Keywords

HyFM, Delft-FEWS, Acceptance Tests

Summary

The HyFM system will be accepted through acceptance tests. This document describes the test procedures for the Archive functionality only..

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| Version | Date | Author | Initials | Review | Initials | Approval | Initials |
| 0.1 | March. 2019 | Simone De Kleermaeker |  |  |  |  |  |
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| State  draft |

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# Test Record

|  |  |
| --- | --- |
| **Test Performed By** | Deltares representative:  GMW representative: |
| **Date of Test** |  |
| **Version of Software Tested** | Delft-FEWS, version: **2016.01**, build nr:  Date: |
| **Name of the System to be tested** | **HyFM – Open Archive** |
| **Overall pass/fail** |  |
| **Observations & comments** |  |
| **Signed:** |  |
| **Date:** |  |

# Setting up the tests

## Installation of a Delft-FEWS HyFM release

Before commencing testing, a Delft-FEWS HyFM Stand Alone Client (SA) must be installed on a suitably configured hardware.

## Test Procedure

This document defines the steps to be taken to perform Functionality Tests and to compare the results of the tests with the expected outcome for each test. It is intended to be printed and the test pass/fail information hand written on it during testing. The annotated document plus any additional materials (printouts etc.) form the test record and will be filed.

This HyFM Acceptance Testing Document has been produced to provide formal testing of the Archive function of the HyFM operational forecasting system. For other tests the reader is referred to the relevant documents at GMW.

For these tests the live test environment of HyFM will be used.

# Archive tests

The archive functionality tests will be based on data being send to the archive by the live system.

The following URL’s and IP addresses are from the HyFM Archive server.

**URLs**:

ARCHIVE\_SERVER=//prd-fews-arc01.corporate.local/data/ausw/archive/data

ARCHIVE\_WEBSERVICE\_URL=http://prd-fews-arc01.corporate.local:8080/deltares-archive-server/catalogue

ARCHIVE\_DOWNLOAD\_FOLDER=%REGION\_HOME%/ArchiveDownload

Exported\_Histroical\_Events=//prd-fews-arc01.corporate.local/data/ausw/archive/exportHistoricalEvents

ARCHIVE\_WEBSERVICE\_URL=http://ccfvp-hyfsarc1.bom.gov.au:8080/deltares-archive-server/catalogue

ARCHIVE\_FOLDER=\\\\ccfvp-hyfsarc1\\archivedata\\data

ARCHIVE\_FOLDER=/opt/fews/data/fromfss/Archive/data

ARCHIVE\_SERVER=%REGION\_HOME%/archive/augm/data

ARCHIVE\_SERVER=%REGION\_HOME%/data/augm/archive/data

#ARCHIVE\_SERVER=//pdc03srv144.g-mwater.com.au/FEWS/archive/augm/data

ARCHIVE\_WEBSERVICE\_URL=http://pdc03srv223.g-mwater.com.au:8082/deltares-archive-server/catalogue

ARCHIVE\_DOWNLOAD\_FOLDER=//pdc03srv144.g-mwater.com.au/fews/augmmc01/to\_fss/ArchiveDownload

Exported\_Historical\_Events=//pdc03srv144.g-mwater.com.au/fews/augmmc01/to\_fss/ArchiveDownload/historicalevents

**IP-addresses when needed:**

tdc03srv224 FS00

## Archive non simulated data - external forecasts and observations

This test intends to confirm the ability to archive the data feeds that are used in the HyFM forecasts. The HyFM configuration is tested as well as the export and import processes of the data feeds.

*Please indicate whether the test has passed/failed by writing a comment in the pass/fail box.*

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| **Test Record (please include name and signature)**  Date of test: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  GMW representative: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Deltares representative \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| ***Initial Condition*** | * HyFM TEST system Stand Alone version available. * HyFM TEST system Operator Client version available. * Archive server URLs properly configured in global.properties file of both SA and OC * Test computer can reach catalogue server URL via web-browser * ArchiveDownload folder available (and empty) for Stand Alone application (check SA global properties for correct path). * Local datastore removed from stand alone application * Archive File storage can be reached to confirm content of archive (or test by running the Archive\_Export\_Local workflow from the Tasks display) |

| No. | Action | *Expected result* | Pass | Fail |
| --- | --- | --- | --- | --- |
| **External forecasts** | | | | |
| AR 2.1 | Start the OC. Open the Grid display and check the NWP forecast data in the database.  Write down the external forecast times of the ACCESS-G, ACCESS-R and PME forecasts (in GMT). Note: you can select GMT for the system time by double clicking in the system time. | |  |  |
| *Confirm in spatial display that all NPW forecasts are available for the selected period.* | |
| AR 2.2 | In the Data Viewer, select   * River Gauges and Rain Gauges, * 404204 * Observed Water Level and Observed precipitation   Open the plots display and open the table.  Zoom out to the include 23 February. | |  |  |
| *Confirm the time series have data in the plots display and table.*  *Write down the water level and precipitation at a specific moment in time. Note any comments with the selected values.* | |
| AR 2.3 | Open the file WorkflowFiles\Archive\_Export.xml for all archive exports. | |  |  |
| *Confirm the workflow contains archive exports for all NWP forecasts.* | |
| AR 2.5 | Open the Manual Forecast Display. Select workflow ‘Export all non-simulated data to Archive’ and press run.  Change the T0 to 3 days ago and press run. | |  |  |
| *Two workflows are send to the server. Confirm they complete without errors.*  *Note the workflow run for “now” takes longer due to the export of the NWP data. (It can take half an hour to complete.)* | |
| AR 2.6 | Go to the Archive data server.  Run the harvester.  Look in data folder <yyyy>/<MM>/GMW/. Go to current month and check the content of the last 3 days. | |  |  |
| *Confirm that externalforecast folders exist only for the last 2 days*  *Confirm that the NWP forecasts are only exported to individual folders and that the correct External Forecast Time (GMT) is in the folder names (Check with AR 2.1).*  *Open the folders and check the metadata content. Confirm that the folder holds a recordId file.* | |
| **Observations** | | | | |
| AR 2.7 | Go to the Archive server and look in data folder <yyyy>/<MM>/GMW. Select the observed folder for any day. | |  |  |
| *Confirm that the observations you expect have been exported in archive files.*  *Either inspect the Archive\_Export\_Observed.xml file or use the Wprkflow navigator within Delft-FEWS. Note: All timeseries that are archived are configured in the data viewer filters under “Archive export observed”.*  *Confirm that a metadata.xml file exists as well as a recordId file.*  *If no recordId file exists, go back one day and reconfirm. Else check the harvester log file.* | |
| AR 2.8 | Start the stand alone application and open the Archive Catalogue display.  Select the Search in Archive tab. Select observed time series data set (Don’t select an area or source). Use a search period from begin of the month to now.  Press the Summary button to check if there is data in the archive. | |  |  |
| *Confirm that the summary shows there is observed data in the archive. Check the data volume with the files in the observed archive folder and confirm the volume is sufficiently OK to prevent surprises in expected download time.* | |
| AR 2.9 | Press the Download button to download the selected data form the Archive folder to the ArchiveDownload folder of the Stand Alone application. | |  |  |
| *Confirm that the data is downloaded in the logs display.* | |
| AR 2.10 | In the Search in Archive tab of the Stand Alone application, select national as area and select external forecasts as data type. Make sure the start and end dates include the last few days. Press the Summary button to check if there is data in the archive. | |  |  |
| *Confirm that the summary shows there is external forecast data in the archive. Check the data volume with the files on the archive data server in the 2014/national folder and confirm the volume is computed with sufficient accuracy to prevent surprises in download volume.* | |
| AR 2.11 | In the Stand alone application press the Download button to download the selected data form the Archive server to the ArchiveDownload folder. | |  |  |
| *Confirm that the external forecasts are downloaded in the logs display.* | |
| AR 2.12 | The observed and forecast data is now downloaded to the ArchiveDownload folder. | |  |  |
| *Confirm that the downloaded data is in the download folders of the Stand Alone application and confirm that the data files are complete (i.e. as available on archive data server).* | |
| AR 2.13 | In the stand alone application, open the Manual Forecast Display. Run the ‘Import Data from Archive’ workflow. | |  |  |
| *Confirm that the workflow did complete without errors.* | |
| AR 2.14 | Open the spatial display and check the NWP forecast data in the database.  Adjust system time when needed to obtain the external forecast. | |  |  |
| *Confirm in spatial display that all NWP forecasts are available for the same external forecasts as test AR 2.1.* | |
| AR 2.15 | Adjust system time to today. In the HyFM Data Viewer, select the Eildon basin, parameters Observed Water Level and Observed precipitation. Find the stations where flooding thresholds are crossed. Open the plots display and open the table. | |  |  |
| *Confirm the time series have data in the plots display and table.*  *Confirm the water level and precipitation have the same values as the data in the Operator Client (test AR 2.2). Check if the comments have also been archived and imported.* | |
|  |  | |  |  |
| AR 2.16 | Run similar tests for the STMT data (calculated and exported once a year) | |  |  |

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| Please make any addition comments on the test here |

## Archive non simulated data – config and rating curves

This test intends to confirm the ability to archive non-simulated data that is stored in the HyFM database such as rating curves. The HyFM configuration is tested as well as the export and import processes of the data feeds.

*Please indicate whether the test has passed/failed by writing a comment in the pass/fail box.*

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| **Test Record (please include name and signature)**  Date of test: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  GMW representative: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Deltares representative \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| ***Initial Condition*** | * HyFM **Final release UAT** Stand Alone version available. * HyFM User Guide for **Final release UAT** available * Archive catalogue server URL is accessible by stand alone application * ArchiveDownload folder is accessible by application and is empty. * Tests AR2 completed. |

| No. | Action | *Expected result* | Pass | Fail |
| --- | --- | --- | --- | --- |
| AR 3.4 | Open the Archive\_Export.xml from the general Workflow files of the HyFM configuration. Check the file for all National archive exports. | |  |  |
| *Confirm the workflow contains archive exports for rating curves.* | |
| AR 3.7 | Go to the Archive data server, select folder ratingcurves/GMW | |  |  |
| *Confirm that there is a file Rating\_Complete.xml that contains all rating curves.*  *Confirm that a metadata.xml file exists as well as a recordId file. If not, execute the harvester*. | |
| AR 3.13 | In the Archive Catalogue Display, select area GMW and data type rating-curves. Set the end time to overlap the period when exporting data to the archive.  Download the data to ArchiveDownload folder  Open the Manual Forecast Display and run the 'Import Data from Archive (stand alone only)' workflow. | |  |  |
| *Confirm the ratings have arrived in the ratingcurves sub-folder of the ArchiveDownload folder.*  *Confirm the workflow runs without errors.* | |
| AR 3.14 | Open the Time Series lister and select the Import Data from Archive workflow  Open a location of the rating curves in the Time Series Lister and open the ratings XML file. | |  |  |
| *Confirm that all rating curves have been imported. Check the number of ratings in the XML file with XML-Spy and check the counter in the time Series lister.*  *Confirm that the ratings for the selected location are correct.* | |
| AR 3.15 | In the Archive Catalogue Display, select area GMW and data type configuration. Set the end time to overlap the period when exporting data to the archive.  Download the data to ArchiveDownload folder | |  |  |
| *Confirm the configuration has arrived in the configuration sub-folder of the ArchiveDownload folder.* | |
| AR 3.16 | Close the Stand alone application. Move the Config folder aside and rename the patch to 201302\_patch.ja\_  Make a new Config folder and copy the contents of the config.zip file from the ArchiveDownload area in this folder.  From the RootConfigFiles folder, copy the patch in the application root  Restart the application. | |  |  |
| *The application starts with a configuration which is restored from the archive* | |

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| Please make any addition comments on the test here |

## Archive simulated Data

This test intends to confirm the ability to archive simulations results, as well as the input data used in simulations. The URBS forecast workflows will be used to archive simulated series, model states, reports and modifiers. The HyFM configuration is tested as well as the export and import processes of the simulation runs.

*Please indicate whether the test has passed/failed by writing a comment in the pass/fail box.*

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| **Test Record (please include name and signature)**  Date of test: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  GMW representative: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Deltares representative \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| ***Initial Condition*** | * HyFM **Final release UAT** Stand Alone version available. * HyFM User Guide for **Final release UAT** available * Archive catalogue server URL is accessible by stand alone application * ArchiveDownload folder is accessible by application and is empty. * Tests AR3 completed. |

| No. | Action | Expected result | Pass | Fail |
| --- | --- | --- | --- | --- |
| AR 4.1 | Start the HyFM Operator Client. Open the Forecast Manager and confirm that the CairnCurran URBS workflow runs without errors. | |  |  |
| *No crosses with the CairnCurran URBS run in the Forecast Manager* | |
| AR 4.3 | Go to the Archive data server, select folder <yyyy>/ *CairnCurran* /<MM> and pick a recent date. | |  |  |
| *Confirm that the archive folder contains a simulated folder with the URBS workflow.*  *Confirm that the content of folder contains model state and time series.*  *Confirm that the metadata.xml and a catalogue recordId file are available.* | |
| AR 4.7 | In the Stand Alone application, open the Archive Catalogue display and select the Search in Archive tab. Select *CairnCurran* as area and select data-types simulated time series and modifiers. Make sure the start and end dates overlap the period of the T0 of the forecast workflows. Press the Summary button to check if there is data in the archive. | |  |  |
| *Confirm that the summary shows there’s simulated time series data in the archive. Check the data volume with the files in the Eildon archive folder on the archive server and confirm the volume is computed sufficiently accurate to prevent download surprises.* | |
| AR 4.8 | Press the Download button to download the selected data form the Archive server to the ArchiveDownload folder. | |  |  |
| *Confirm that the data is downloaded in the logs display.* | |
| AR 4.9 | The dataset is now downloaded to the ArchiveDownload folder. | |  |  |
| *Confirm that the downloaded data is in the download folders and confirm that the time series files are complete.* | |
| AR 4.10 | Open the Manual Forecast Display. Run the ‘Import Data from Archive (stand alone)’ workflow. | |  |  |
| *Confirm that the workflow did complete without errors.*  *Note the model state is not imported as this needs to be used as a cold state.* | |
| AR 4.11 | Open the Forecast Manager and approve the two imported workflows. Open the Forecast Tree and select the CairnCurran Node. Select the URBS node and open the Plot Overview. | |  |  |
| *Confirm in the plots that the simulated forecast series are visible.* | |

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| Please make any addition comments on the test here |

## Create historic events

This test intends to confirm the ability to create historic events for observations.

*Please indicate whether the test has passed/failed by writing a comment in the pass/fail box.*

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| **Test Record (please include name and signature)**  Date of test: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  GMW representative: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Deltares representative \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| ***Initial Condition*** | * HyFM **Final release UAT** Stand Alone version available. * HyFM User Guide for **Final release UAT** available. * Archive catalogue server URL is accessible by operator client application. * ArchiveDownload folder is accessible by application and is empty. * Tests AR3 completed. |

| No. | Action | Expected result | Pass | Fail |
| --- | --- | --- | --- | --- |
| AR 5.1 | Start the Operator client, open the Data Viewer for the Loddon basin (River Gauges). Select Calculated Flow and a location with a threshold crossing. Zoom out if need be to find a crossing.  Select locations where thresholds are crossed. | |  |  |
| *Thresholds are crossed at XX*  *Note down the exact start and end of the event and the locations of interest.* | |
| AR 5.2 | Open the Search for event tab in the Archive Catalogue Display. Select the CairnCurran area.  Trim down the search period to when the threshold crossing occurred | |  |  |
| *The existing CairnCurran events appear*  *Confirm that the list of events is empty: no event exists for the Eildon in this period.* | |
| AR 5.3 | Go to the 'Create event' tab and select the CairnCurran area.  Click the Create event button (+).  Set the event type to Historic Event. Set the dates and give a good name and description.  Press the summary button to confirm that the archive holds observations for this event.  Press save. | |  |  |
| *All fields become editable*  *The application searches the catalogue and reports available data.*  *The application reports that you need to select parameters and locations.* | |
| AR 5.4 | In the Summary section select the parameters and locations to be included for overlay as an historic event. | |  |  |
| *Subset of parameters and locations can be selected.* | |
| AR 5.5 | Save the event. | |  |  |
| *The event is added as a local entry to the list, using a different colour.* | |
| AR 5.6 | Upload the event. | |  |  |
| *The new event becomes green.*  *Confirm on the archive data server that the \_events/Herbert folder contains a new event using a datetime filename.* | |
| AR 5.7 | Select another area.  Select the Loddon again. | |  |  |
| *Events from a different area are shown.*  *The Loddon events are shown, including the new Historic Event.* | |
| AR 5.8 | Open a file in Word or alike and type a small report about the event. Save the file.  Select the newly created Loddon event and attach the Word file. | |  |  |
| *The updated event becomes coloured again. A paperclip appears to indicate that the event has an attachment.* | |
| AR 5.9 | Save and upload the event. | |  |  |
| *The updated event becomes green again.*  *Note: The server-side update may take a minute*  *Confirm on the archive data server that the \_events/Loddon folder contains a folder with the eventid (datetime) and the Word file inside.* | |
| AR 5.10 | Open the HyFM Stand alone application.  Open the Archive Catalogue display, select the Search for event tab and select the Loddon area. | |  |  |
| *Confirm that the catalogue provides the updated list of events.* | |
| AR 5.11 | Select the new Loddon event and click the 'Download attachment' button | |  |  |
| *The attachment is downloaded to the ArchiveDownload area. The file can be opened.* | |
| AR 5.12 | Start another application, Open the Archive Catalogue display in and select the Create new event tab.  Create a new Historic event for Loddon for a similar period of time. | |  |  |
| *The application will warn that an event already exists for this period.* | |
| AR 5.13 | Create the event for a different period of time.  Save and Upload. | |  |  |
| *Event is added to list and uploaded. Becomes available about a minute later.* | |
| AR 5.14 | Go back to the first Stand Alone application, use the Archive Catalogue display and search for the event created in the previous step.  Delete the event using the red cross on the right of the table  Save and Upload. | |  |  |
| *Event is included in the list.*  *Event is removed to list and uploaded. Becomes available about a minute later.* | |
| AR 5.15 | Go back to the Operator Client, and search for the Loddon event just deleted. | |  |  |
| *The event is not available.* | |
| **Historic events extractor**  **(can only be tested if there is at least 1 historic event marked)** | | | | |
| AR 5.19 | Execute the historicEventsExtractor at the archive server or wait overnight. | |  |  |
| *The historic events are extracted and posted in the tofss/Import/scalars/historic\_events directory of the FSS.* | |
| AR 5.20 | From the Operator Client, start the Manual Forecast display and run the Import Historic Events workflow. | |  |  |
| *The workflow finishes successfully. The Historic events are removed from the FSS import directory.* | |
| AR 5.21 | In the Operator Client, open the Plot display and select via the Data Viewer a location and parameter combination for the Herbert which is included in the historic event. | |  |  |
| *The Plot Display shows a archive cupboard icon in the Toolbar.* | |
| AR 5.22 | Press the archive cupboard icon and select the event.  If needed move the event to left or right. | |  |  |
| *The event is added as an overlay to the existing time series.* | |
| AR 5.23 | Do the same check for the Ovens event. The check may also be done from an URBS plot. | |  |  |
| *The event is added as an overlay to the existing time series.* | |

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| Please make any addition comments on the test here |