XML Schema Verification

The integrity of the data the New Hampshire Retirement System (NHRS, the retirement system) receives from its employers is crucial to our ability to effectively administer retirement benefits.

In order to assist in the monthly reporting process, NHRS makes available to participating employers an XML Schema Verification Application that allows an employer to test whether its employer reporting XML file is properly formatted (valid) before submitting it.

The XML files you generate for employer reporting must be formatted to match the schema or they will be rejected. The XML Schema Verification Application is an automated and effective means to review the format of payroll system-generated XML files designed for employer reporting.

The XML file verification process is only the first stage of a multi-level review of employer-submitted files. By validating a file before uploading it to the NHRS Data Reporting System (DRS), an employer can address issues with the file proactively, saving time in the process.

This application will identify problems in the XML file such as:

- Missing tags, (i.e. beginning and end tags for batches, phone numbers, etc.)
- Missing fields, (i.e. fund or batch identification numbers)
- Invalid values, (code values not matching the predefined list or values containing unrecognized characters)
- Tags being out of order.

Notes: *(1) This application identifies formatting issues with the XML file, but does not examine the data for exceptions, which may be identified after a valid XML file is submitted to NHRS. (2) The application is used to validate XML files for active member reporting; it is not used for monthly reporting submitted by web entry or a text file and is not used for reporting of NHRS retiree information or Wage Correction.*

This document includes instructions on:

- How to download the XML Schema Verification Application and the XML Schema file
- How to validate an XML file
- A description of common error messages
- Frequently asked questions
- Who to contact at NHRS for assistance

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Downloading the Files You Need

Notes: (1) These steps need to be completed only <u>once</u> per computer. (2) If you have trouble downloading the files, please check with your IT support first to determine if the problem is local to your computer before contacting NHRS.

XML Schema Verification Application

1. Create a folder on your PC to save this application
2. Go to www.NHRS.org (This is the retirement system homepage, <u>not</u> the DRS Quicklink)
3. Click on Employers-Employer Reporting in the menu bar and scroll down the page to the "Employer Reporting Files" section of the page
4. <u>Right</u> Click on "XML Schema Verification Application" (filename: xmlschemaverification.exe)
5. Click on **Save Target As** (on some browsers, the option is titled "Save Link As")
6. A Save As box will open up. Save the XML Validation Application in the folder you created in step 1
7. Click **Save**

XML Schema

1. Go to www.NHRS.org
2. Click on Employers-Employer Reporting in the menu bar and scroll down the page to the "Employer Reporting Files" section of the page
3. <u>Right</u> click on XML Schema (filename: filemapping_07_21_2014.xsd)
4. Click on **Save Target As** (On some browsers, the option is titled "Save Link As")
5. A Save As box will open up. Save the XML Schema in the same folder as the XML Schema Verification Application
   *Note: If your computer does not automatically allow you to save the file extension ".xsd" you will have to manually add the extension to the file. From the Save As box, go to the drop down menu for Save As Type and choose **All Files** and then go to the File Name box , remove the extension that is already there (if any) and <u>add</u> **.xsd** to the end of the file name displayed.*
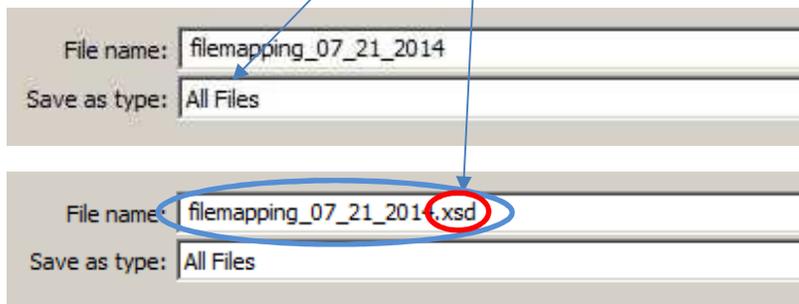
6. Click **Save**

How to use the XML Schema Verification Application

Generate your monthly reporting XML file from your payroll program (we will refer to this file as "your payroll file" in the instructions) and place the file in the folder that you created for the files you downloaded from NHRS.

Click on the xmlschemaverifcation.exe application in the folder.

XMLSchemaVerification	4/22/2014 6:02 PM	Application	378 KB

Note: Some users may get a security warning. If you are sure this is the file you downloaded from NHRS, click through the warning to open the application.

The XML Schema Verification application opens:
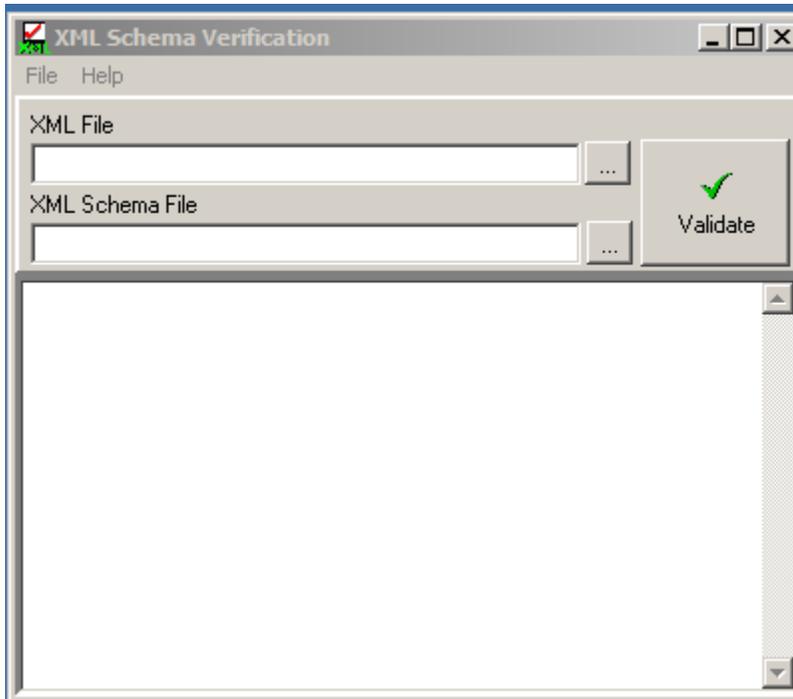
Note: On some computers, the **Validate** *button may not be visible in the window when the XML Schema Verification application opens. If this occurs, make the box larger by moving the mouse cursor to the top or bottom right corner of the window until a double-headed arrow appears. Once this arrow appears, click the mouse down and drag the window outward until the buttons appear. (You can also maximize the window to full screen mode.)*

Click the ellipse button to the right of the **XML File** field.
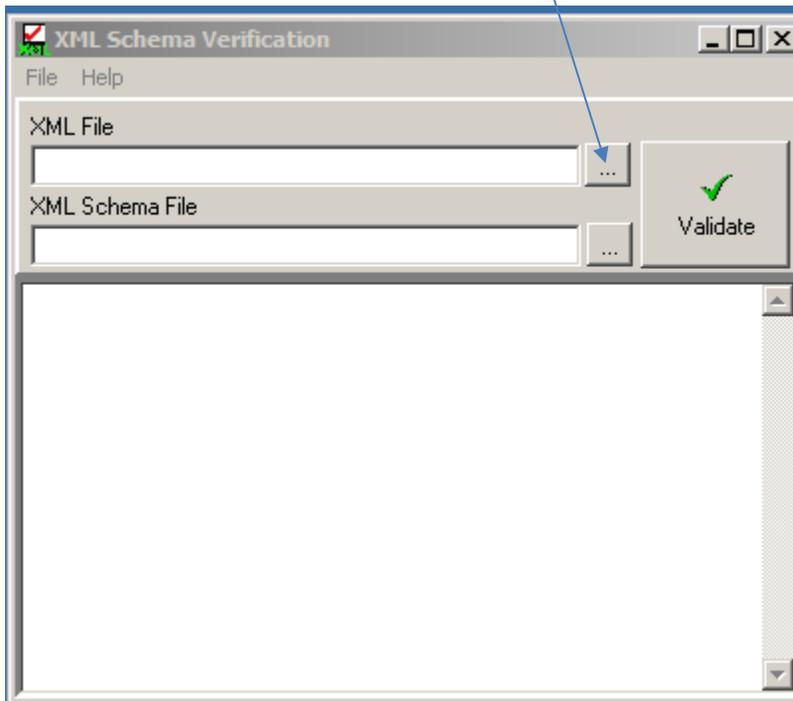
A box will open. Navigate to the folder where your payroll file is saved. ***Note:*** *If you save a copy of the payroll file you want to validate in the same folder as the schema file, you won't have to navigate back and forth between folders when running the application.*
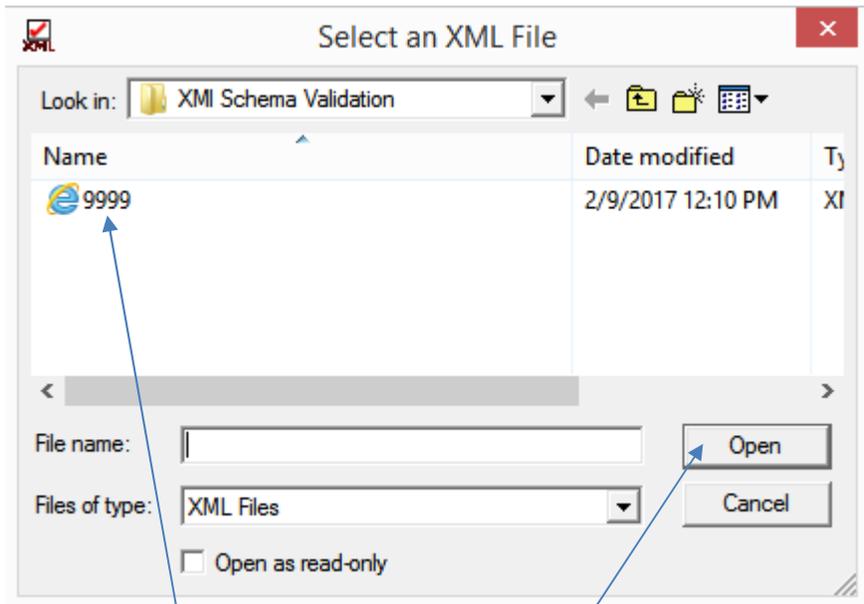
Select **your payroll file** to validate and click **Open**.
Note: *This is the monthly XML file generated from your payroll system.*

The XML Schema Verification application displays the XML file selected.
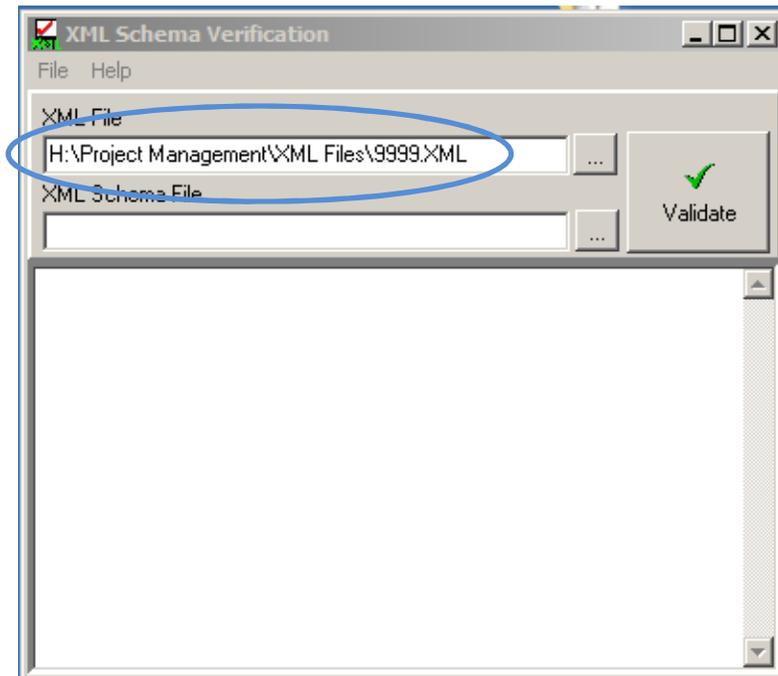
Click on the ellipse button to the right of the **XML Schema File** field.
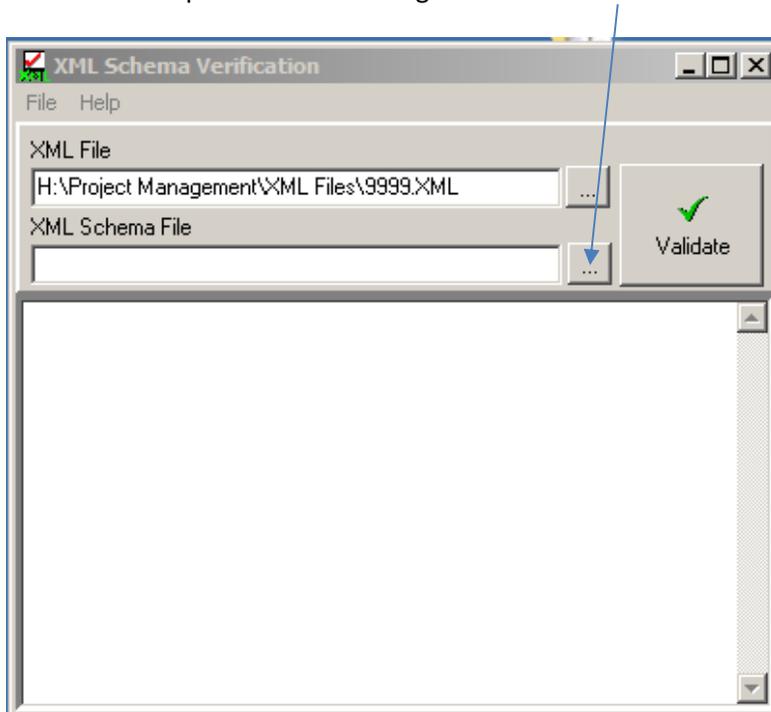
A box will open. Navigate to the folder where the XML Schema file (filename: filemapping_07_21_2014.xsd) is saved.

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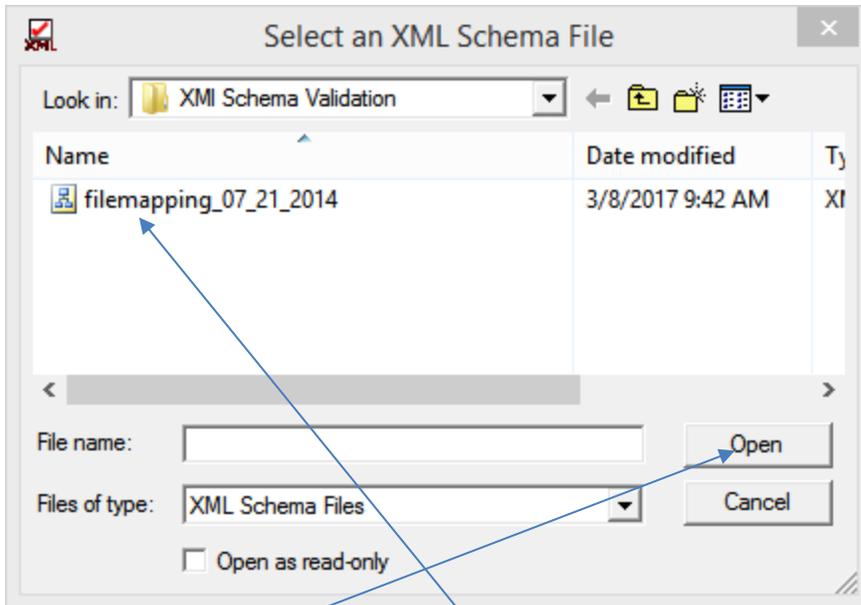
Select the XML Schema (filename: **filemapping_07_21_2014.xsd**) that you downloaded from NHRS and click **Open**.
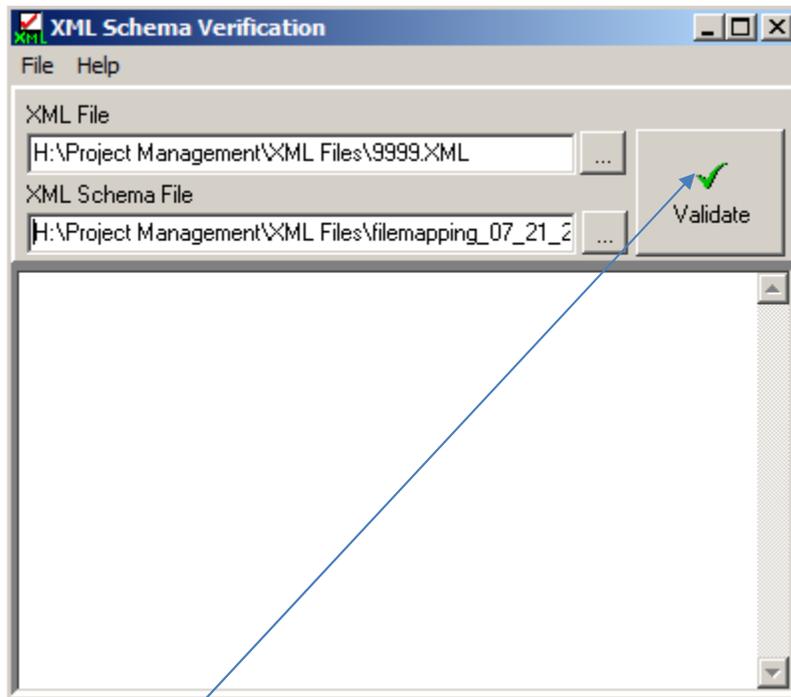
Click on **Validate**.

As your payroll file is reviewed for its compliance with the selected schema, fields that pose potential problems will be reported in the error message field. If no problems are identified, **VALID** is displayed in the message field.
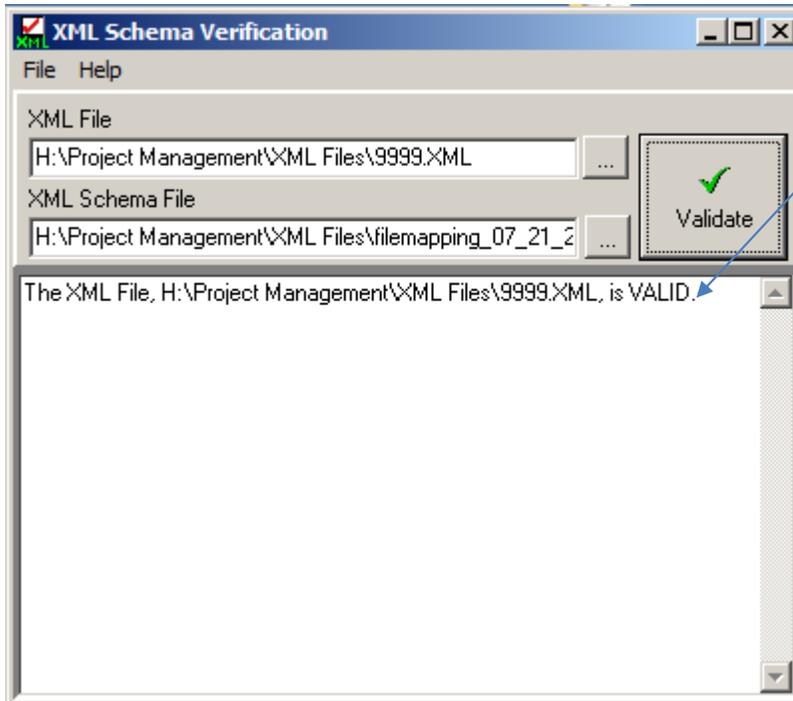
You can now upload the XML file to NHRS through the DRS

Understanding Error Messages

The XML Schema Verification Application will list errors in your payroll file, if any. For each error it encounters, the application will display the line and column that contains the error. Files with uncorrected errors will be rejected by the DRS and the employer will receive an auto-generated email message. The errors will need to be corrected before the file can be accepted and processed by NHRS.

How to Read an Error Message
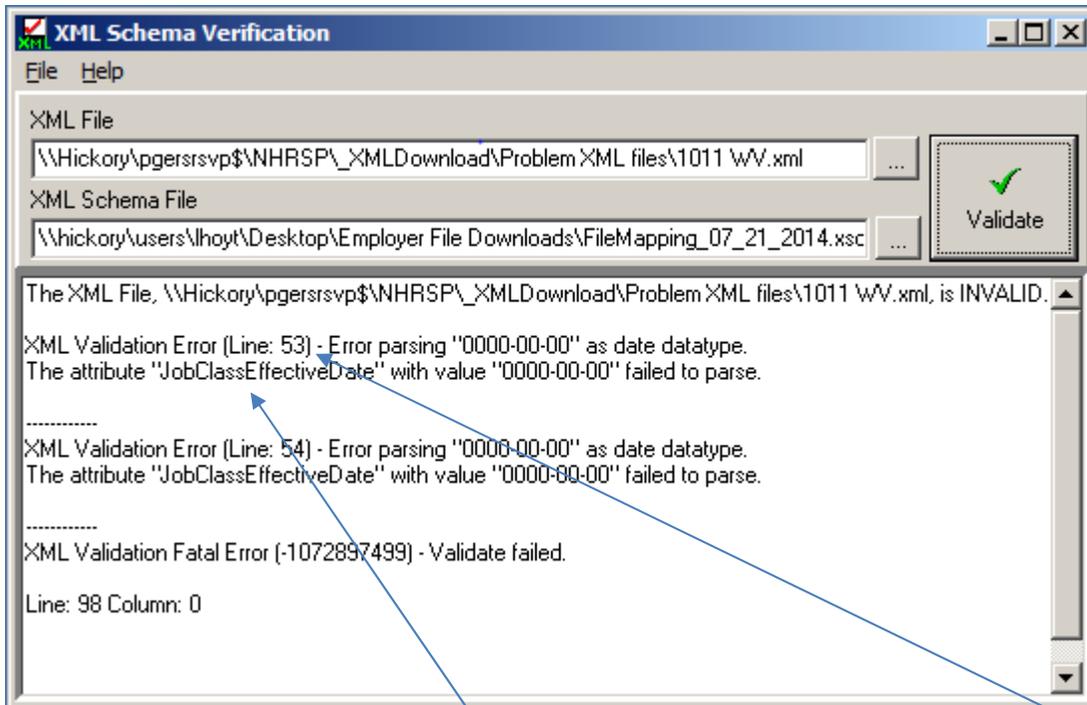
If there is an error in the file, the XML Schema Verification Application will (1) indicate which line (or lines) are in error; (2) indicate the type of error and which field the error is in. In the above example, the error is on lines 53 and 54. The error is that the "job class effective date" (i.e. date of hire) is missing. Instead of an actual date, "0000-00-00" was entered on these lines.

Note: In most cases, errors are the result of incomplete information being entered for new hires or simple typographical errors.

Common Error Messages
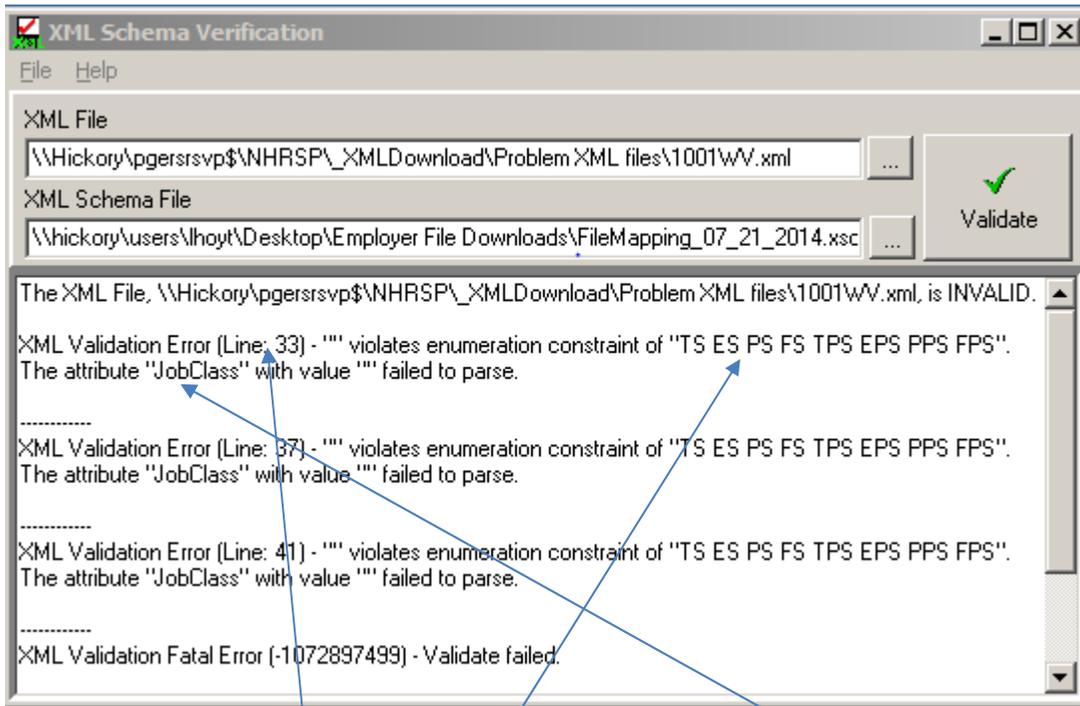
The above error is on <u>lines</u> 33, 37, and 41 and is showing that the <u>job class</u> attribute has no data. This error message also shows a <u>list of acceptable values</u> for this field (i.e. TS = teacher state, ES = employee state, TPS = teacher political subdivision, PPS = police political subdivision, etc.).
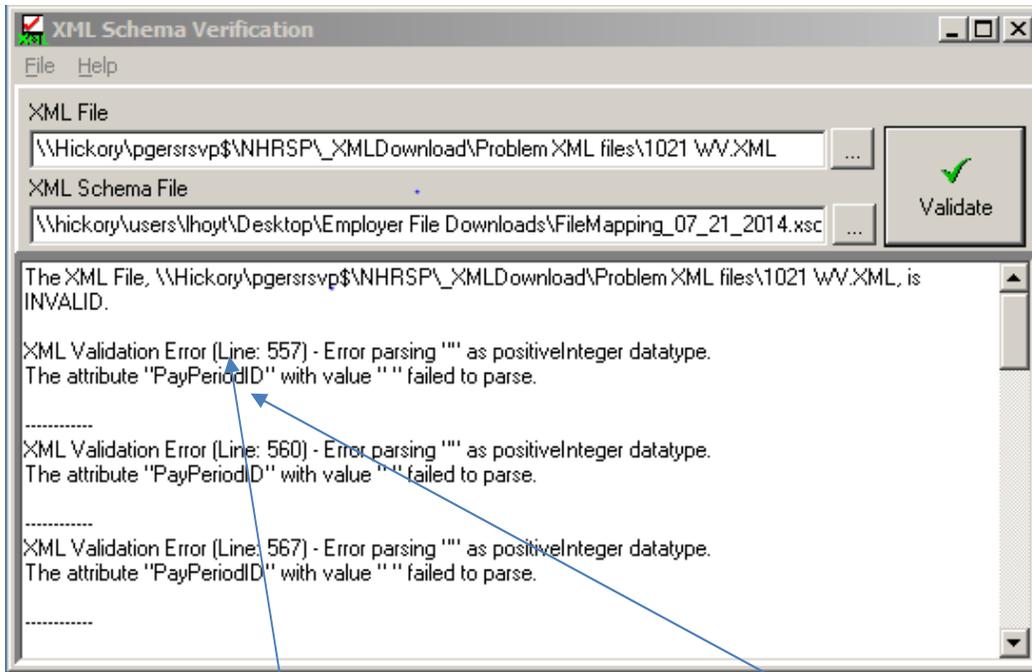
The above error is on <u>lines</u> 557, 560, and 567 and is showing that the <u>pay period ID</u> attribute is missing. This is a number that is generated by the employer's payroll system when the employer creates the XML file. This number is used to distinguish between the pay periods that are in the file.
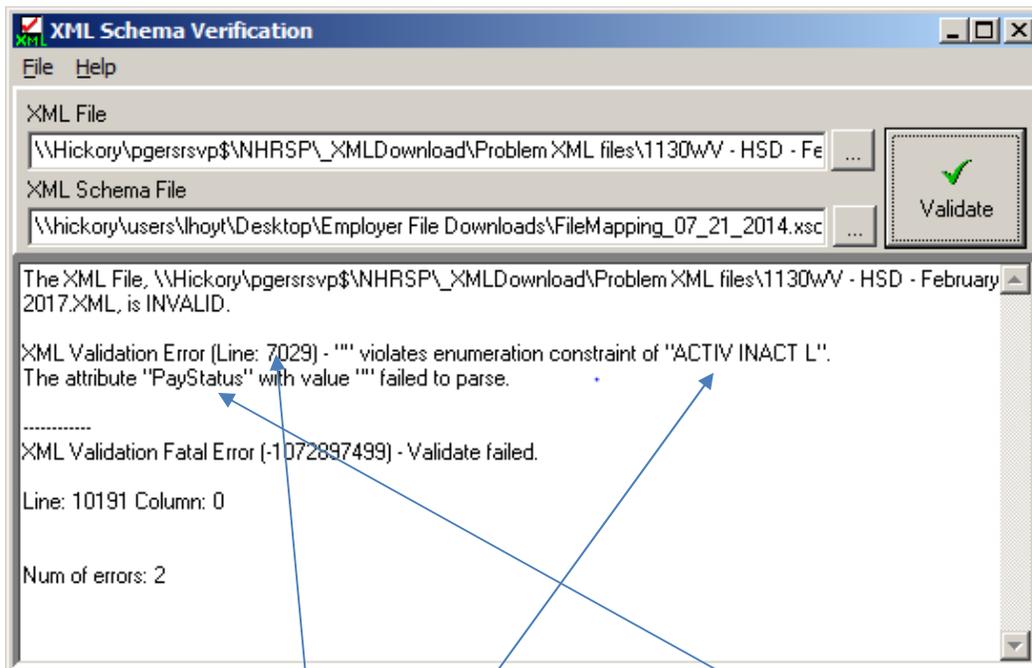
The above error is on <u>line 7029</u> and is showing that there is no <u>pay status</u> on this record. This error message also shows a <u>list of acceptable values</u> for this field (i.e. ACTIV = in active service, INACT = not in active service, L = leave of absence).
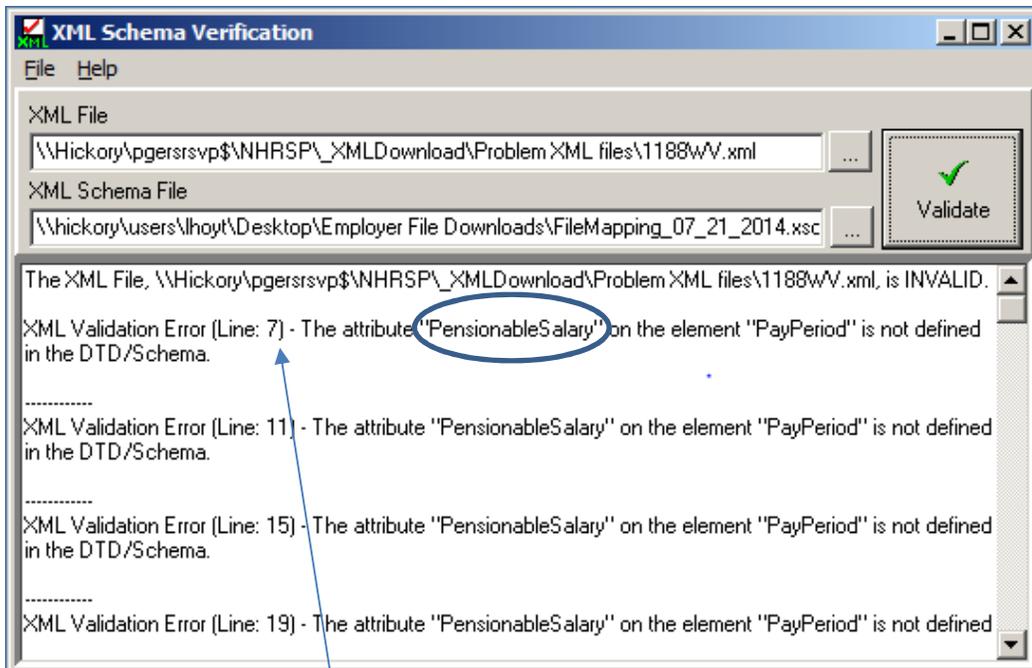
The above error is on <u>lines 7, 11, 15, and 19</u> and is showing because the file contained the term "PensionableSalary" which is not an attribute defined in the schema. The acceptable attribute is "EarnableSalary".
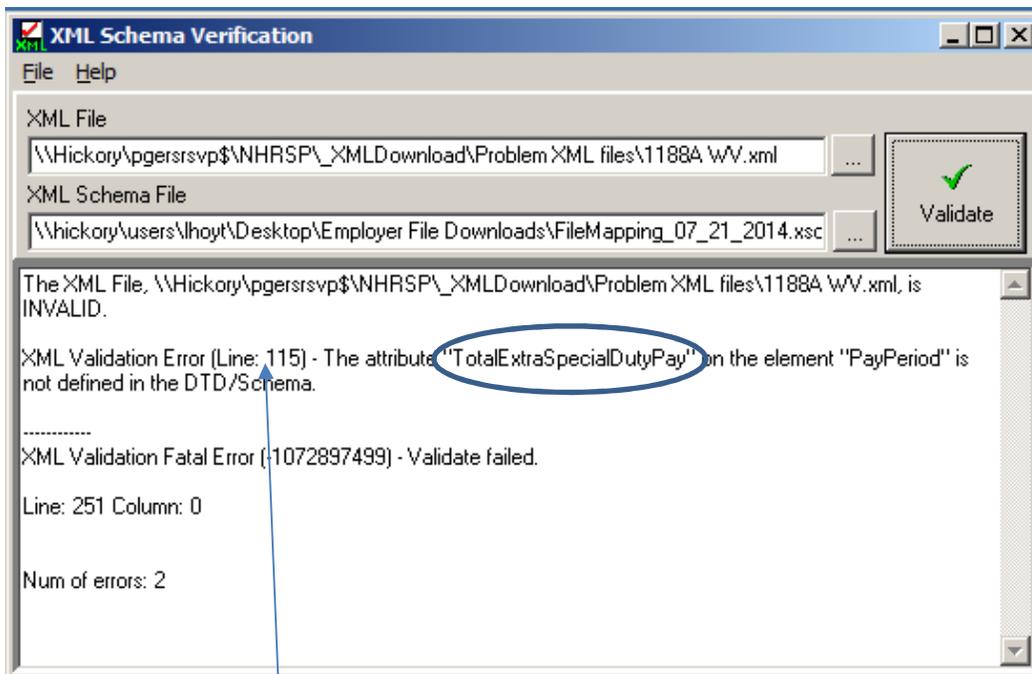
The above error is on <u>line 115</u> and is showing because the file contained the term "TotalExtraSpecialDutyPay" which is not an attribute defined on the schema.
The acceptable attribute "ExtraSpecialDutyPay".
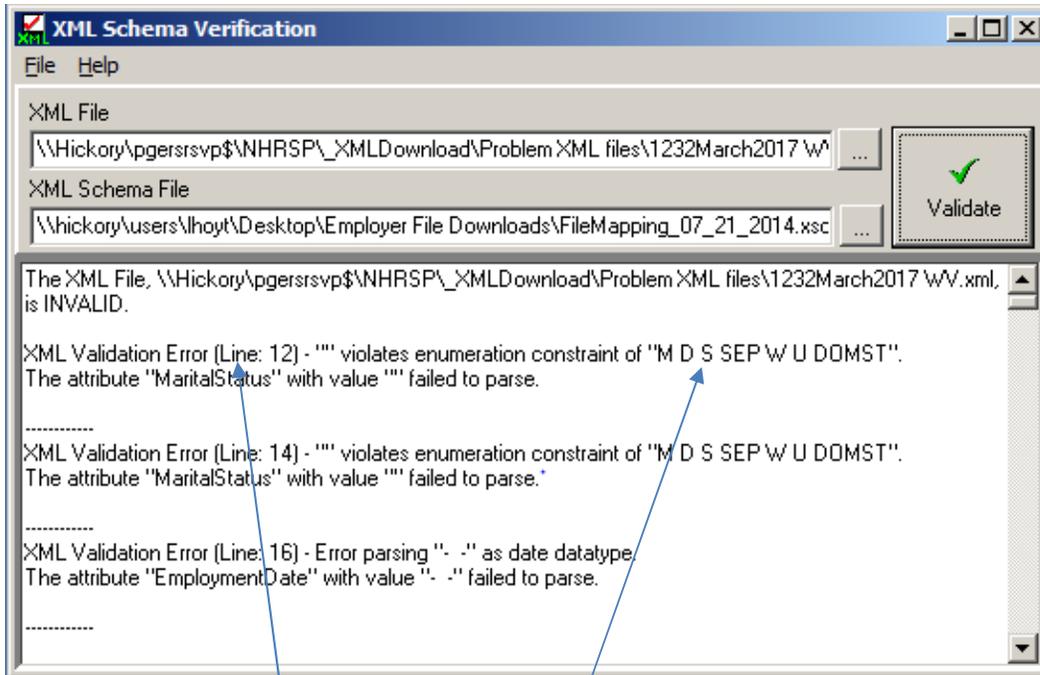
The error above is on <u>lines 12, 14, and 16</u> and is showing because the marital status contained no value. This error message also shows a <u>list of acceptable values</u> for this field (i.e. M = married, D = divorced, S = single, SEP = separated, W = widowed, U = unknown, DOMST = domestic partner).
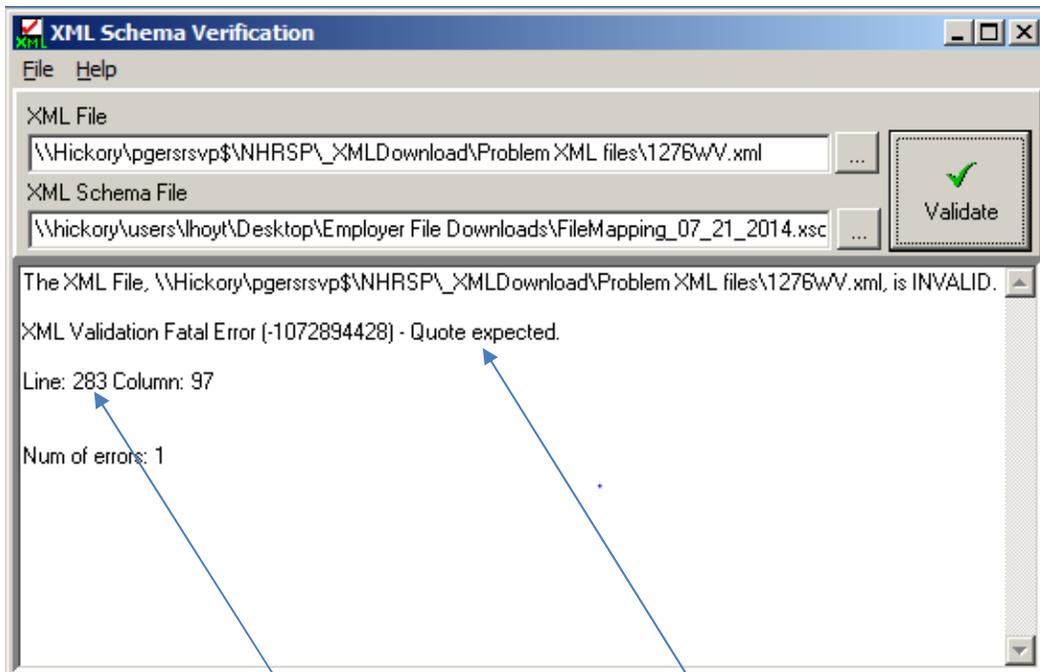
The error above is on <u>line 283</u> and is showing because a <u>quote mark</u> on this line is either missing or misplaced.
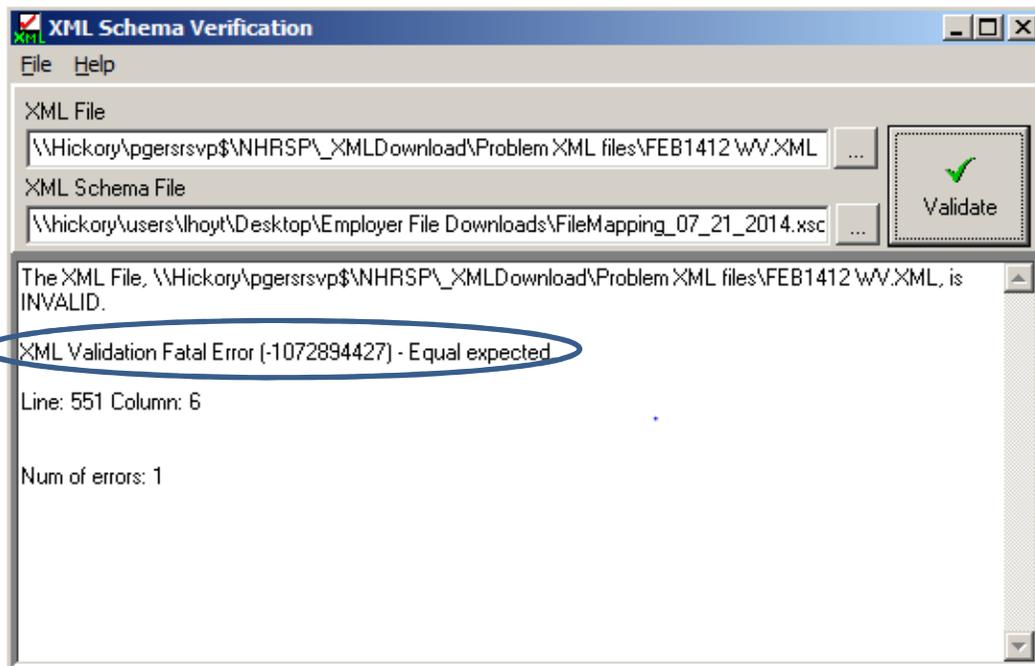
The error above is indicating that the file is not complete. With this error, the employer would need to re-extract a new XML file from their payroll system and attempt to validate the new file.

Frequently Asked Questions

Q. What is a file schema?

A. The schema is a framework of the fields that must be contained in the file.

Q. If my file comes back as valid, does that mean I won't have exceptions?

A. No. The verification application only determines if the XML file is formatted properly. Exceptions (if any) are identified after the file is uploaded to the DRS.

Q. What happens if I upload my XML file without running the XML Schema Verification Application?

A. NHRS will automatically process submitted files every three hours between 9 a.m. and 6 p.m. each day, and the employer will receive an automated email message indicating the status of their file. If the file is not valid, the employer will have to correct the file and resubmit it.

Q. How do I edit my XML file if there are errors?

A. You can use Note Pad, NotePad ++ or any XML Editor to correct your file.

Need Help?

If you have questions on saving the files to your local computer, please contact NHRS at (603) 410-3508.

All other questions on using the XML Schema Verification Application please contact NHRS at (603) 410-3674.