# Hedge CF and PL verification

To verify the hedge exports from cashflow monitor, we have compared the sum of the exported values from a set of hedge workspaces with the sums of the corresponding actual CF/PL workspaces.

The list of tested workspaces listed below:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Hedge export** | **Sum value** | **Corresponding actual export** | **Sum value** | **Diff** | **Note** |
| El-Forward-EUR-CFMon-HedgeCF-EUR | - 180,392,316.95 | El-Forward-EUR-CFMon-ActualCF-EUR | - 180,392,316.95 | - 0.00 |  |
| El-Forward-EUR-CFMon-HedgeCF-NOK | - 1,417,461,885.51 | El-Forward-EUR-CFMon-ActualCF-NOK | - 1,417,509,672.06 | - 47,786.55 | 1) |
| El-Forward-EUR-CFMon-HedgePL-EUR | - 71,712,438.69 | El-Forward-EUR-CFMon-ActualPL-EUR | - 71,712,438.69 | - 0.00 |  |
| El-Forward-EUR-CFMon-HedgePL-NOK | - 561,621,556.21 | El-Forward-EUR-CFMon-ActualPL-NOK | - 561,665,636.68 | - 44,080.47 | 1) |
| El-Forward-NOK-CFMon-HedgeCF-EUR | - 1,159,406,742.23 | El-Forward-NOK-CFMon-ActualCF-EUR | - 149,049,656.42 | 1,010,357,085.80 | 2) |
| El-Forward-NOK-CFMon-HedgeCF-NOK | - 1,159,406,742.23 | El-Forward-NOK-CFMon-ActualCF-NOK | - 1,159,400,759.07 | 5,983.15 | 3) |
| El-Forward-NOK-CFMon-HedgePL-EUR | 67,869,773.22 | El-Forward-NOK-CFMon-ActualPL-EUR | 69,421,237.50 | 1,551,464.28 |  |
| El-Forward-NOK-CFMon-HedgePL-NOK | 538,861,907.55 | El-Forward-NOK-CFMon-ActualPL-NOK | 538,873,873.86 | 11,966.31 | 3) |
| El-Future-NordPool-EUR-HedgeCF-EUR | 104,395.20 | El-Future-NordPool-EUR-CFMon-ActualCF-EUR | 104,395.20 | - 0.00 |  |
| El-Future-NordPool-EUR-HedgeCF-NOK | 807,978.67 | El-Future-NordPool-EUR-CFMon-ActualCF-NOK | 811,084.84 | 3,106.17 | 1) |
| El-Future-NordPool-EUR-HedgePL-EUR | 104,395.20 | El-Future-NordPool-EUR-CFMon-ActualPL-EUR | 104,395.20 | - 0.00 |  |
| El-Future-NordPool-EUR-HedgePL-NOK | 807,978.67 | El-Future-NordPool-EUR-CFMon-ActualPL-NOK | 811,084.84 | 3,106.17 | 1) |
| El-Struct-Fixed-EUR-HedgeCF-EUR | - 211,138,842.69 | El-Struct-Fixed-EUR-CFMon-ActualCF-EUR | - 211,138,842.69 | - 0.00 |  |
| El-Struct-Fixed-EUR-HedgeCF-NOK | - 1,642,418,398.64 | El-Struct-Fixed-EUR-CFMon-ActualCF-NOK | - 1,642,468,929.76 | - 50,531.12 | 1) |
| El-Struct-Fixed-EUR-HedgePL-EUR | 82,367,580.27 | El-Struct-Fixed-EUR-CFMon-ActualPL-EUR | 82,367,580.27 | - 0.00 |  |
| El-Struct-Fixed-EUR-HedgePL-NOK | 661,743,087.71 | El-Struct-Fixed-EUR-CFMon-ActualPL-NOK | 661,611,417.72 | - 131,669.99 | 1) |

1. The contracts are in EUR, with curve currency EUR and report currency NOK. I the hedge calculations, the total cashflow/pl is calculated in the contract currency, divided evenly over the contract delivery period, and then exchanged using the daily currency. In the actual calculations, the daily casfhlows and plc can vary quite a lot, so that each of the daily exchange rates will have different “impact” on the exchanged result compared to the hedge calculations, where all daily cashflows are almost equal.
2. This is an error in the workspace configuration, the report currency is set to NOK even if the name of the workspace indicates otherwise. Note that the values are the same as the one for the NOK export on the line below (marked in yellow).
3. The contracts are in NOK, with curve and report currency EUR. The hedge cashflow and pl for the contract is first calculated in contract currency, using a midpoint exchange rate for the delivery period, while the actual cf is exchanged daily in cf monitor. Also the same calculation difference inside cashflow monitor as described in 1) apply.

An additional verification for the NOK reports was done by comparing the result of El-Forward-EUR-CFMon-HedgeCF-NOK with a position monitor with the same filter and report currency. The grand total of both monitors matched exactly, as expected.