# Data Exchange Application

## User Guide

May 2025

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# Version Updates

| Version # | Date | Changes Made |
|---|---|---|
| 2.0 | 7/2020 | July 2020 release |
| 2.1 | 5/2021 | Clarified functionality and updates about system functionality |
| 2.2 | 11/2021 | Added Appendix B Troubleshooting DEXA File Import Errors |
| 2.3 | 11/2023 | Clarified functionality and updated Appendix B |
| 2.4 | 5/2025 | Updated font and structure to align with new NCUA correspondence requirements |

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# Chapter 1: Introduction to DEXA

## Overview

The Data Exchange Application (DEXA) is the NCUA's web-based data ingest tool used to upload credit union member loan and share data provided in compliance with Share and Loan Record Layout Specifications webpage.

Some of DEXA's key features include the ability to:

- Upload loan and share data files;
- Upload a mapping schema for credit union loan and share type codes;
- Validate some data during submission while other validations will be provided after file submission;
- View the status of submitted files; and
- Remove submitted files.

**Note:** The NCUA recommends using Google Chrome Internet browser when accessing DEXA.

## Accessing DEXA

Authorized users must log in to NCUA Connect to access DEXA. Internal users (i.e., NCUA staff) who need access to NCUA Connect can contact NCUA's technical assistance service at OneStop@ncua.gov. External users, including credit unions and state supervisory authorities (SSA), should contact their Admin Portal administrator for access. If you do not have an Admin Portal administrator, please contact OneStop@ncua.gov to establish one.

DEXA allows authorized users to navigate to a specific credit union to upload member loan and share data files and view a history of previously uploaded files. To access DEXA:

1. Log in to NCUA Connect.

2. Click the DEXA icon.

# Navigating DEXA

Credit union users will automatically be directed to the Loan and Share Uploads landing page. NCUA and SSA users will be directed to a search page to locate a specific credit union.

## Search for a Credit Union (NCUA and SSA Users Only)

To navigate to a credit union, begin typing the first few letters of the credit union's name or the first few numbers of the credit union's charter number. A drop-down list of credit unions will appear for the user to select the appropriate credit union. The results table will populate once the credit union is selected or the user clicks **Enter** on their keyboard.



Click the radio button next to the credit union's name and click **Continue** to navigate to the Loan and Share Uploads landing page



## Loan and Share Uploads Landing Page

The Loan and Share Uploads landing page displays the history of loan and share uploads, including the status and validation results for each file. It also includes a **New Upload** button for users to upload loan and share data and mapping files.

Files are sorted in descending upload date order on the landing page (i.e., most recent upload appears first in the table). Failed uploads are automatically removed from view after 30 days from the upload date. Users can see failed uploads older than 30 days by clicking the "Show failed uploads older than 30 days" toggle in the bottom right corner of the screen.



**Note:** Clicking the DEXA logo in the upper left corner will return the user to the credit union search page (for NCUA and SSA users only).

# Chapter 2: Uploading Data Files

## Overview

The import process includes creating/utilizing a mapping of the credit union loan and share type codes in a Microsoft Excel document, uploading data and mapping files, validating the uploaded files, and obfuscating social security numbers. After validation, the data is available in a business intelligence tool for examination purposes. Once files are uploaded, credit union users do not have access to the data or analytics.

## Data File Schema Requirements

The loan and share data file schema requirements are detailed on the Share and Loan Record Layout Specifications webpage . DEXA allows users to upload properly formatted tab delimited text files. The loan and share files uploaded into DEXA cannot be Microsoft Excel or csv files. Header and footer rows are not required, but the system will accept files with a single-row header or footer.

## Mapping Data Files

The type map file is a Microsoft Excel spreadsheet that correlates the credit union's loan and share type codes to a standardized type list used for analytics in MERIT. A completed type map file is required to successfully submit loan and share data files in DEXA. Users will download and complete loan and share type map templates to be used when uploading loan and share data files.

| Record Code | Credit Union Share Type Codes | Credit Union Share Type Code Description | NCUA Share Types |
|---|---|---|---|
| S | S0 | Share 1 | Share Drafts |
| S | SHD1 | Share 2 | Regular Shares |
| S | U | Share 3 | Money Market Shares |

The mapping file must be in Microsoft Excel format. Users without Microsoft Excel have several options including using the free Microsoft Web Application (an account must be created with Microsoft) or asking your examiner for assistance.

**Note:** It is recommended users (both credit union and examiner staff maintain these mapping files from year to year for future examinations and update them, as needed. To

download and complete the type map file template the first time or verify you have the most recent template:

1. From the Loan and Share Uploads landing page, click the **New Upload** button at the top of the screen to navigate to the upload page.
2. Scroll down to the **Type Map** section and click the type map template link to access the template. Alternatively, users can access the type map templates from the DEXA webpage on NCUA's website at . Users must always use the most current template and should transfer content from a previous version to the newest template, if needed.



**Type Map**

Download a Loan Type Map template here. The Loan Type Map is a document that maps the credit union's loan type codes to a standardized loan type list used for analytics. A completed type map is required to successfully submit your files.

3. Save the loan and share type map templates to your computer.
4. Open the Loan Type Map Template.
5. Input the credit union's Loan Type Codes into column B, a description of the loan type in column C, and using the dropdown options, identify the corresponding NCUA Loan Type in column D. The NCUA type codes are very similar to categories used in the 5300 Call Report and are utilized for visualizations in the analytics. A couple helpful tips:
   a. The mapping file cannot be blank. Always fill out at least one row (i.e., map one credit union code to an NCUA code).
   b. The mapping file can contain valid credit union codes and have some missing codes. Valid codes must be mapped to NCUA codes.
   c. The mapping file can contain some credit union codes that are not present in the data file. This often happens when credit union codes are retired.
   d. List each type code only once in the document.
   e. Do not modify column D. This will distort the information available to the examiner and may require a new loan or share file to be uploaded.

f.  If you are unable to match a credit union type code and description to one of the NCUA types, it is recommended you assign the loan type to "All Other Unsecured Loans" and the share type to "All Other Shares."

g.  If the credit union does not use the Type Code field or there are some loans or shares without a type code, then leave the **Credit Union Type Code** column blank (column B) and assign loans to "All Other Unsecured Loans" and the shares to "All Other Shares."



6.  Save the updated loan type map template to your computer to be used when submitting the loan data file(s).

7.  Repeat the same process for the share type map template and save the updated share type template to your computer to be used when submitting the share data file(s).

The mapping file does not overwrite the credit union type codes in the dataset. During the submission process, both the credit union type code and the NCUA code description are saved and available in MERIT analytics for the examiner.

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**Note:** Regardless of the number of loan or share files being uploaded, only one mapping file is needed for loans and one mapping file for shares.

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DEXA includes multiple data validation processes, including the ability to upload loan or share data files along with a mapping file that has empty or missing credit union account type codes. The system will provide an error file that can be used as a new mapping file with all credit union account type codes present in the data file. See **DEXA Mapping Validation Results** below for more information.

# Uploading Data Files

After the loan and share mapping files are complete, users are ready to upload loan and share data files. To upload data files, access the Loan and Share Uploads landing page:

1. Click the **New Upload** button at the top of the screen to navigate to the upload page and select either **Loan** or **Share**.
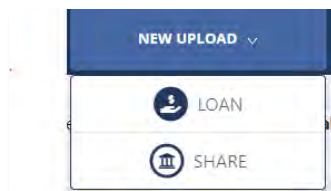


2. Enter the **Download Date**. This is the "as of" date of the data based on the credit union's data processing system.
3. Enter the **Exam Effective Date**. This is the date provided in the communication about the exam. If you are unsure of the exam effective date, contact the examiner in charge before proceeding. Entering an incorrect exam effective date could impact the ability to view analytics or may impact the accuracy of some queries.



4. In the **Loan File(s)** or **Share File(s)** section, add the loan or share data file(s) by browsing to the location where you saved the files or using the drag and drop feature. The user can upload multiple files at one time. The file must be in a tab delimited text format.

**Note:** Please limit the naming convention of the data file(s) to the following characters: 0-9, a – z, A – Z, ! - _ . * ' ( ). The file size is limited to 10 GB per file. It is also recommended the files be uniquely named indicating they are for this particular credit union such as including the charter number, name of the credit union or acronym.

DEXA will only accept loan files on the Loan Upload form and share files on the Share Upload form. If a user tries to upload the incorrect type of file (e.g., a share file on the Loan Upload form), the user will receive a validation error.

When attaching data files, DEXA performs several validations including:
- DEXA requires at least 31 columns and will accept no more than 39 columns for loan files.
- DEXA requires at least 11 columns and will accept no more than 20 columns for share files.

Users will receive a validation error and be unable to upload loan or share files with an incorrect number of columns in the data file. See Appendix B for troubleshooting tips.

When attaching mapping files, DEXA performs several validations including:

- DEXA requires an L or S in column A of the mapping file. The Microsoft Excel file includes a  formula in that column and will automatically add the L or S.
- Column B of the mapping file cannot include any duplicates in the credit union loan or share type codes .
- DEXA requires numbers in the credit union loan or share type codes in column B to be in text format and not numeric format.
- DEXA requires NCUA loans or share type codes in column D to only be from the dropdown option.
- NCUA loans or share type codes in column D cannot be blank.

Users will receive validation errors and be unable to upload loan or share mapping files without correcting the mapping documents as noted in the error reports. See Appendix B for troubleshooting tips.

5. After attaching the data file(s), the user can preview the data file to verify the file format or remove the file by clicking either button next to the file name.

Limit the naming convention to the following characters: 0-9, a-z, A-Z, ! - _ . * ' ()

Drop files here to upload or click to browse
10 GB LIMIT PER FILE

Select Preview to see a shortened list of records for data quality review. Select Remove to discard the selected file.

E2ELoan.txt                     Preview        Remove

6. In the **Type Map** section, add the completed type map Excel file by browsing to the location where you saved the file on your computer or using the drag and drop feature.

* Type Map

Download a Loan Type Map template here. The Loan Type Map is a document that maps the credit union's loan type codes to a standardized loan type list used for analytics. A completed type map is required to successfully submit your files.

Drop a file here to upload or click to browse
10 GB LIMIT PER FILE

Prior to clicking **Submit**, users can remove the attached type map file by clicking the **Remove** button and attaching a new file.

**Type Map**

Download a Loan Type Map template here. The Loan Type Map is a document that maps the credit union's loan type codes to a standardized loan type list used for analytics. A completed type map is required to successfully submit your files.

Remove the Type Map file below to attach a new file

E2E Loan Type Map.xlsx                                              Remove

7. Click **Submit** to start the upload and validation process. Users will see a status bar for the data files and mapping file. While the file is uploading, do not close the browser. This will interrupt the upload process and require users to start over. Once the system returns to the Loan and Share Uploads Landing page, users can close the browser while the system processes the file(s).

E2E Loan Type Map.xlsx

100%

CANCEL                                    Privacy

# Re-Uploading Data Files

If the user uploads a loan or share file with the same name, download date, and exam effective date into DEXA, only the new or modified records will be added or updated in the analytics, as applicable.

If the examiner requests a new data download file excluding records (e.g., charged off loans), the original uploaded file should be deleted by the examiner so the new file can then be uploaded. Summary data, including the loan upload date, for each data file uploaded is recorded in the analytics on the Loan and Share Landing Page.

# Chapter 3: Validating Data Uploads

## Overview

After initiating the upload process, DEXA will begin a validation process (running in the background). The validation processing time will vary depending on the size of the file and the number of users uploading files simultaneously. During this process, users do not need to remain logged in to DEXA. The user who uploaded the file(s) will receive an email notification once the validation process is complete indicating a successful or failed upload.

During the automated validation process, DEXA performs the following validations:

- Compares the loan and share type codes in the data files to the reported type codes in the type map Excel file to ensure the mapping document includes all loan or share type codes; and
- Ensures the loan and share files have the correct data type in each data field (e.g., a date field only includes data formatted as a date, numeric fields do not contain alpha characters, etc.).

> **Note:** Share or loan files may have null values in the columns. However, the examiner may contact the credit union if data is missing that is needed for analysis during the examination process. The NCUA encourages credit unions to work with their data processing vendors to provide accurate and complete data sets.

## Viewing Upload Results

Users can view the history and status of the loan and share uploads and validation results from the Loan and Share Uploads landing page. Users **cannot** access or view any loan and share data through DEXA once files are submitted.

| FILE NAME | FILE TYPE | DOWNLOAD DATE | EFFECTIVE DATE | UPLOAD DATE | STATUS | SCHEMA VALIDATION RESULTS | DATA MAPPING VALIDATION RESULTS |
|---|---|---|---|---|---|---|---|
| E2ELoan.txt | L | 2020-05-17 | 2020-05-17 | 2020-07-03 | ● Submitted | | |

Each row on the landing page displays the following information:

- File name – name of the data file uploaded;
- File type – a 'L' indicates a loan file; a 'S' indicates a share file;
- Download date – the 'as of' date of the data from the credit union's data processor entered during the upload process by the user;
- Effective date – the exam effective date this data is associated with entered during the upload process by the user;
- Upload date – date the file was uploaded into DEXA;
- Status – indicates the current status of the data file:
    1. Processing – file is in the automated validation process.
    2. Failed – file failed the schema and/or the data mapping validation process.
    3. Submitted – file passed the schema and data mapping process and was successfully accepted by DEXA.
    4. Deleted – file has been removed by a NCUA or SSA user.
- Schema validation results – provides a **Download** option if a file fails the schema validation process. This field will be blank if a file passes the schema validation.
- Data mapping validation results – provides a **Download** option a file fails the data mapping validation process. This field will be blank if a file passes the data mapping validation.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| LOAN 12 19 | L | 2019-12-31 | 2020-03-31 | 2020-06-23 | ● Failed | ⬇ Download | |
| LOAN 12 19.txt | L | 2019-12-31 | 2020-03-31 | 2020-06-24 | ● Failed | | ⬇ Download |

## Sorting Upload Results

The upload history can be sorted by file name, file type, download date, effective date, or upload date by clicking the sort arrows ⇕ next to the column heading.

| SELECT | FILE NAME ⇕ | FILE TYPE ⇕ | DOWNLOAD DATE ⇕ | EFFECTIVE DATE ⇕ | UPLOAD DATE ⇕ |
|---|---|---|---|---|---|

# Viewing Validation Results

If a file fails either the schema or data mapping validation, the data file is purged and is not ingested into MERIT analytics. The user will receive an email notification indicating the file failed validation. A summary of the validation results is provided on the Loan and Share Uploads landing page. If the landing page indicates the file failed, but there is no error message, contact NCUA's technical support team at OneStop@NCUA.gov.
To view the validation results:

1. Log in to DEXA.
2. On the Loan and Share Uploads page for the credit union, click the **Download** link. The user will be prompted to Save or Open the file.
3. Open the file to view the reasons the file was not imported. See Appendix B for troubleshooting tips.
4. Correct the data or mapping file, as applicable, and upload the files again.

| DOWNLOAD DATE ⇕ | EFFECTIVE DATE ⇕ | UPLOAD DATE ⇕ | STATUS | SCHEMA VALIDATION RESULTS | DATA MAPPING VALIDATION RESULTS |
|---|---|---|---|---|---|
| 2021-02-26 | 2021-02-27 | 2021-02-26 | ● Submitted | | |
| 2021-02-26 | 2021-02-26 | 2021-02-26 | ● Failed | | ⬇ Download |
| 2021-02-26 | 2021-02-26 | 2021-02-26 | ● Failed | ⬇ Download | |

## Data Mapping Validation Results

Data mapping validation errors are related to the loan or share type map document created by the user to map the credit union type codes to the NCUA type codes. DEXA allows users to upload loan or share data files along with a mapping file that has empty or missing credit

union account type codes. The system will provide an error file that can be used as a new mapping file with all credit union account type codes present in the data file. Users can amend the new mapping file and use the new file to import back into DEXA or add the missing types to the original file and use it to import into DEXA.

I DEXA will return a mapping file if the following criteria are met:

- Users must have a valid loan or share data file with no schema (data) errors. DEXA will require users to correct any schema errors before returning a mapping validation results.
- The mapping file can be missing some or all credit union type codes.
- Users must first go through the upload process (with an invalid mapping document) to obtain the mapping validation results.

The new mapping file is returned in the mapping error file as a new tab. Open the Mapping Validation Error file. There are two tabs. The first tab is the new mapping list (Loans or Shares) and the second tab is the listing of mapping errors.



| VALUE | ERROR |
|-------|-------|
| B | The Account Type Code B is assigned to one or more account numbers in the data file and is not mapped to an NCUA Type Code in the associated mapping file. |

The first tab (Loans or Shares) will show all the type codes the user initially included in the mapping document (if valid) along with the new codes found within the Loan or Share uploaded data file.

The new codes will be missing data in columns A, C, and D. Update the spreadsheet with the following information:

- Complete column C with the credit union description of the type.
- Map each type code to a NCUA Type Codes in column D. Always use the drop-down options provided in the template for column D. Do not create new NCUA Type Codes.
- Column A will automatically populate after you complete columns C and D.
- Resubmit your data and new mapping file in DEXA.

| A | B | C | D |
|---|---|---|---|
| Record Code | Credit Union Loan Type Codes * | Credit Union Loan Type Code Description * | NCUA Loan Types * |
| L | L | Desc 3 | Direct - Used Vehicle Loans |
| L | HPOP | Desc 6 | Direct - Used Vehicle Loans |
| L | HOP | Desc 9 | Direct - Used Vehicle Loans |
| L | M | Desc 5 | Non-Federally Guaranteed Student Loans |
| L | G | Desc 8 | Non-Federally Guaranteed Student Loans |
| L | P | Desc 2 | Non-Federally Guaranteed Student Loans |
| L | BCSH | Desc 4 | Payday Alternative Loans (PAL loans) (Federal CU Only) |
| L | LV | Desc 10 | Payday Alternative Loans (PAL loans) (Federal CU Only) |
| L | LS | Desc 1 | Payday Alternative Loans (PAL loans) (Federal CU Only) |
| L | H | Desc 7 | Payday Alternative Loans (PAL loans) (Federal CU Only) |
| | W | | |
| | GOP | | |
| | O | | |
| | F | | |
| | CRB | | |
| | B | | |
| | R | | |
| | SUMCP | | |
| | JOP | | |
| | N | | |
| | X | | |
| | J | | |

**Note:** If a user inputs an invalid credit union loan/share type code in column B it will be removed from the DEXA generated mapping document.

| Account Num | Account Type Code | Error | | | | |
|---|---|---|---|---|---|---|
| 149 | B | Account Type Code is not mapped to NCUA Type Code in associated Mapping document | | | | |

## Schema Validation Errors

Schema validation errors are related to the loan and share files generated from the credit union's data processing system and indicate the record number, field, value, and a brief description of the error. Credit unions are encouraged to work with their data processing vendors and their examiner to correct these errors. Additionally, users can open the loan or share file and manually correct these errors. See Appendix B – Troubleshooting DEXA File Import Errors for more information.

| RECORD_NUMBER | TYPE | FIELD | VALUE | ERROR |
|---|---|---|---|---|
| 2 | FIELD | current_loan_balance | 5/15/2020 | The value for this field must be a number which can include decimals. |

v

**Note:** Users can open the loan or share file in Notepad or Excel. If using Notepad, use the **Edit, Go To** function to find the line item. If using Excel, after making any updates, save the file as a tab delimited .txt file before uploading the file into DEXA.

# Chapter 4: Removing Data Files

## Overview

Loan and share data is purged from MERIT when exams are closed. There are scenarios when a file (and the associated analytics) may need to be manually removed. For this reason, NCUA and SSA users can delete files from the Loan and Share Uploads landing page in DEXA. Once a file has been deleted, it cannot be recovered.

## Removing (Deleting) Submitted Files

Once a data file is in **Submitted** status, it can be deleted by NCUA and SSA users. To delete a file:

1. From the Loan and Share Uploads landing page, check the box next to the **Submitted** file(s) to be deleted. A **Delete** button will appear.



2. Click the **Delete** button.
3. The user will receive a prompt to confirm deletion of the file(s). Click **Delete** to remove the file(s). The status will change to **Deleted**.

# Appendices

## Appendix A – DEXA Email Notifications

| Notification | Recipients | Purpose |
|---|---|---|
| File upload successful/ File upload failed | User who submitted the file cc. NCUA District Examiner SSA Office role users (for FISCUs) | Notification for each loan/share file uploaded indicating successful import or failure. User is prompted to log in to DEXA, view the error report, and re-upload the file, if applicable. |

## Appendix B – Troubleshooting DEXA File Import Errors

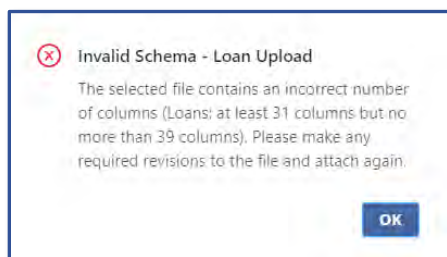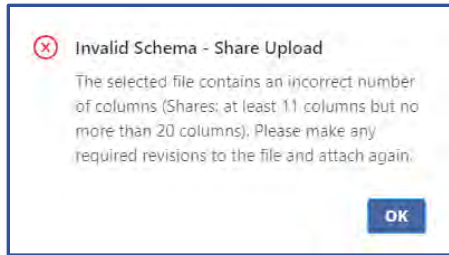### Errors Attaching Data Files

### *Error*

The selected file contains an incorrect number of columns

### *Description*

Occurs when a user is attaching a file in DEXA. The data file is missing columns or has more columns than the schema allows.

## *Corrective Action*

1. Open Microsoft Excel.

2. Click Open and search for the data file on your computer.

3. Follow the prompts in the Text Import Wizard.

4. Moving from left to right, match the columns with the schema requirements from NCUA's DEXA webpage. The last column for Loans should be 'AM' and the last column for Shares should be 'T'.

5. Remove any extra columns sometimes seen between each field.

6. If columns look accurate, there may be blank columns at the end that are not easily visible. Delete a few columns starting with 'AN' in the loan file or column 'U' in the share file (e.g., columns AN – AR, etc.).

7. Save the updated data file as a tab delimited text file.

## Errors Attaching Mapping Files

### *Error: Column A*

DEXA requires a L or S in column A of the mapping file. There is a formula in that column.

Description

⊗ Mapping File Error(s) Found

Blank or invalid record codes detected in column A in rows 8, 12 in the mapping document

Corrective Action

To fix, update record code(s) in column A to "L" or "S".

### *Error: Column B - Duplications*

DEXA requires no duplicates in the credit union loan or share type codes in column B of the mapping file.

Description

⊗ Mapping File Error(s) Found

Credit union loan or share type codes 4 in column B are duplicated in the mapping document.

Corrective Action

To fix, identify credit union type codes duplicated in column B and delete the extra row so the type code is only listed once.

### *Error: Column B – Text Format*

DEXA requires numbers in the credit union loan or share type codes in column B to be in text format and not numeric format

Description

⊗ Mapping File Errors(s) found

Credit union loan or share type codes 10, 11 in column B are not in text format in the mapping document.

## Corrective Action

To fix, format the cells in column B as text and retype the numbers in the field, including any leading zeros.

### *Error: Column D - Dropdown*

DEXA requires NCUA loans or share type codes in column D to only be from the dropdown option.

## Description

⊗ Mapping File Errors(s) found

Invalid NCUA codes in Column D. Credit union codes in rows 5, 6 are not mapped to valid NCUA codes in the mapping document.

## Corrective Action

To fix, select a valid NCUA code from the dropdown in column D.

### *Error: Column D - Blank*

DEXA requires NCUA loans or share type codes in column D to not be blank.

## Description

⊗ Mapping File Errors(s) found

Blank NCUA codes in column D. Credit union codes in rows 5, 6 are not mapped to valid NCUA codes in the mapping document.

## Corrective Action

To fix, select a valid NCUA code from the dropdown in column D.

## Mapping Validation Errors

### *Error*

Account Type Code is assigned to one or more account numbers in the data file and is not mapped to an NCUA Type Code in the associated mapping file.

### *Description*

Mapping document does not include all type codes or the type codes do not match the data file.



### *Corrective Action*

1. Open DEXA.
2. Click the Download icon to open the error file
3. Open the mapping Excel file and update columns C and D as needed.
4. Use the error file as your new mapping file. Update the mapping file and reupload the file.

## Schema Validation Errors

### *Error*

The value for this field must be ABC.

### *Description*

Data file has one or more fields, with the wrong type of data;. Date fields should be formatted MM/DD/YYYY (e.g., 12/31/2019). Numeric fields must be a number and cannot be an alpha character including having a comma after the thousands digit. This error can also trigger if a data file is missing one of the required columns in the required schema.

## *Corrective Action(s)*

Start here:

1. Open DEXA.
2. Click the Download icon to open the error file.

If it is a few of rows with errors:

1. Open Microsoft Excel.
2. Click Open and search for the data file on your computer.
3. Follow the prompts in the Text Import Wizard.
4. Navigate to the line number/row in the data file.
5. Move across the fields until you find the value listed in column D of the error file.
6. Update the field in the data file, as needed. DEXA will accept null values (blanks).
7. Save the updated data file as a tab delimited text file.

If it is a few of rows with errors:

1. Open Microsoft Excel.
2. Click Open and search for the data file on your computer.
3. Follow the prompts in the Text Import Wizard.
4. Navigate to the line number/row in the data file.
5. Move across the fields until you find the value listed in column D of the error file.
6. Update the field in the data file, as needed. DEXA will accept null values (blanks).
7. Save the updated data file as a tab delimited text file.