PMB manipulator Manual

Last edited on 07-01-‘19 by Timo de Vries

Contents

[Introduction 3](#_Toc533670362)

[XML to XLS 4](#_Toc533670363)

[XLS to XML 5](#_Toc533670364)

[Other usages 6](#_Toc533670365)

# Introduction

In 2018, Unicorn started development for the FBCS implementation of the Multi Nemo Arrangement (MNA). As the biggest changes in this release are in post coupling, and as the PMB results file has the largest impact on post coupling processes, testing the release would require editing the PMB results file many times. Since this file’s contents have increased tremendously, repeatedly editing it while keeping the structure intact would be a tedious task.

The original PMB results file (internally named flow 152 or MRC Net positions propositions) contained the following XML tags:

* FlowBasedTimeSeries
* BiddingAreaTimeSeries
* LineFlowTimeSeries

While the newer flow 398 (or MRC Net positions and Scheduled Exchanges propositions BZ, SA and NH) is expanded with SEC values on different levels:

* SchedulingAreaLineFlowTimeSeries
* NEMOHubLineFlowTimeSeries

And the BiddingAreaTimeSeries have been expanded with Net Positions on both Scheduling Area and Nemo Hub level. For more information about these changes I would recommend the FBCE MNA Draft Design, the mapping document 6.0.22+ and the training material created by the CWE Test Team.

*The essence of this tool is to transform the XML file to a readable/editable XLS file, which can be restored to XML afterwards.*

# XML to XLS

Using the tool should be straight forward. Press “Select file” to find the XML file you want to transform, and press “Select output location” to select the location of the output file. The button “Transfer!” will start the process. When it’s successful, the text “File has been saved.” will appear in the bottom left corner.

The file name will be “PMB results.xls”, and previous files with that name will be overwritten. If another file with that name in the same output location is already open, you will be prompted to close it first.

While the procedure is not that difficult, the result however might require some explanation. The Excel file consists of 4 tabs:

* LineFlowTimeSeries
  + Contains SEC values on NH, SA and BZ level for each hour and each border.
* BiddingAreaTimeSeries
  + Contains NP values on NH, SA and BZ level for each hour and each area.
* FlowBasedTimeSeries
  + Contains Shadow Prices for certain constraints. These values came from flow 144, so if you use a PMB results file that has not been made for this specific pre-coupling, add a flow 144 in the process for the best results.
* Data
  + Contains static data: data, sender, flow number and version. The sender and flow number are fixed in F398, but in this way, it can also be used to manipulate the older version: F152.

# XLS to XML

## Editing the XLS

In the XLS file, you can easily edit data (check the rules for NPV, or raise the tolerance levels) if you want the file to be accepted by the FBCS). Removing or adding an entire border is also possible, as well as changing the 24 hours to 23 or 25. Please keep in mind that for each area/border all hours need to be in the correct order and every hour should immediately following the previous hour. In BiddingAreaTimeSeries, it’s important to note that BZ-SA-NH needs to be in this order, with the same TimeSeriesIdentification. If for example NH2 from BZ2 is in between (BZ1- SA1- NH2- NH1- BZ2), both NH2 and NH1 won’t be read at all when you try to convert it back to XML.

## Transforming

Just use the tool the same way as before. The result file won’t be saved directly in the folder that you’ve given, but in the subfolder yyyymmdd/05 - Net Positions Validation/, with the same naming conventions as the common system: “17X100A100M003CI\_17XTSO-CS------W\_FB-A52-398\_20181028-F398-04.xml” for example.

# Other usages

The button XML -> XML skips the whole XLS step, and creates a stripped down copy of the original file, but with a higher version number. This can also be used in combination with the “include F144” functionality.