Transaction reporting, TRS2

TECHNICAL SPECIFICATIONS

Version 0.4

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The Dutch Authority for the Financial Markets

The AFM is committed to promoting fair and transparent financial markets.

As an independent market conduct authority, we contribute to a sustainable financial system and prosperity in the Netherlands.

Contents

1.   Background

When MiFIR[1] comes into force, each investment firm in a transaction chain will be responsible for reporting data relating to transactions executed in financial instruments (and all instruments where the underlying is a financial instrument traded on a trading venue) that are traded or admitted to trading on a trading venue (regulated market, MTF or OTF). Such transactions must be reported regardless of the place of execution[2]. The data from these transactions should be reported to the AFM in a complete and accurate manner before the end of the next business day at the latest.

Entities that must meet MiFIR transaction reporting requirements include:

- Investment firms that execute transactions in:
    - Financial instruments admitted to trading or traded on a trading venue
    - Financial instruments where the underlying is a financial instrument traded on a trading venue
    - Financial instruments where the underlying is an index or a basket composed of financial instruments traded on a trading venue
- Investment firms that transmit orders[3] involving such instruments for execution, if and only if:
    - An item of reportable information, is not transmitted to the next link in the execution chain (RTO + discretionary management)
- Trading venues on behalf of:
    - Members that are not investment firms as defined by MiFID

The contents of the transaction data and the specific requirements are described in the *Commission Delegated Regulation (EU) 2017/590*. Furthermore, the European Securities and Markets Authority ("ESMA") published in October, 2016 the final report "*Guidelines on transaction reporting, reference data, order recordkeeping and clock synchronization*", which includes examples on how to report transaction data in different situations[4].

As from 3 January 2018 onwards, the AFM enables three types of entities to connect to the reporting system TRS2:

- Investment firms that are subject to the reporting obligation and that wish to report their transactions directly to the regulator
- ARMs that report to the regulator (provided they are authorised by their home regulator) transactions carried out by investment firms

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[1] As part of the MiFID II legislation
[2] These and other requirements for the transaction reporting are described in article 26 MiFIR.
3 Described in Article 26 (4) MiFIR.
[4] The laws and regulations mentioned in this letter can be found on the AFM website [https://www.afm.nl/nl-nl/professionals/onderwerpen/mifid-2/marktstructuur-transactierapportages]

- Trading venue operators, which are required to report to the (home) regulator transactions carried out on the venue by non-MiFID members or who report transactions concluded on their trading venue on behalf of investment firms.

Further information and links to key documents (Delegated Regulation 2017/590 of 28 July 2016, ESMA Guidelines) can be found on the AFM website.

https://www.afm.nl/en/professionals/onderwerpen/mifid-2/transactierapportages

2.   Test reporting in the TRS2 system

This document contains the technical specifications needed for Submitting Entities to connect and report to the transactions reporting system used by the AFM for the MiFIR transaction reporting.

Each Competent Authority is responsible for their own specifications and therefore this is not specified by ESMA.

The details of these specifications may change over time and this document will consequently be updated. Please make sure you use the latest version.

2.1   Application to open an account for the test environment

In order to be able to connect and report to the TRS2 system's test environment, the AFM requires some information from the submitting entity. The information should be sent to us using the application form found at the AFM website[5] (This link can also be found in Annex 1).

Once an account has been created in the system, the account information needed to connect to AFM's HTTPS/SFTP server will be sent to the contact person specified on the form.

2.2   Planning

Tests will initially be on an early version of the system. The focus at the start will be on testing connectivity and confirming that it is possible to submit files and receive feedback. One external test environment will be available. It will be updated with new versions of the system several times during the year.

AFM has opted not to limit the tests to specific periods of time; the test environment will be accessible 24 hours a day, with the exception of operational interruptions including maintenance activity. Our support will try to provide information about the errors that arise to the greatest extent possible.

2.3   Preliminary schedule

When	What will be tested
1 November 2017	Reporting companies are expected to have tested connection to the system as well as validation of transactions and reference data from ESMA
1 December 2017	The AFM will check whether parties that have been granted access to the test environment have started testing.
11 December 2017	The AFM will check the feedback files of the Submitting Entities on errors

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[5] http://www.digitaal.loket.afm.nl/nl-NL/Diensten/Beleggingsondernemingen/Vergunning/Pages/registratie-certificatie-transactierapportagesysteem.aspx

18 December 2017	The AFM starts accrediting Submitting Entities to the TRS2-production system
28 December 2017	The AFM expects the reporting entities to be accredited
2 January 2018	Further tests of the system that will be taken into operation

As of 6th of December 2017 a new version of the system is available in the test environment.

The file format is .xml. After compressing the .zip file can be submitted to AFM HTTPS/SFTP server.

The transactions in the Transaction Reports must use as trading date (TraDt) a date no more recent than the last (working) day before the day of uploading the transaction report. So, on day T+1 you can upload transactions with TraDt =T or T-1, T-2 …

By connecting to AFM's HTTPS/SFTP server, the server automatically encrypts the connection using a pre-installed certificate.

IP-address and DNS to the test environment and HTTPS/SFTP-folder structure will be provided when applying for an account to the environment, you can find the instructions in this document.

2.4   Reference data

The tests will initially be conducted against an extended set of reference data, consisting of over 5 million instruments and some 690.000 LEIs. The instruments used in the test environment consists of the ESMA published data set of November 8, 2017; the LEIs in the test environment date from November 3, 2017. However, from now on the reference data will be updated regularly and will shortly consist of the complete, most recent ESMA data set.

2.5   LEI codes

In order to be able to report transactions when the Directive and Regulation enter into force on 3 January 2018, both the reporting company and legal entities on whose behalf a transaction has been executed must have an LEI code.

When a new reporting company (Submitting Entity) is registered in the system, the company's LEI code is used to create an account with the same name as the LEI code. In order to be able to test the connection to and reporting of transactions via the TRS2 system, the companies that will participate in the tests must use this LEI code in the Transaction Reports both for the Submitting Entity and the Executing Entity. In the production system, every Submitting Entity that reports on behalf of more than one Executing Entity must provide the LEI for each of those entities.

2.6   Software developers

Also software developers who are building transaction reporting systems for investment firms, will be able to register in the test environment. However, these companies will never get access to the

production system. Therefore the investment firms, for whom the system is developed, should also register during the testing period and execute their testing.

2.7 IP address/range

An exception must be added in AFM's firewall to be able to access the system's HTTPS/SFTP server. It is possible to specify up to four individual IP addresses that will have access, or a network range that is limited by a subnet mask. Be aware that in case you intent to use both HTTPS and SFTP, you have to specify both the internet access point for your HTTPS traffic as for the internet point for your SFTP traffic, as these are likely to differ.

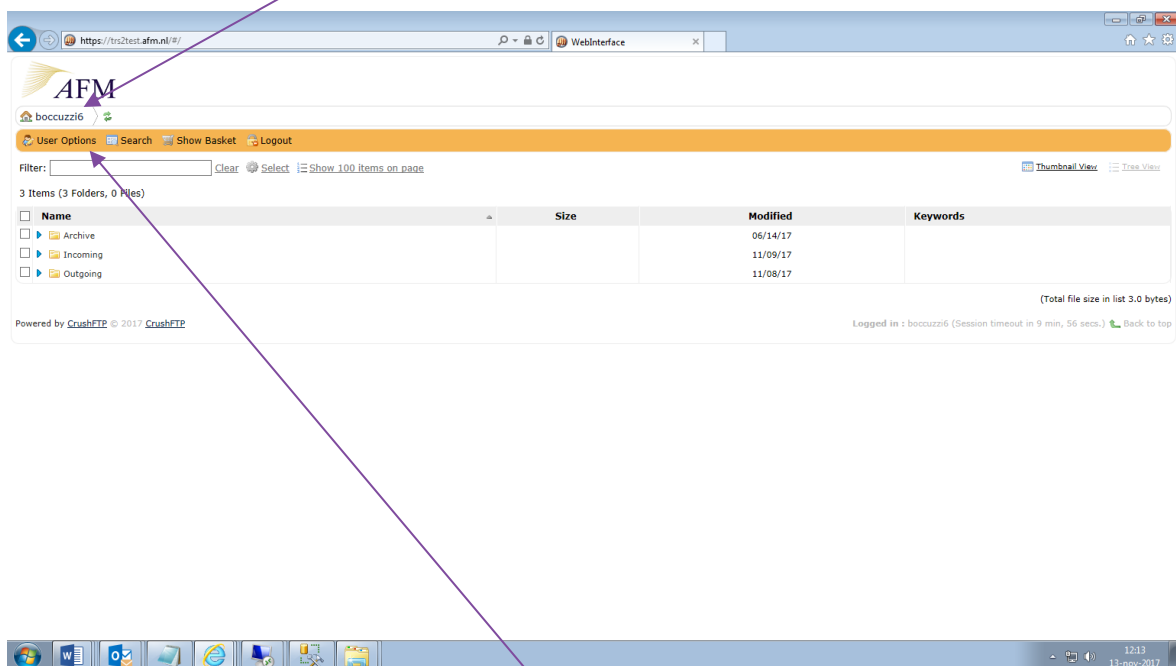# 3.   Instructions to gain access to the AFM test environment

These instructions are for connection thought Web Upload. For SFTP connection you can use the same IP address.

Go in your Internet browser to: url: https://trs2test.afm.nl (IP address: 87.215.97.16)
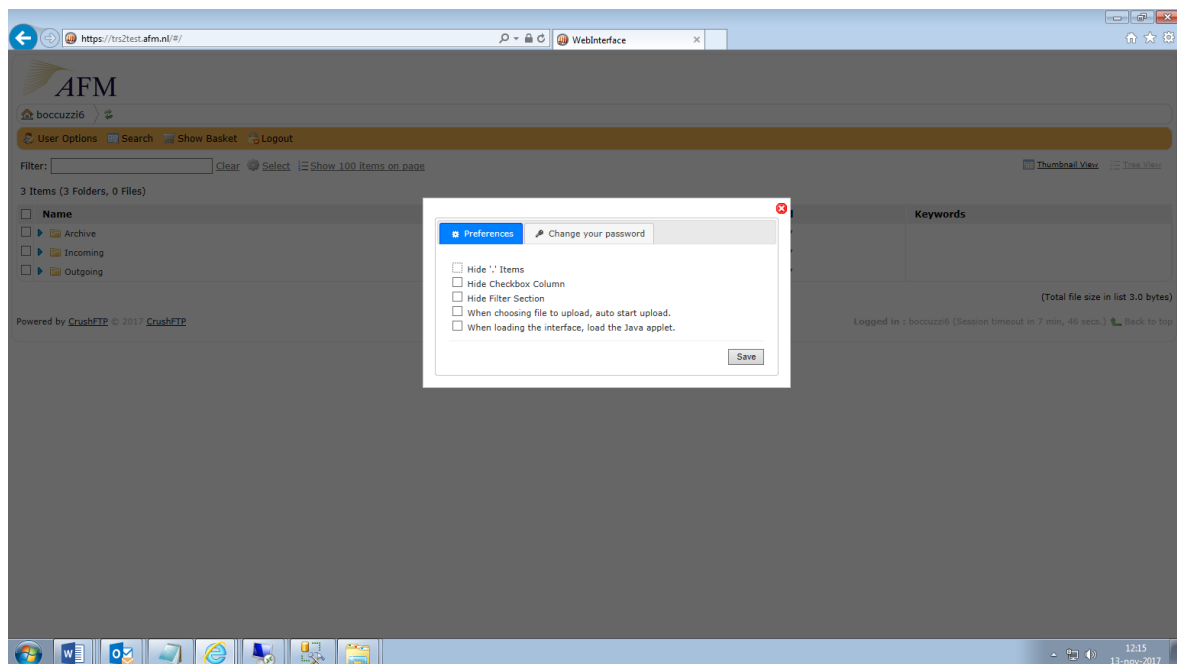
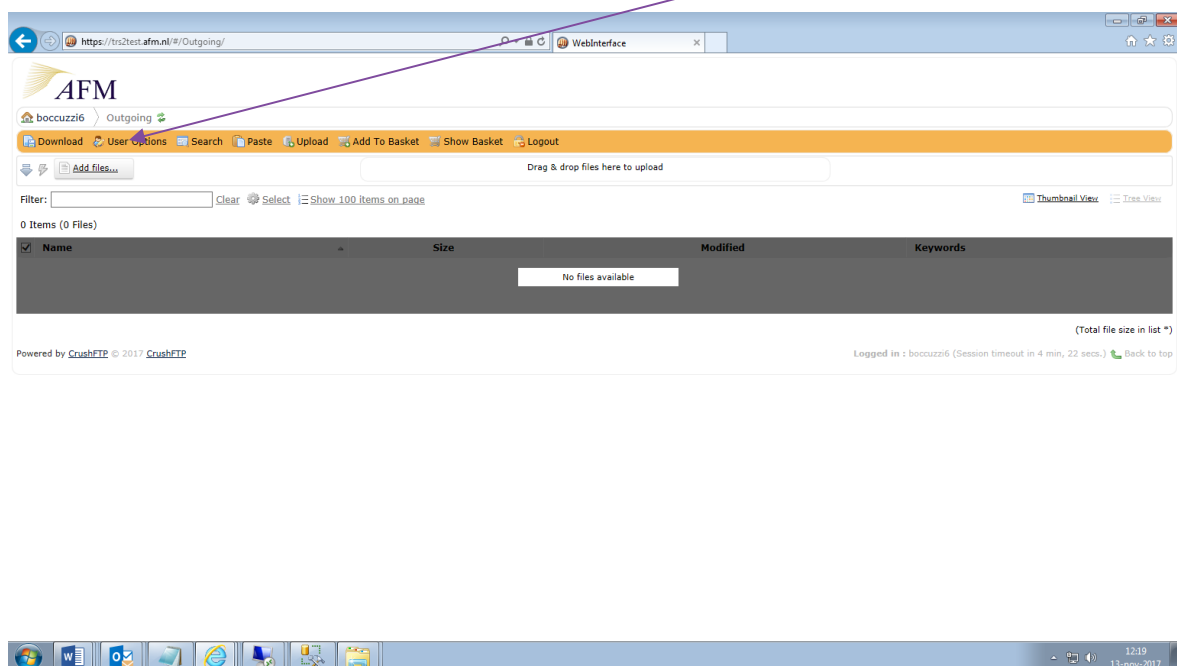Log in with the username and password provided by the AFM:
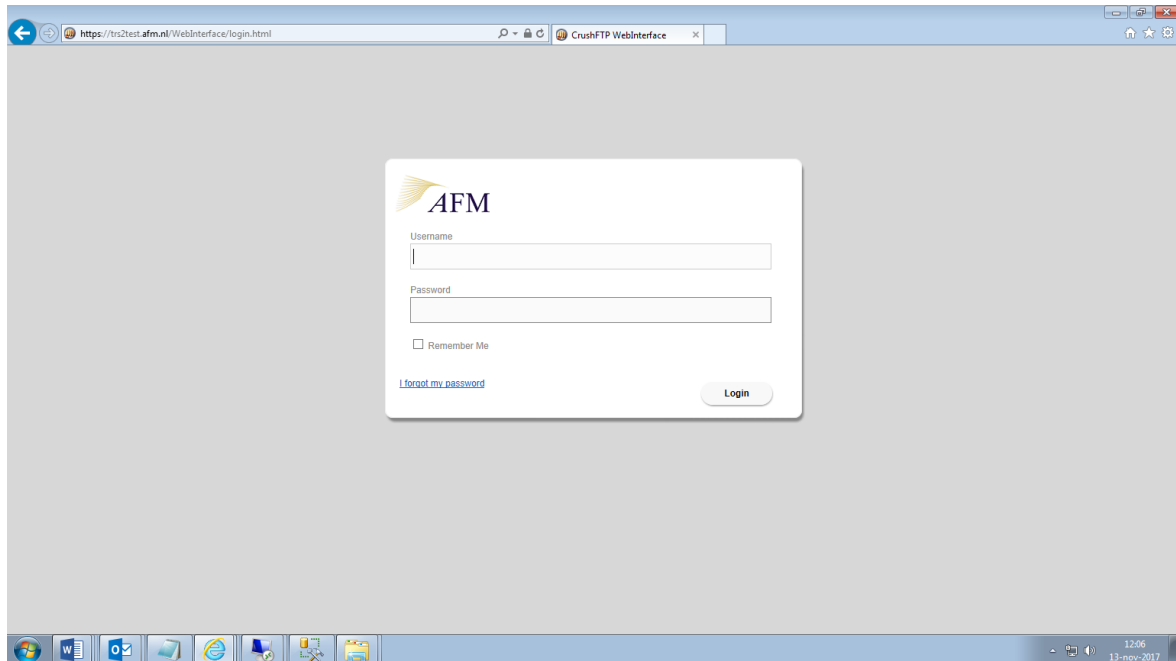
You can find your username on the left side of this screen.

Change the password by clicking on User Options:

Click on the directory Outgoing in order to upload your files. Please note: you need to be IN the Outgoing directory in order to upload! Only then will you be able to see Add files….. in the left corner.
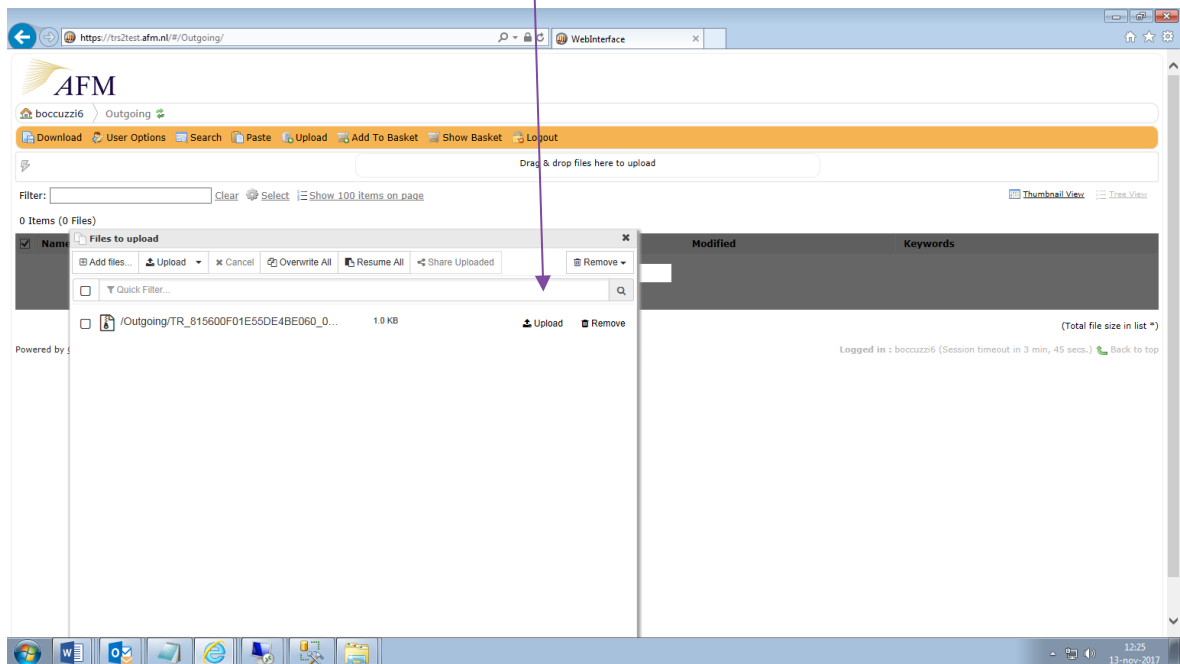

Click on Add files….. and you will gain access to your local directory. Go to the directory where the files, that you want to upload, are stored.

The files need to be zipped.
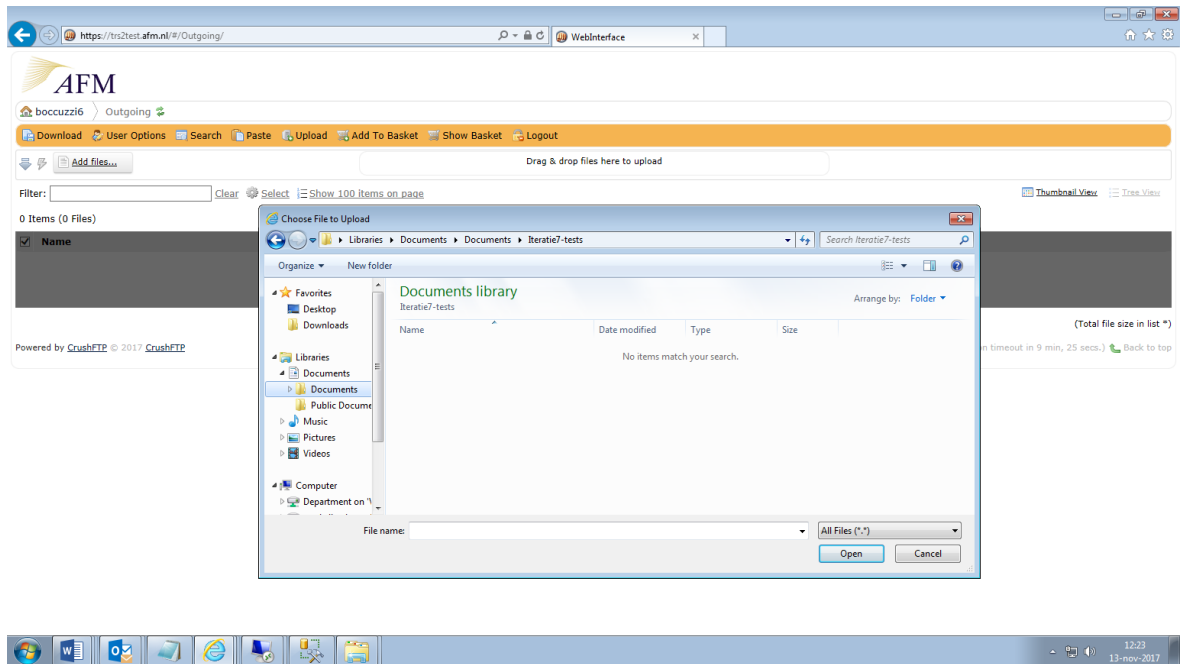
When you see the screen below, click on Upload (behind Outgoing/ "filename").

After you uploaded the file, you can delete (use 'x') the pop-up 'Files to upload'.
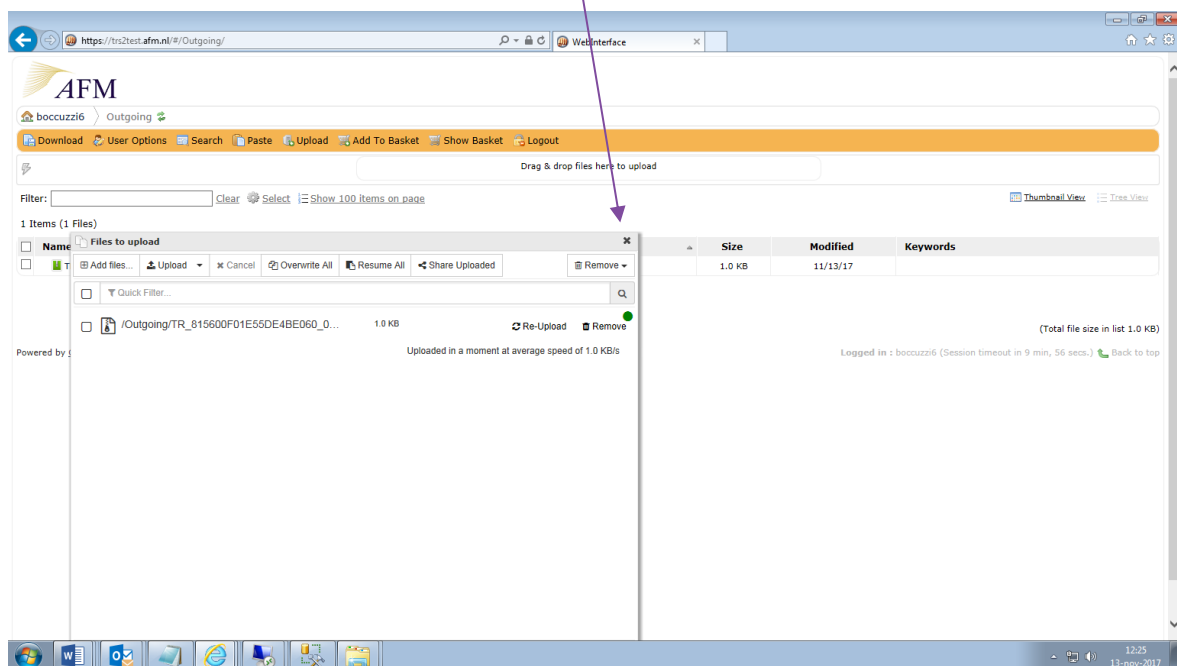
The files which are placed in the Outgoing directory, will be collected by the system and immediately processed. The file will be deleted from the Outgoing directory and placed in the Archive/Outgoing directory. After validation and processing a zipped feedback-file will be placed in the Incoming directory. The name of the feedback-file is always FF_"original filename"_01. If you upload the same file again, the sequence number behind the feedback-filename will be raised by 1.
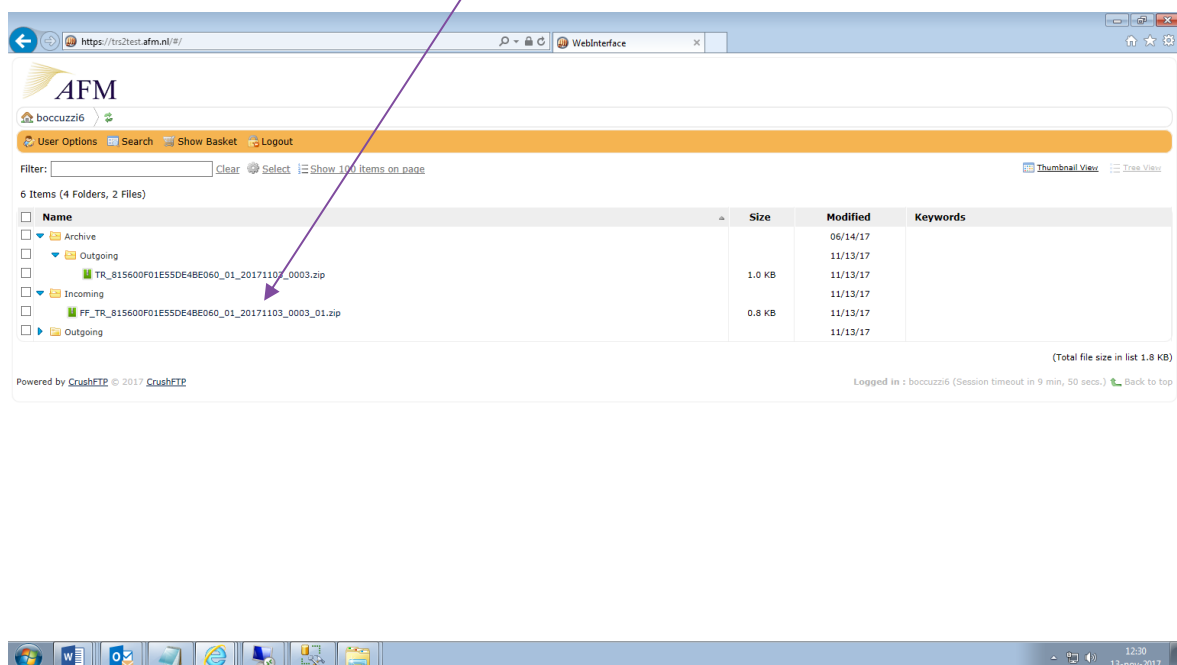
You can download the feedback-file by clicking on the feedback-file in the Incoming directory.
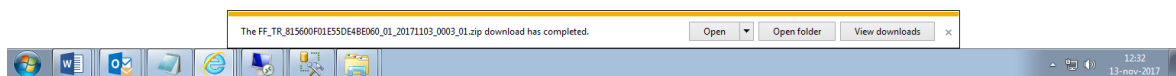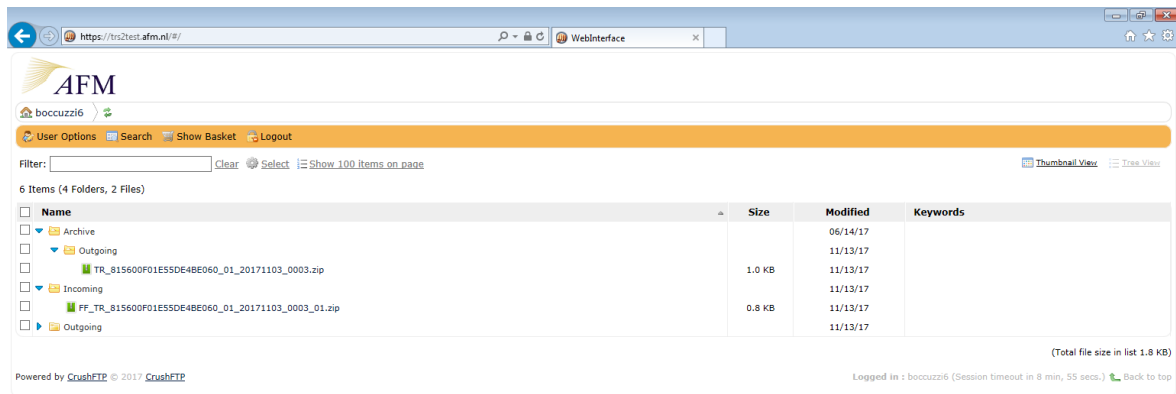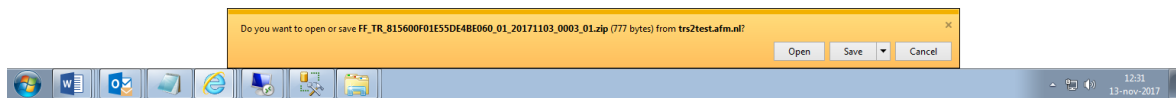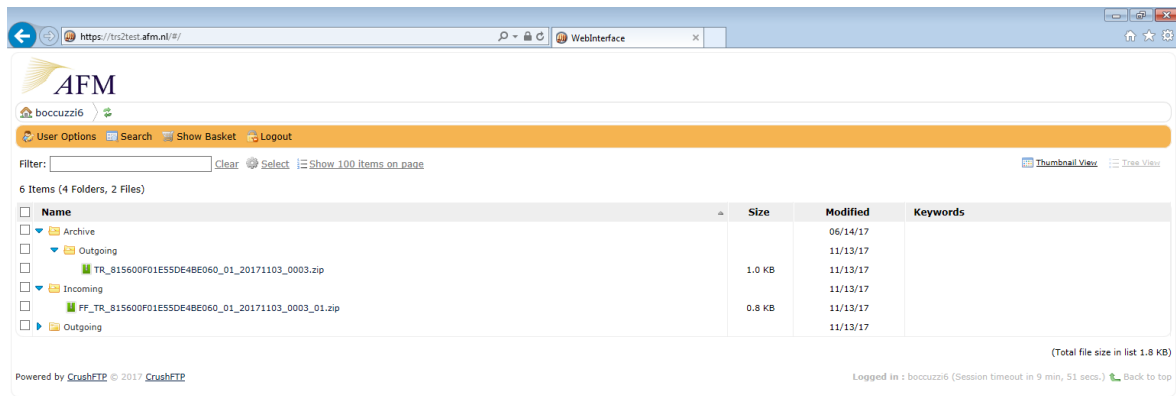
3.1   Difference between test and production

The AFM will set up the production environment using a different IP address in December. After set up the AFM will provide you with a production account. (Except for the accounts of those submitters that do not have an authorisation as ARM, investment firm or trading venue.)

4.   File naming convention

This file naming convention must be followed in order for submitted files to be processed by the system.

4.1   TRANSACTION FILE

4.1.1   TR_SEIC_ORI_YYYYMMDD_SEQ.TYPE

Segment	Content
TR	Literal, stands for "Transaction Report" TR_SEIC_ORI_YYYYMMDD_SEQ.xml TR_SEIC_ORI_YYYYMMDD_SEQ.zip
SEIC	Submitting Entity Identification Code. Legal entity identifier (LEI) as defined in ISO 17442 (20 alphanumerical characters).
ORI	The **originating system or department** of the file. A 2-digit number. 00 = The TRSII system. Reserved for future use. 01...99 = Department or system at the SE. Used for uploaded files or files sent from a SERS (automated). The number uniquely specifies the department that created and sent the file.
YYYYMMDD	Date the file was created by the Submitting Entity.
SEQ	Sequence number. A 4-digit sequence number [0000-9999]. Starts over every day.
TYPE	File type. We expect .zip files only, containing an .xml file.

4.2   FEEDBACK FILES

4.2.1   File feedback: FF_TR_SEIC_ORI_YYYYMMDD_SEQ_VER.TYPE

Segment	Content
FF	Literal, stands for "Feedback File" FF_TR_SEIC_ORI_YYYYMMDD_SEQ_VER.TYPE
SEQ	Sequence number. Same as the original transaction file
VER	Version number two digits.

4.2.2   Daily feedback: FD_TR_SEIC_ORI_YYYYMMDD_VER.TYPE

Segment	Content
FD	Literal, stands for "Feedback Daily".
VER	Version number; generated by TRSII

5.   File validation controls and error codes

In addition to the validations imposed on the local flow by the ESMA Transaction reporting validation rules, the validations below will be made on files submitted by Submitting Entities.

Control	Error code	Error message	Explanation and corrective action
File name syntax[6]	NLX-001	The file name has an illegal syntax.	Correct the filename so that it complies with the file name convention.
Invalid date	NLX-002	The date does not exist or is in the future.	Correct the date.
Duplicate	NLX-003	The file has already been submitted.	The duplicate file is ignored. If the file comprises new transaction reports, include them in a report file with a different sequence number.
File extension	NLX-004	The file has an illegal extension.	Correct the filename so that it complies with the file name convention.
File size	NLX-005*	The file is larger than the allowed [x] MB.	Split the report file into two or more report files.
Signature	NLX-006*	The signature is not recognized as a valid signature.	Check and correct the signature of the file. The signing key might be outdated or unknown to us. Also make sure the correct signature algorithm has been used.
Signer	NLX-007*	The file has an unknown signer.	The signer is unknown to us. Check and correct the signature of the file.
Decryption	NLX-008*	The file can't be decrypted.	Ensure that the file is properly encrypted. Check the encryption keys you are using or your encryption program. The encryption key might be outdated or unknown to us. Also

[6] The syntax control comprise only checking number of characters, separators, and numeric format. Not if the actual content is valid.
* Not yet implemented.

			make sure the correct hashing algorithm has been used.
Decompression	NLX-009*	The file can't be decompressed.	Check that the compression comply with the allowed compression method.
Signing	NLX-010*	The file is not properly signed.	Ensure that the file is properly signed. Check the keys you are using. The key might be outdated or unknown to us.
SEIC	NLX-011	The SEIC is invalid.	Correct the SEIC in the file so that it is a valid legal entity identifier as defined in ISO 17442.
Report file name	NLX-014	The report file has a different name than the archive file.	Correct the name of the compressed report file so that it matches the name of the archive file.
One report file per archive	NLX-015	The archive file does not contain only one report file.	Correct the contents of the archive file so that it contains only one report file.
Reporter allowed	NLX-016	The Submitting Entity is not authorized to report on behalf of the Executing Entity	Ensure that it has been registered by the Executing Entity or the FSA that the Submitting Entity is authorised to report on behalf of the Executing Entity.

5.1　　　Frequency of AFM processing

Files will be processed real time. There is no file sequencing.

6.   Tests and reconciliation

All reporting entities need to conduct tests in order to verify the ability to report a file without any validation errors. The AFM will check whether this has been successful before 3 January 2018. Only those entities who are able to report without errors will be granted access to the production environment.

Please be aware that in order to be able to fulfill the reporting obligation under article 26 MiFIR, a production account is required. It is the sole responsibility of the reporting entity to timely obtain such an account and failing to do so could lead to enforcement measures by the AFM after January 3rd.

Please make sure that all transactions reported in the test environment are test transactions that do not involve an actual activity of the entity subject to the obligation and contains only fictive data.

6.1   Core set of tests to be performed

The AFM advises to execute the following tests:

1- Issuance of a transaction reporting file

Test: issuance by the reporting entity of a transaction reporting file in XML format as defined by ESMA.

Purpose: make sure the file sent by the reporting entity complies with the XSD schema required by ESMA.

2- Cancellation of a transaction report:

Test: cancellation of one or more transaction reports sent in one or more transaction reporting files.

Purpose: make sure the reporting entity has understood the reporting steps required in a situation where a transaction report is cancelled.

3- Modification of a transaction report:

Test: modification of one or more transaction reports sent in one or more transaction reporting files.

Purpose: make sure the reporting entity has understood the reporting steps required in a situation where one or more modifications are made to a transaction report.

In addition there are some functional tests associated with the market activity or their client's activity in the case of an ARM. For example, an investment firm can execute tests covering:

- all the financial instruments that it trades and that come within MiFIR's reporting scope, including equities, bonds, listed derivatives and OTC derivatives (such as CDS, CFDs, forwards, swaps and options)
- all execution approaches, including dealing on own account or for a client and matched principal trading, both algorithmic and non-algorithmic
- transmission or non-transmission of all reportable information to the next link in the execution chain
- all remitting information systems

6.2   Responsibility

Under Article 26.7 of MIFIR, investment firms are responsible for the completeness, accuracy (the transaction reporting fields should be in line with the underlying business activity) and timely submission of the reports which are submitted to the competent authority, whether they report directly or through an ARM.

By way of derogation from that responsibility, where an investment firm reports details of those transactions through an ARM, the investment firm shall not be responsible for failures in the completeness, accuracy or timely submission of the reports which are attributable to the ARM.

Investment firms must nevertheless take reasonable steps to verify the completeness, accuracy and timeliness of the transaction reports which were submitted on their behalf.

Once MiFIR comes into effect, the AFM expects institutions to take steps under their sole responsibility and on their own initiative to conduct tests (the test environment will remain available after production for these tests) before going live, in the event of material changes to their activities (e.g. new asset class, connection to a new trading venue) or to their information systems (e.g. technical migration, software changes).

6.3   Reconciliation (in production)

There is no possibility to reconcile in the test environment.

Investment firms shall have arrangements in place to ensure that their transaction reports are complete and accurate. Those arrangements shall include testing of their reporting process and regular reconciliation of their front-office trading records against data samples provided to them by their competent authorities to that effect.

The AFM intents to provide this functionality in the course of 2019 in the production environment. Until then investment firms are required to reconcile their front-office trading records against the information contained in the transaction reports that they have submitted to the competent authorities. [7]

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[7]According to article 15.3 and 15.4 of the Commission Delegated Regulation (EU) 2017/590 of 28 July 2016 supplementing Regulation (EU) nr. 600/2014 of the European Parliament and of the Council with regard to

regulatory technical standards for the reporting of transactions to competent authorities
http://ec.europa.eu/finance/securities/docs/isd/mifid/rts/160728-rts-22_en.pdf

7.   Management of feedback (in production)

An effect of introducing the new pending and received statuses to the MiFIR reporting process is that the unique relationship that existed in MIFID transaction reporting between the transaction reporting file and its feedback file has been eliminated.

Now, several feedback files can be associated with a reporting file. Furthermore, they may be generated up to seven calendar days after the reporting file was sent.

While this may seem like a complex process, it should be stressed that if an institution decides to send the AFM reporting files after D+1 at 8:00 am (by which time updated ESMA reference data will typically have been uploaded) - but before the end of D+1 -, and the ESMA reference data have been correctly updated with the new financial instruments admitted to trading, just one feedback file will be issued per reporting file (no received or pending).

Annex 1 - Important links

Important links
Application form http://www.digitaal.loket.afm.nl/nl-NL/Diensten/Beleggingsondernemingen/Vergunning/Pages/registratie-certificatie-transactierapportagesysteem.aspx
The laws and regulations mentioned in this letter can be found on the AFM website https://www.afm.nl/en/professionals/onderwerpen/mifid-2/transactierapportages
Esma reporting instructions https://www.esma.europa.eu/policy-rules/mifid-ii-and-mifir/mifir-reporting-instructions
XML schemes https://www.esma.europa.eu/databases-library/esma-library/XML%2520schemas
XML Scheme specifics: My standards https://www2.swift.com/mystandards/#/

Annex 2 - Sample xml transaction file (latest version)

IMPORTANT:

- Be sure to use the correct xsd-schemes
- Your LEI must be submitted in the correct places
- This file name must be TR_YOURLEINAME123456789_NN_YYYYMMDD_NNNN.XML
- The TradDt must be no more recent than the last (working) day before the day of uploading the transaction report. So, on day T+1 you can upload transactions with TraDt =T or T-1, T-2 …
- The transaction-id TxId must be unique.
- Line change from August 2019

```xml
<?xml version="1.0" encoding="UTF-8"?>
<BizData xmlns="urn:iso:std:iso:20022:tech:xsd:head.003.001.01">
 <Hdr>
   <AppHdr xmlns="urn:iso:std:iso:20022:tech:xsd:head.001.001.01">
     <Fr>
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         <Id>
           <OrgId>
             <Othr>
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               <SchmeNm>
                 <Prtry>LEI</Prtry>
               </SchmeNm>
             </Othr>
           </OrgId>
         </Id>
       </OrgId>
     </Fr>
     <To>
       <OrgId>
         <Id>
           <OrgId>
             <Othr>
               <Id>NL</Id>
               <SchmeNm>
                 <Prtry>Authority code</Prtry>
               </SchmeNm>
             </Othr>
           </OrgId>
         </Id>
       </OrgId>
     </To>
     <BizMsgIdr>some identification of this specific report (max length 35)</BizMsgIdr>
     <MsgDefIdr>auth.016.001.01</MsgDefIdr>    → changed August 2019
     <CreDt>2017-07-31T09:30:47Z</CreDt>
   </AppHdr>
 </Hdr>
<Pyld>
   <Document xmlns="urn:iso:std:iso:20022:tech:xsd:auth.016.001.01">   → changed August 2019
```

```xml
<FinInstrmRptgTxRpt>
   <Tx>
      <New>
         <TxId>ABCDEFG123495</TxId>
         <ExctgPty>YOURLEINAME123456789</ExctgPty>
         <InvstmtPtyInd>true</InvstmtPtyInd>
         <SubmitgPty>YOURLEINAME123456789</SubmitgPty>
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                  <LEI>5967987LIEEXZX78M803</LEI>
               </Id>
            </AcctOwnr>
         </Buyr>
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         </Sellr>
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                  </MntryVal>
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            </Pric>
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         </FinInstrm>
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                     <Prtry>CONCAT</Prtry>
                  </SchmeNm>
               </Othr>
```

```xml
            </Prsn>
        </ExctgPrsn>
        <AddtlAttrbts>
            <SctiesFincgTxInd>true</SctiesFincgTxInd>
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</Tx>

<Tx>
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           </New>
        </Tx>
     </FinInstrmRptgTxRpt>
  </Document>
  </Pyld>
</BizData>
```

Annex 3 - Contact details

Subject	Contact details
Technical and functional support	8:30 am to 6:30 pm on business days: **Transactionreporting Department:** Email: trs_test@afm.nl Telephone secretary office : +31(0)2 0797 250 0