liability option value due to realisation of modelled future hedge premiums during the daily observation period.</p> <p>(As the receipt of hedge premiums does not impact hedge asset values, hedge premiums are reported in NST.08 only.)</p>
2.34	C5800	Total Other	<p>The impact on the liability option value (NST.08) or hedge assets (NST.09) in each daily observation period due to 'Other' items.</p> <p>(See requirement 1.2.14 for requirements relating to 'other' attribution items)</p>
2.35	C5900 – C6700	Split of Other Items	<p>The impact on the liability option value (NST.08) or hedge assets (NST.09) in each daily observation period due to each source of 'other' attribution items, as named in R0100.</p> <p>For each daily P&amp;L attribution, the sum across the individual sources should equal the total 'other' reported attribution item (C5800) for that day.</p>
2.36	C6800	Unexplained	<p>The residual impact on the liability option value (NST.08) or hedge assets (NST.09) which is not explained by any of the attributed risk factors in C0200 to C6700.</p> <p>(See requirement 1.2.15 for general requirements).</p>
2.37	C6900	Total	<p><b>R0400:</b></p> <p>The total profit/loss for each daily observation period due to the risk factors reported in C0200 to C6800 (and ensuring no double-counting for bucketed items).</p> <p><b>R0500 to R0700:</b></p> <p>The total financial impact over the reporting period due to the relevant reconciliation.</p>

### 3. SPECIFIC GUIDANCE & REQUIREMENTS – NST.10

This section provides specific guidance in relation to the data fields within NST.10.

NST.10 captures movements (cash inflows and outflows) which are not captured via asset and liability revaluations in the daily P&L attributions of NST.08 and NST.09.

No.	Row / COLUMN REF.	DATA ITEM	REQUIREMENT
3.1	R0400	Daily Attribution	Each line entered should provide the cash inflows and outflows for a single trading day, split by the factors in C0200 to C0500.  A separate line within this field must be added for each trading day in the reporting period.  (See requirements 1.2.6 and 1.2.8 for specific requirements)
3.2	R0500 to R0800	Currency Translation Rates	See requirement 1.2.17 above.
3.3	C0100 (R0400)	Attribution Date	Only dates within the reporting period should be reported. Reported dates must be common across NSTs 08-10.  (See requirements 1.2.6 to 1.2.8 for specific requirements)
3.4	C0200 (R0400)	Guarantee Claims	The daily cashflow of pay-outs to policyholders (or reinsurance creditors) in respect of guarantee rider claims.
3.5	C0300	Guarantee Fee / Reinsurance Premium (Income)	The daily cashflow representing guarantee rider fees from policyholders (for direct writers) or reinsurance premiums (for reinsurers).
3.6	C0400	Reinsurance Premium (Outgo)	The daily cashflow representing reinsurance premiums payable outwards in respect of VA guarantees which the company has reinsured with a third party.
3.7	C0500	Reinsurance Recoveries	The daily cashflow representing claims received from reinsurance counterparties in respect of VA guarantees which are reinsured with a third party.