

# **System Design Specification**

**Project: CKYC**

**Version: 1.6**

## Document Release Note

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Version Number	Description
1.6	<ul style="list-style-type: none"><li>• FI Reconciliation through SFTP</li><li>• Bypassing checker approval for bulk files on SFTP.</li></ul>
1.5	<ul style="list-style-type: none"><li>• Authorisation process for bulk download</li></ul>

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## 1 **Introduction**

All financial intuition (FI) requires access to files over a secure connection that allows for the upload of files. This document details the requirements around the SFTP functionality only, detailing FI responsibilities necessary to implement this functionality and effectively govern the operation of the interchange.

### 1.1 **Overview**

The SFTP behaves as a server application and is responsible for bulk upload of data and images for FI to connect and upload the files over the secure file transfer protocol.

### 1.2 **Purpose of the Document**

The purpose of this document is to provide information required by FI to access the SFTP Service to upload files securely. This document will fully describe the interface, but will not detail the implementation.

### 1.3 **Audience**

The intended audience includes the technical teams of the reporting entities along with the integration development and support teams.

### 1.4 **Contacts**

For any questions regarding this document please contact at **helpdesk@ckycindia.in**.

## 2 Financial Institution Supported

### 2.1 Accessing SFTP Service

The Financial Institution must use a client or service that supports the SFTP **protocol**. Access will be over the internet on port 22 at the following failover enabled

URL's: (Production) – IP address will be provided in a separate email. The IP's must be configured on the financial institution side when opening a firewall or when caching is used.

#### **SFTP Access:**

- A folder on the SFTP will be provided to the FIs to facilitate bulk upload of data and images.
- FI will be given read/modify/delete access to their folder
- All response files will be placed in the institution folder for the institute to pick up

### 2.2 File Format and Details

Data Fields for the individual record under each header have been described in the bulk upload file format available on <https://www.ckycindia.in/ckyc/downloads.html>

### **3 Participant Requirements and Guidelines for Integration**

#### **3.1 Hardware**

There are no specific hardware requirements due to the loose coupling between FI applications and the SFTP infrastructure. FI should choose appropriate hardware to support the rest of the requirements defined below and in particular the SLAs defined with the individual services in their respective Interface Specification documents.

#### **3.2 Software**

There are multiple clients that are capable of providing the SFTP protocol available to the FI. FI are encouraged to evaluate the clients available to ensure alignment with their business and technical needs. Eg: filezilla, winSCP.

#### **3.3 Network**

By default these services are available over the internet. Leased line connectivity is available on request. Please get in touch with the helpdesk for further details on leased line connectivity.

#### **3.4 Bandwidth**

Bandwidth required will be based on your data size and count of end-users accessing this data

#### **3.5 Protocols and Standards**

SFTP: FTP over SSH (Secure Shell protocol) for data transfer over an encrypted connection.

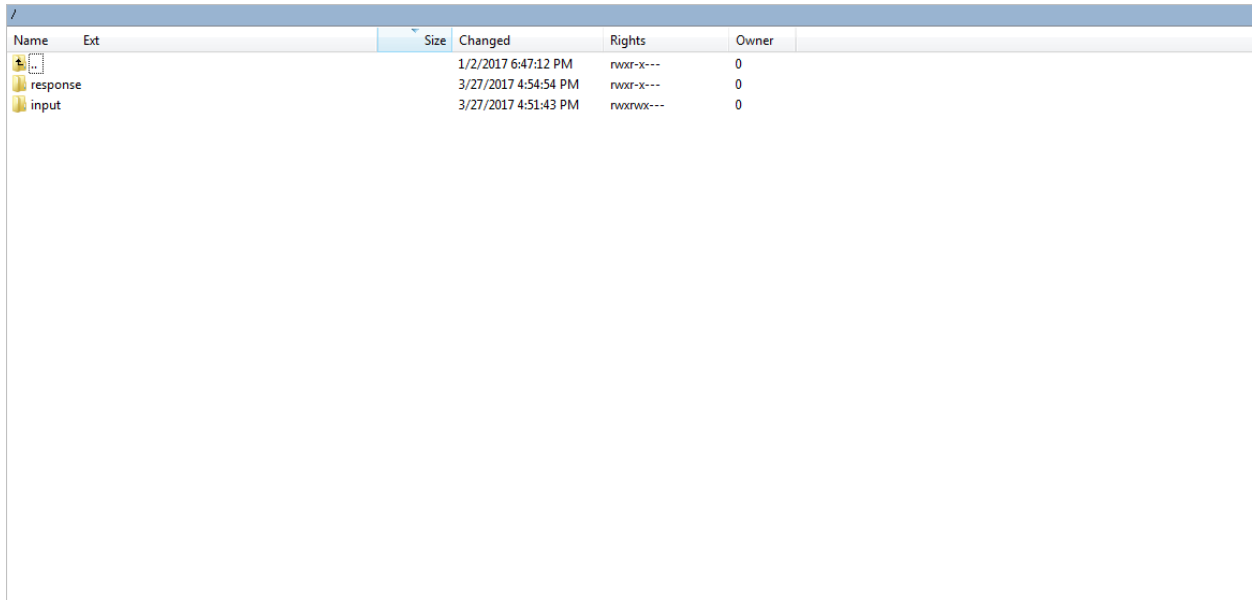
## 4 Bulk Upload Procedure

### 4.1 Folder Structure and Bulk Upload File Format

#### 4.1.1 Folder Structure

Once the user logged in with his user id and password, the user will be landed on the home directory.

The SFTP account of each user will have two folders in the home directory. “input” and “response” as shown in the below



The screenshot shows a file manager window with a table of files and folders. The table has columns for Name, Ext, Size, Changed, Rights, and Owner. There are two folders listed: 'response' and 'input'.

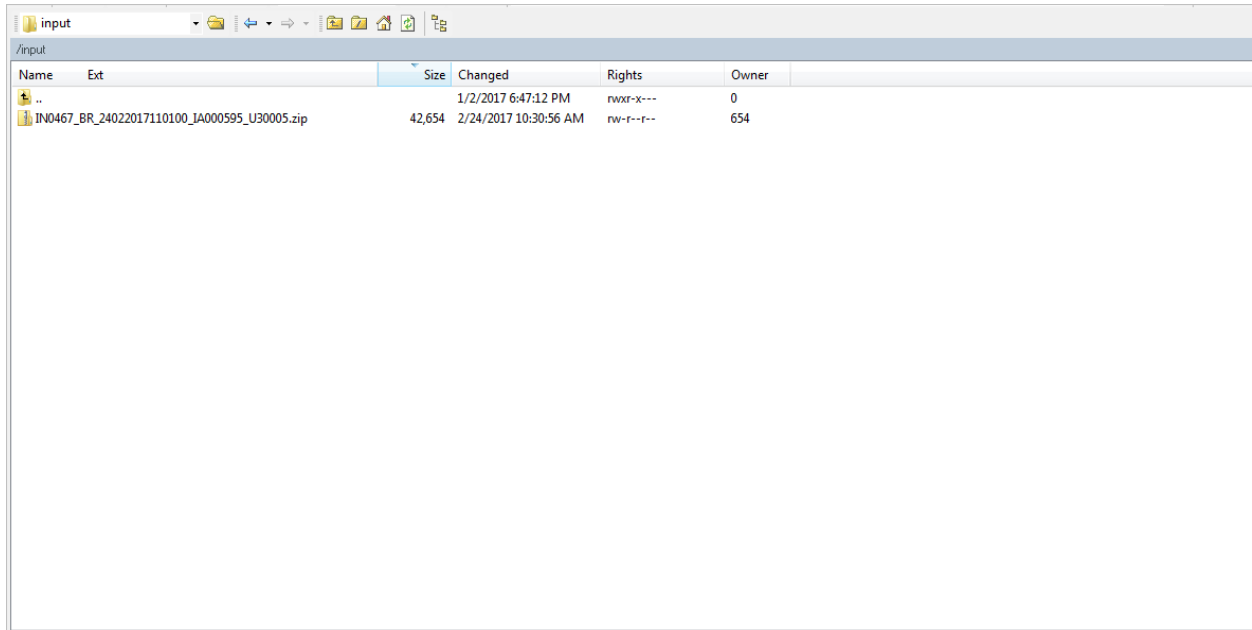
Name	Ext	Size	Changed	Rights	Owner
response			1/2/2017 6:47:12 PM	rwxx-x---	0
input			3/27/2017 4:54:54 PM	rwxx-x---	0

**Figure 1 : FI Input and Response folder**

##### 4.1.1.1 “Input” Folder

The input folder allows the SFTP user to upload the bulk file in zip format. Once the upload of the file (Eg: IN106\_137\_08042016163232\_BU000000\_U40001.zip) is completed then trigger file with name same as uploaded zip file has to be uploaded. The trigger file extension has to be (.trg). The trigger file should be an empty text file. When the trigger file (Eg: “IN106\_137\_08042016163232\_BU000000\_U40001.trg”) is uploaded the SFTP Listener will start processing the zip file. The zip file and the trigger file will be deleted from the folder once the processing has been completed.





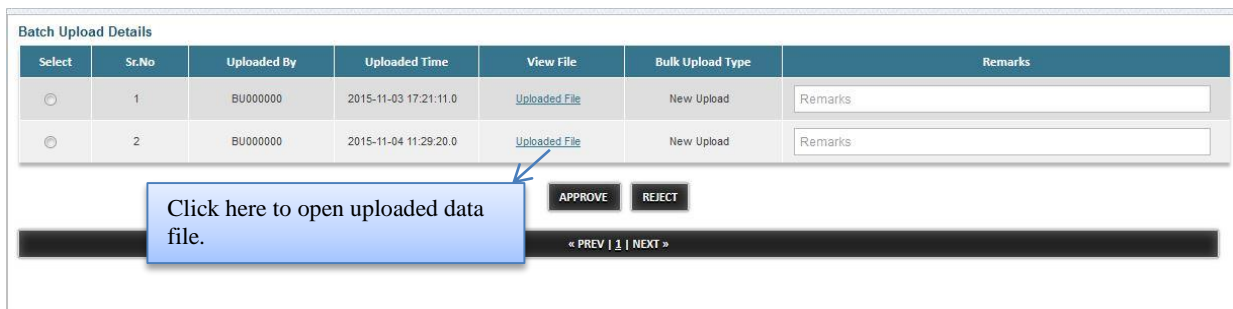
**Figure 2 : Input folder**

#### 4.1.1.2 Bulk KYC Authorization:

In Bulk KYC Authorization section Admin/checker can see the list of bulk KYC records uploaded by maker in batches and can approve/reject a batch after reviewing the details of records in that file. All admin users can access this functionality.

Checker has to follow following steps to approve/reject uploaded KYC batch.

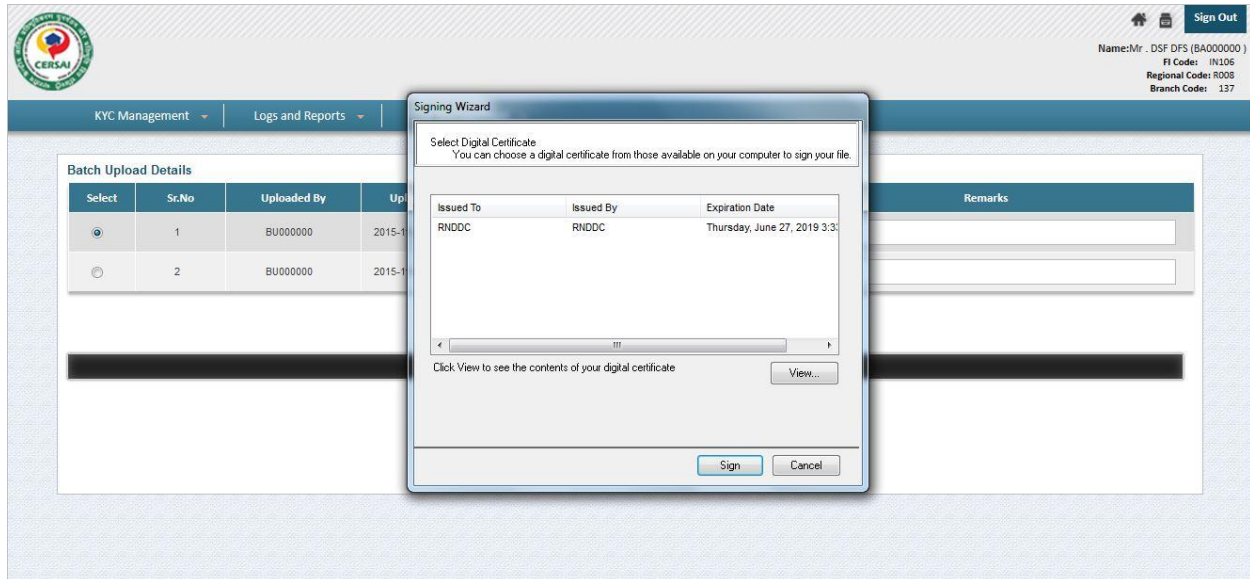
1. Click on “Bulk KYC Authorization” link under KYC Management menu.
2. User will be redirected to following screen where list of bulk records pending for checker approval can be seen.



**Figure 3 : Bulk upload authorization screen**

3. Select the radio button for the particular batch.

4. Click on Upload file link to open uploaded data file.
5. Click on “APPROVE” button if uploaded data found to be correct. Immediately a pop will appear to select digital certificate.



**Figure 4 : Bulk Upload Authorization: Digital signing**

6. Select digital certificate from the list and click on “Sign” button. Batch records will be approved and will be sent to registry for further process.

User can reject a batch if there is any discrepancy in uploaded data by clicking on “REJECT” button after providing the reject reason in Remarks field. Digital certificate is required for rejection also.

#### **4.1.1.3 “Response” Folder**

Once file is uploaded is processed and the response is written in the response folder. There are two types of response. First response will be generated when the file is upload. During these phase basic file validation is done. The second response will be generated once the file is approved.

User will have only read only permission in the response folder.

The file name of the response when the file is uploaded will be **[INSTID]\_[BRANCHID]\_[DDMMYYYYHHmmss]\_[USERID]\_U[BATCHID]\_RES0.txt**

The response file format and file name for the file after approval will be same as web upload.

Name	Ext	Size	Changed	Rights	Owner
...			1/2/2017 6:47:12 PM	rw-r-x---	0
IN0467_BulkDownload_27032017165454	.zip	23,405	3/27/2017 4:54:54 PM	rw-r--r--	0
IN0467_27032017_27032017_1_1_2	.csv	270	3/27/2017 11:54:00 PM	rw-r--r--	0
IN0467_RG_27032017125912_IA000595_D00004	.RESO.txt	115	3/27/2017 4:46:57 PM	rw-r--r--	0
IN0467_RG_27032017125912_IA000595_D00005	.RESO.txt	85	3/27/2017 4:48:28 PM	rw-r--r--	0
IN0467_RG_27032017125912_IA000595_D00006	.RESO.txt	62	3/27/2017 4:51:43 PM	rw-r--r--	0
IN0467_IN0467BR_27032017125912_IA000595_D00003	.RESO.txt	36	3/27/2017 4:44:11 PM	rw-r--r--	0
IN0467_IN0467BR_27032017125912_V1.1_IA000595_D3	.RESO....	27	3/27/2017 4:40:56 PM	rw-r--r--	0
IN0467_IN0467BR_27032017125912_IA000595_V1.1_D3	.RESO....	27	3/27/2017 4:40:05 PM	rw-r--r--	0

**Figure 5 : Response folder**

#### 4.1.1.4 File Upload Format

The bulk upload zip file has a particular file format.

**[INSTID]\_[RegionCode/BranchCode]\_[DDMMYYYYhhmmss]\_[USERID]\_U[BATCHID].zip**

**Eg:** IN0467\_RG\_08042016163232\_IA000595.U40001.zip

The structure inside the zip file will be

```
[INSTID]_[
RegionCode/BranchCode]_[DDMMYYYYHHmmss]_[USERID].U[BATCHID].zip
--[INSTID]_[ RegionCode/BranchCode]_[DDMMYYYYHHmmss]_[USERID].U[BATCHID]
--[INSTID]_[
RegionCode/BranchCode]_[DDMMYYYYHHmmss]_[USERID].U[BATCHID].txt
--[images1].zip
--[images1].zip
```

## 5 **Bulk Download through SFTP:**

FI can download CKYC records in bulk through SFTP. Following are the steps need to be followed.

1. Copy the bulk download request file into the SFTP input folder.

Download request file name format:

**FI Code\_R Region/Branch  
code\_DateTimeStamp\_VersionNumber\_Dnnnnn\_UserID.txt**  
Eg: IN0467\_RG\_27032017125912\_V1.1\_D00006\_IA000595.txt

2. Copy the trigger file into the SFTP input folder. Download request file name and trigger file name should be same.

3. Trigger file name format:

**FI Code\_R Region/Branch\_code\_DateTimeStamp\_VersionNumber\_Dnnnnn\_UserID.trg**  
Eg: IN0467\_RG\_27032017125912\_V1.1\_D00006\_IA000595.trg

After trigger file is placed, both input and trigger file will be processed from the input folder. An immediate response file will be generated in the response folder. Immediate response file states whether download request file is uploaded successfully or not (Errors are shown if any).

Sample response file name format:

**FI Code\_R Region/Branch  
code\_DateTimeStamp\_VersionNumber\_Dnnnnn\_UserID\_RES0**  
Eg: IN0467\_RG\_27032017125912\_V1.1\_D00004\_IA000595\_RES0

4. After the request file got uploaded successfully, corresponding checker needs to authorize the same on Bulk upload Authorization screen (Similar to bulk upload flow). After the checker approval, bulk download response is generated in the response folder.

Zip file containing data and images will be downloaded into the response folder after some time after the successful upload of download request file.

## 6 **Updates Notification:**

Update notification report is generated everyday (End of the Day) in CSV format and is available for FI in SFTP response folder. If there are no updates on that day, blank file will be generated.

Update notification file name format:

**FI Code\_FromDate\_ToDate\_VersionNo\_TotalNumberofRecords.csv**  
Eg: IN0467\_26032017\_26032017\_1.1\_0.csv

## 7 **Bulk Search through SFTP:**

FI can search for customer's CKYC Numbers in bulk by providing ID numbers. Following are the steps need to be followed.

1. Copy the bulk search request file into the SFTP input folder.

Bulk search request file name format:

**FI Code\_DateStamp\_VersionNumber\_Snn\_UserID.txt**

Eg: IN046\_13062017\_V1.0\_S01\_IA000595.txt

2. Copy the trigger file into the SFTP input folder. Download request file name and trigger file name should be same (Extension should be .trg for trigger file)
3. After trigger file is placed, both input and trigger file will be processed from the input folder. An immediate response file will be generated in the response folder. Immediate response file states whether bulk search request file is uploaded successfully or not (Errors are shown if any)

Sample Bulk search immediate response file name format:

**FI Code\_DateStamp\_VersionNumber\_Snn\_UserID\_RES0.txt**

Eg: IN0467\_13062017\_V1.0\_S01\_IA000595\_RES0.txt

4. After the request file got uploaded successfully, corresponding checker needs to authorize the same on Bulk upload Authorization screen (Similar to bulk upload flow). After the checker approval, bulk search response is generated in the response folder.

Sample Bulk search response file name format after checker authorization:

**FI Code\_DateStamp\_VersionNumber\_Snn\_UserID\_RES1.txt**

Eg: IN0467\_13062017\_V1.0\_S01\_IA000595\_RES1.txt

## 8 FI Reconciliation through SFTP:

Entities can take decision of FIR records through SFTP by uploading Bulk FIR response file.

**Note:** SFTP module would only be supported for file version 1.2.

Following are the steps need to be followed.

1. Copy the bulk FI Reconciliation response file (to take decision as NM or CM) into the SFTP input folder.

Bulk FIR response file name format:

**FI Code\_DateStamp\_RECON\_VersionNumber\_nnnnn\_UserID.txt**

Eg: IN0531\_11062018\_RECON\_1.2\_00001\_IA000763.txt

2. Copy the trigger file into the SFTP input folder. Upload response file name and trigger file name should be same (Extension should be .trg for trigger file)
3. After trigger file is placed, both input and trigger file will be processed from the input folder. An immediate response file will be generated in the response folder. Immediate response file states whether bulk FIR response file is uploaded successfully or not (Errors are shown if any)

Sample Bulk FIR immediate response file name format:

**FICode\_DateStamp\_RECON\_VersionNumber\_nnnnn\_UserID\_RES0.txt**

Eg: IN0732\_15112018\_RECON\_1.2\_00010\_IA001297\_RES0

4. After the files got uploaded successfully, corresponding checker needs to authorize the same on Bulk upload Authorization screen (Similar to bulk upload flow). After the checker approval, bulk FIR Post Processing Response is generated in the response folder.

Sample Bulk FIR Post Processing Response file name format after checker authorization:

**FICODE\_DDMYYHMMSS\_RECON\_RESPONSE.nnnnn.txt**

Eg: IN0732\_15112018035036\_RECON\_RESPONSE.00010.txt

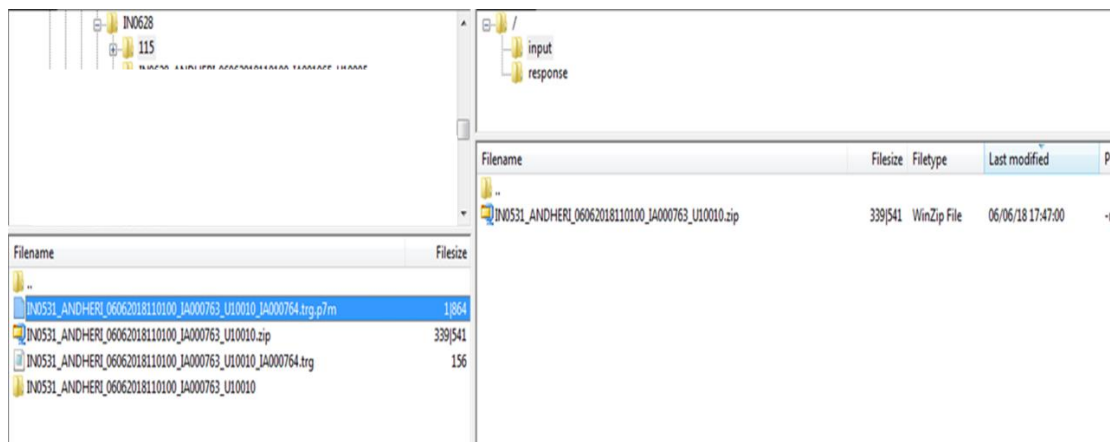
## 9 Straight through process for SFTP:

A new process has been introduced where, digitally signed checker files will eliminate the requirement for the checker to manually login and approve the files.

This process has been introduced for bulk search upload, update, download and FI Reconciliation

Following are the steps need to be followed.

1. Login into SFTP and Copy the bulk request file into the SFTP input folder.

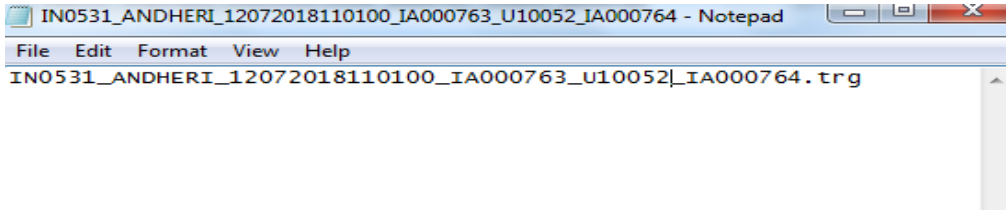


**Figure 6 : Bulk request file in Input Folder**

**Note:** For the File structure, please refer the corresponding sections mentioned earlier in this document and the relevant file structures available on the website.

2. Checker need to signed the trigger file digitally with his digital signature. A signed trigger file will have an extension 'p7m' instead of a 'trg'.

Inside the trigger file, user has to mention the trigger file name. eg: If bulk upload trigger file name is **IN0531\_ANDHERI\_12072018110100\_IA000763\_U10052\_IA000764.trg**, The user has to give the same file name as text inside the file i.e IN0531\_ANDHERI\_12072018110100\_IA000763\_U10052\_IA000764.trg

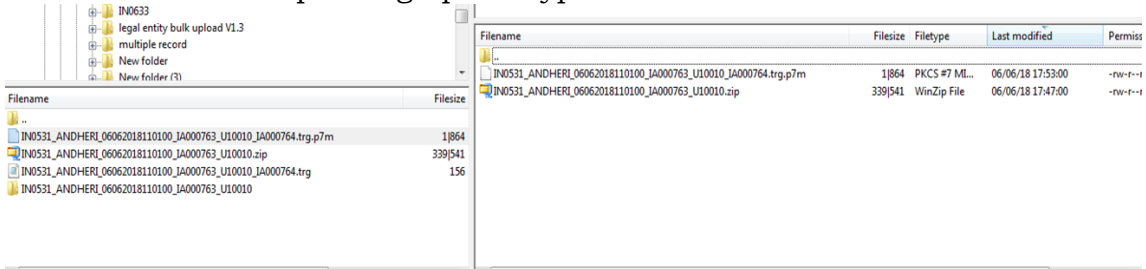


**Figure 7: Trigger File**

The trigger file will have the naming convention before digitally signed: **<zip/upload file name>\_<checker user ID>.trg**

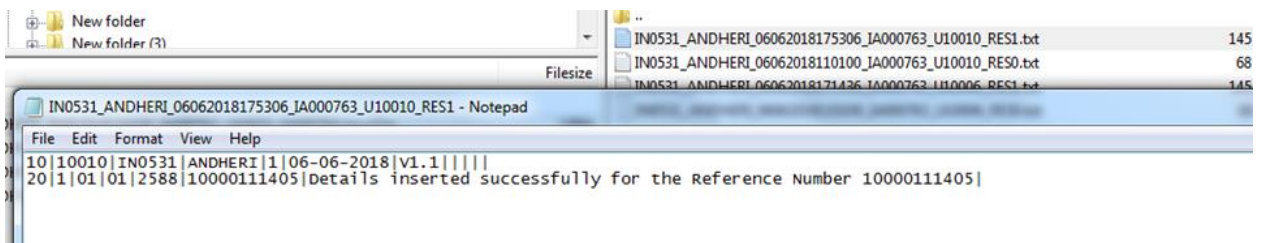
The trigger file will have the naming convention after digitally signed: **<zip/upload file name>\_<checker user ID>.trg.p7m**

3. Login with Checker into SFTP. Upload the digitally signed trigger file in Input Folder for the corresponding upload type.



**Figure 8: Checker Authorization Input Folder**

4. After the files are validated, the checker approval is not required and the file will be processed directly. Admins can view the response in Response folder.



**Figure 9: Response file**

**Note:** For the File structure of all the Response type, please refer the corresponding section mentioned earlier in this document.

