**SUGGESTED PRODUCTS AND FEATURES – ASSA OPEN SOURCE WORKGROUP (OSWG)**

**VERSION CONTROL**

V0.1

Initial draft

1. **PRODUCTS**

The following products are found most often. For v0.1 assumed all to be non-with profit (NP).

1. Whole life assurance (WLA)

The stock product.

1. Endowment assurance (EA)

Like WLA with an earlier payment at expiry date. Chosen to compare to WLA where the reserve should be higher for the same premium.

1. Term assurance (TA)

Short term and therefore low reserves (compared to premium) with a higher dependency on expenses and withdrawals. More likely to have negative reserves as well (as duration increase). Included as a sanity check as well.

1. Annuities (ANN)

Single life (for v0.1)

No escalation (for v0.1)

Included as it depends on longevity unlike the products above, whilst there is also no recurring premium once in-force (IF).

1. **FEATURES**
2. Input of any number of policies in some format including txt, xls/x, SQL, db…
3. Main policy inputs
   1. Age – integer for v0.1, more accuracy envisaged
   2. Gender (or sex, if you like that more)
   3. Term\_IF (duration IF)
   4. SA (or annual annuity amount for product 4)
   5. Term (original term, applicable to EA and TA)
   6. Premium
   7. Product type (1-4 for v0.1)
4. A basis consisting of economic and non-economic assumptions (currently in table format - GUI)
   1. Qx
   2. Wxt (withdrawals, only depends on t for v0.1, envisaged to also depend on distribution channel (a category yet to be assigned) and SA)
   3. Yield curve
   4. Expenses per policy (type)
   5. Expense inflation
5. Output
   1. v (Prospective reserve)
   2. Output sensitivities per policy for all the main assumptions – SAP’s/APNs/(any user input?)
6. **ITEMS IGNORED**

This list is not exhaustive (v0.1)

* Commission (structure)
* Shadow funding / UITONK
* With profit features, including transfers between PH/SH (even for NP)
* Categories of mortality/withdrawals/expenses incl any loadings
* Riders (as category, multiple policies per policyholder)
* Critical illness
* Calculation of Premiums (included here for if we can do valuations we can also do premiums…)
* Any unit linked variations and any pure savings business, any impact of assets on liabilities
* No aggregation or grouping
* Summary level reserves
* CAR/SAM
* IFRS 17
* Stochastic calculations
* Yield curve for inflation and expense inflation
* Embedded value calculations
* AOS/AOEV
* Investment cost
* Profit loadings (ad hoc internal calculations)
* Ability to do a 1 for 3 valuation (as example)