

TO: OKLAHOMA TEACHERS RETIREMENT SYSTEM EMPLOYERS

DATE: MAY 20, 2011

SUBJECT: XML REPORTING INFORMATION

This document contains an assortment of information about building and validating monthly employer reporting files that will be required during the next employment year. Accompanying this document on the OTRS website are the following, each of which is referenced elsewhere within this document:

Monthly Report Schema 110520.xsd

Monthly Report Sample 110520.xml

Employer Monthly Report Template 110520.xlsx

As always, do not hesitate to contact Josh Richardson or Rocky Cooper with your questions and comments about these requirements. Both of them can be reached by phone at 405-521-2387. You may also reach them by e-mail at josh.richardson@trs.ok.gov or rocky.cooper@trs.ok.gov.

GENERAL FORMATTING REQUIREMENTS

The accompanying schema (*Monthly Report Schema 110520.xsd*) can be used to ensure monthly employer XML reports meet general formatting requirements. These requirements consist of both XML formatting and specific field requirements that will be enforced by OTRS. Monthly employer reporting files that fail to meet these requirements will be rejected, and additional validation tests (e.g., prohibitions on net negative monthly contribution totals for employee positions) will be separately performed by OTRS once XML formatting and specific field requirements have been met.

XML FORMATTING REQUIREMENTS

All XML elements must have a closing tag.

For example, “<CountyCode>55” without the “</CountyCode>” closing tag is invalid. An **empty** element can be closed in one of two ways. The preferred method is for the closing tag to immediately follow the opening tag, as in “<Suffix></Suffix>”, and an alternate method is using a single opening and closing tag for the empty element, as in “<Suffix/>”. XML files displayed within browsers will frequently include a conversion of one type of closing method for empty elements to the other.

XML tags are case sensitive.

For example, using “<employerreport>” instead of “<EmployerReport>” will cause the XML file to fail validation.

XML documents must have a root element.

Each XML file must contain exactly one EmployerReport element.

XML elements must be properly nested.

The EmployerReport element must contain exactly one EmployerInfo element within it. The EmployerInfo element will contain an EmploymentContributions element, within which separate EmploymentContribution elements will be included for separate employee position reports. See the sample report or the XML schema for the complete structure of EmploymentContribution elements.

The example below illustrates the hierarchy necessary for a valid XML monthly report. The example has been formatted with tabs to more readily show the report's hierarchy. Monthly reports need not pattern themselves after the tabbed format; they must, however, maintain the same hierarchy of elements.

```
<EmployerReport>
  <EmployerInfo>
    Employer info child elements will go here
  </EmployerInfo>
  <EmploymentContributions>
    <EmploymentContribution>
      Employment contribution child elements will go here
    </EmploymentContribution>
  </EmploymentContributions>
</EmployerReport>
```

Special characters must be referenced correctly.

The less than, greater than, and ampersand symbols (“<”, “>”, and “&”) have special meanings in XML and cannot be used inside elements.

Elements do not need to be in the order specified.

For example, the EmployerInfo element must contain the CountyCode element and the DistrictCode element, but giving the DistrictCode before the CountyCode will not cause the validation to fail.

This XML schema does not allow blank or empty elements to be omitted.

XML elements must be present for every field in the header and detail record. Fields that have been previously described as able to be blank or waived can appear as empty elements; nevertheless, each element is still required.

As an example, the suffix following a member's name (e.g. Jr., Sr., III, etc.) can be blank. For a member whose name does not include a suffix, it would be acceptable to include <Suffix></Suffix> without anything between the opening and closing tags. It would, however, be unacceptable to omit the <Suffix></Suffix> element.

SPECIFIC FIELD REQUIREMENTS

Field Name	XML Data Type	XML Schema Validation Rule
CountyCode	integer	Can have at most 2 digits; minimum value is 1; empty and negative values are not allowed
DistrictCode	string	Must have exactly 4 characters; spaces count toward the number of characters
PayPeriodYear	year (custom)	Must be a whole number from 1000 to 9999; leading and trailing spaces and digits 0-9 are the only characters allowed; leading and trailing zeroes are ignored; leading zeroes are allowed but ignored
PayPeriodMonth	integer	Must be a whole number from 1 to 12; leading and trailing spaces and digits 0-9 are the only characters allowed; leading and trailing spaces are ignored; leading zeroes are allowed but ignored
EmploymentYear	year (custom)	Must be a whole number from 1000 to 9999; leading and trailing spaces and digits 0-9 are the only characters allowed; leading and trailing spaces; leading zeroes are allowed but ignored
TaxNumber	string	Must have exactly 9 characters; spaces and dashes count toward the number of characters
TaxNumberType	string	Must have exactly 1 character; spaces are not allowed
FirstName	string	Must have at least 1 and at most 100 characters
MiddleName	string	Can have at most 100 characters
LastName	string	Must have at least 1 and at most 100 characters
Suffix	string	Can have at most 10 characters
BirthDate	date-or-empty (custom)	Must be a valid date in the YYYY-MM-DD format and be between 1000-01-01 and 9999-12-31 (if given); leading and trailing spaces are allowed but ignored
Gender	string	Must be M, m, F, or f (if given); leading and trailing spaces are not allowed
Address1	string	Can have at most 100 characters
Address2	string	Can have at most 100 characters
City	string	Can have at most 50 characters
State	state-or-empty (custom)	Must have exactly 2 characters (if given)
ZipCode	string	Can have at most 10 characters
JobAgreementID	string	Can have at most 36 characters; GUIDs can be used; less than, greater than, and ampersand symbols are not allowed
JobAgreementDescription	string	Can have at most 100 characters; less than, greater than, and ampersand symbols are not allowed
HoursPerWeek	hours-or-empty (custom)	Must be numeric, with at most 2 digits before and 1 digit after an optional decimal point; negative values are not allowed; leading and trailing zeros (after the decimal point) and spaces are allowed but ignored
Classification	string	Must have exactly 1 character (if given); leading and trailing spaces are not allowed
RegularAnnualCompensation	money-or-empty (custom)	Must be numeric, with at most 8 digits before and 2 digits after an optional decimal point; empty values are allowed; negative values are not allowed; leading and trailing zeros (after the decimal point) and spaces are allowed but ignored; dollar signs and commas are not allowed
ContractDays	days-or-empty (custom)	Must be a whole number from 0 to 366 (if given); leading and trailing spaces are allowed but ignored; leading zeroes are allowed but ignored
FirstDayToReport	date-or-empty (custom)	Must be a valid date in the YYYY-MM-DD format and be between 1000-01-01 and 9999-12-31 (if given); leading and trailing spaces are allowed but ignored
LastDayToReport	date-or-empty (custom)	Must be a valid date in the YYYY-MM-DD format and be between 1000-01-01 and 9999-12-31 (if given); leading and trailing spaces are allowed but ignored
TerminationDate	date-or-empty (custom)	Must be a valid date in the YYYY-MM-DD format and be between 1000-01-01 and 9999-12-31 (if given); leading and trailing spaces are allowed but ignored
Sabbatical	string	Must have exactly 1 character (if given); leading and trailing spaces are not allowed

Field Name	XML Data Type	XML Schema Validation Rule
GrossSalaryPaidToDate	money-or-empty (custom)	Must be numeric, with at most 8 digits before and 2 digits after an optional decimal point; empty values are allowed; leading and trailing zeros (after the decimal point) and spaces are allowed but ignored; dollar signs and commas are not allowed
MonthSalaryPaid	money-can-be-negative-or-empty (custom)	Must be numeric, with at most 8 digits before and 2 digits after an optional decimal point; empty and negative values are allowed; leading and trailing zeros (after the decimal point) and spaces are allowed but ignored; dollar signs and commas are not allowed
FederalSalary	money-can-be-negative-or-empty (custom)	Must be numeric, with at most 8 digits before and 2 digits after an optional decimal point; empty and negative values are allowed; leading and trailing zeros (after the decimal point) and spaces are allowed but ignored; dollar signs and commas are not allowed
MemberAfterTax	money-can-be-negative-or-empty (custom)	Must be numeric, with at most 8 digits before and 2 digits after an optional decimal point; empty and negative values are allowed; leading and trailing zeros (after the decimal point) and spaces are allowed but ignored; dollar signs and commas are not allowed
MemberBeforeTax	money-can-be-negative-or-empty (custom)	Must be numeric, with at most 8 digits before and 2 digits after an optional decimal point; empty and negative values are allowed; leading and trailing zeros (after the decimal point) and spaces are allowed but ignored; dollar signs and commas are not allowed
StateCredit	money-can-be-negative-or-empty (custom)	Must be numeric, with at most 8 digits before and 2 digits after an optional decimal point; empty and negative values are allowed; leading and trailing zeros (after the decimal point) and spaces are allowed but ignored; dollar signs and commas are not allowed
EmployerContribution	money-can-be-negative-or-empty (custom)	Must be numeric, with at most 8 digits before and 2 digits after an optional decimal point; empty and negative values are allowed; leading and trailing zeros (after the decimal point) and spaces are allowed but ignored; dollar signs and commas are not allowed
HESC	money-can-be-negative (custom)	Must be numeric, with at most 8 digits before and 2 digits after an optional decimal point; negative values are allowed, but empty values are not; leading and trailing zeros (after the decimal point) and spaces are allowed but ignored; dollar signs and commas are not allowed
FederalMatch	money-can-be-negative-or-empty (custom)	Must be numeric, with at most 8 digits before and 2 digits after an optional decimal point; empty and negative values are allowed; leading and trailing zeros (after the decimal point) and spaces are allowed but ignored; dollar signs and commas are not allowed

SAMPLE REPORT

The accompanying sample report (*Monthly Report Sample 110520.xml*) meets all XML formatting and specific field requirements identified within this document. It includes data for three employee positions, and various relevant points for employers to keep in mind are highlighted within the selectively highlighted and annotated copy of the sample report that follows:

```

<EmployerReport>
  <EmployerInfo>
    <CountyCode>55</CountyCode>
    <DistrictCode>I000</DistrictCode>
  </EmployerInfo>
  <EmploymentContributions>
    <EmploymentContribution>
      <PayPeriodYear>2011</PayPeriodYear>
      <PayPeriodMonth>05</PayPeriodMonth>
      <EmploymentYear>2011</EmploymentYear>
      <TaxNumber>111223333</TaxNumber>
      <TaxNumberType>S</TaxNumberType>
    
```

first reported employment position starts here

<FirstName>Teri</FirstName>
 <MiddleName></MiddleName>
 <LastName>Teacher</LastName>
 <Suffix></Suffix> *Suffix field can be blank; element must still be included*
 <BirthDate>1971-05-12</BirthDate>
 <Gender>F</Gender>
 <Address1>123 Main St.</Address1>
 <Address2></Address2>
 <City>Oklahoma City</City>
 <State>OK</State>
 <ZipCode>73112</ZipCode>
 <JobAgreementID>T1</JobAgreementID>
 <JobAgreementDescription>High School Teacher</JobAgreementDescription>
 <HoursPerWeek>40</HoursPerWeek>
 <Classification>C</Classification>
 <RegularAnnualCompensation>45000.00</RegularAnnualCompensation>
 <ContractDays>180</ContractDays>
 <FirstDayToReport>2010-08-15</FirstDayToReport>
 <LastDayToReport>2011-05-31</LastDayToReport>
 <TerminationDate></TerminationDate> *Can display within browsers as <TerminationDate/>*
 <Sabbatical>N</Sabbatical>
 <GrossSalaryPaidToDate>33750</GrossSalaryPaidToDate>
 <MonthSalaryPaid>3750</MonthSalaryPaid>
 <FederalSalary>0</FederalSalary>
 <MemberAfterTax>0</MemberAfterTax>
 <MemberBeforeTax>262.50</MemberBeforeTax>
 <StateCredit>8.62</StateCredit>
 <EmployerContribution>356.25</EmployerContribution>
 <HESC>0</HESC>
 <FederalMatch>0</FederalMatch>
 </EmploymentContribution> *first reported employment position ends here*
 <EmploymentContribution> *second reported employment position starts here*
 <PayPeriodYear>2011</PayPeriodYear>
 <PayPeriodMonth>05</PayPeriodMonth>
 <EmploymentYear>2011</EmploymentYear>
 <TaxNumber>222334444</TaxNumber>
 <TaxNumberType>F</TaxNumberType>
 <FirstName>Ernie</FirstName>
 <MiddleName>M</MiddleName>
 <LastName>Employee</LastName>
 <Suffix>III</Suffix>
 <BirthDate>1980-11-23</BirthDate>
 <Gender>M</Gender>
 <Address1>234 Any St.</Address1>
 <Address2>Apt. 4</Address2>
 <City>Norman</City>
 <State>OK</State>
 <ZipCode>73072</ZipCode>
 <JobAgreementID>E2</JobAgreementID>
 <JobAgreementDescription>Elementary School Teacher</JobAgreementDescription>
 <HoursPerWeek/> *not required, as position is less than 20 hours per week*
 <Classification/> *not required for this position; element must be included*
 <RegularAnnualCompensation/> *not required for this position; element must be included*
 <ContractDays/> *not required for this position; element must be included*

<FirstDayToReport/> not required for this position; element must be included
 <LastDayToReport/> not required for this position; element must be included
 <TerminationDate/> not required for this position; element must be included
 <Sabbatical/> not required for this position; element must be included
 <GrossSalaryPaidToDate>19000.00</GrossSalaryPaidToDate>
 <MonthSalaryPaid>1900.00</MonthSalaryPaid>
 <FederalSalary>0</FederalSalary>
 <MemberAfterTax>0</MemberAfterTax>
 <MemberBeforeTax>133.00</MemberBeforeTax>
 <StateCredit>6.07</StateCredit>
 <EmployerContribution>180.50</EmployerContribution>
 <HESC>0</HESC>
 <FederalMatch>0</FederalMatch>
 </EmploymentContribution> second reported employment position ends here
 <EmploymentContribution> third reported employment position starts here
 <PayPeriodYear>2011</PayPeriodYear>
 <PayPeriodMonth>05</PayPeriodMonth>
 <EmploymentYear>2011</EmploymentYear>
 <TaxNumber>333445555</TaxNumber>
 <TaxNumberType>T</TaxNumberType>
 <FirstName>John</FirstName>
 <MiddleName/>
 <LastName>Doe</LastName>
 <Suffix/>
 <BirthDate>1948-07-01</BirthDate>
 <Gender>M</Gender>
 <Address1>345 Some St.</Address1>
 <Address2></Address2>
 <City>Stillwater</City>
 <State>OK</State>
 <ZipCode>74074</ZipCode>
 <JobAgreementID>K3</JobAgreementID>
 <JobAgreementDescription>Kindergarten Teacher</JobAgreementDescription>
 <HoursPerWeek></HoursPerWeek> not required, as position is less than 20 hours per week
 <Classification>X</Classification> not required for this position; data will be ignored
 <RegularAnnualCompensation>0</RegularAnnualCompensation> see previous comment
 <ContractDays>0</ContractDays> not required for this position; data will be ignored
 <FirstDayToReport>2011-05-01</FirstDayToReport> not required for this position; data will be ignored
 <LastDayToReport>2011-05-31</LastDayToReport> not required for this position; data will be ignored
 <TerminationDate></TerminationDate>
 <Sabbatical>X</Sabbatical> not required for this position; data will be ignored
 <GrossSalaryPaidToDate>18500.00</GrossSalaryPaidToDate>
 <MonthSalaryPaid>1850.00</MonthSalaryPaid>
 <FederalSalary>0</FederalSalary>
 <MemberAfterTax>0</MemberAfterTax>
 <MemberBeforeTax>129.5</MemberBeforeTax>
 <StateCredit>13.55</StateCredit>
 <EmployerContribution>175.75</EmployerContribution>
 <HESC>0</HESC>
 <FederalMatch>0</FederalMatch>
 </EmploymentContribution> third reported employment position ends here
 </EmploymentContributions>
 </EmployerReport>

CREATING XML FILES BY USING MICROSOFT EXCEL

One way in which XML files can be created is through the use of Microsoft Excel. Instructions for doing so, through use of the accompanying template (*Employer Monthly Report Template 110520.xlsx*), are outlined below. Most users will find it easier to prepare XML files in other ways, but this method is available for those who choose to use it.

While this document has been created for those using Microsoft Excel 2010, those using Microsoft Excel 2007 should find few, if any, differences as they work through the instructions. Three steps are addressed within the instructions:

- Collecting and Arranging Data
- Populating Reporting Template
- Saving and Exporting Work

STEP 1: COLLECTING AND ARRANGING DATA

Ensure you have collected all required information as you prepare your report following these instructions.

Each employment position held by an individual for whom contributions are submitted will be represented by a single row of data. An individual who is employed as both a school teacher and as a bus driver and who submits OTRS contributions upon each position, for instance, will most likely require two rows of data within the monthly employer report.

Arrange all required data, either within Microsoft Excel or via another technique, so that it can be copied into the monthly employer report template. It is important, because of the way in which the template has been constructed, that data columns within each row of data be arranged in the following order:

- PayPeriodYear
- PayPeriodMonth
- EmploymentYear
- TaxNumber
- TaxNumberType
- FirstName
- MiddleName
- LastName
- Suffix
- BirthDate
- Gender
- Address1
- Address2
- City
- State
- ZipCode
- JobAgreementID
- JobAgreementDescription

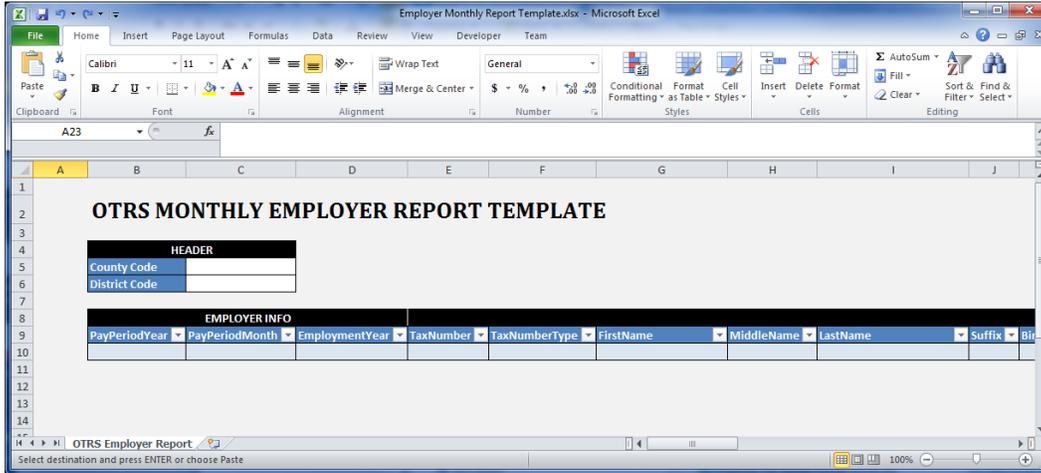
- HoursPerWeek
- Classification
- RegularAnnualCompensation
- ContractDays
- FirstDayToReport
- LastDayToReport
- TerminationDate
- Sabbatical
- GrossSalaryPaidToDate
- MonthSalaryPaid
- FederalSalary
- MemberAfterTax
- MemberBeforeTax
- StateCredit
- EmployerContribution
- HESC
- FederalMatch

This data, if prepared within Microsoft Excel, will look something like this:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	PayPeriodYear	PayPeriodMonth	EmploymentYear	TaxNumber	TaxNumberType	FirstName	MiddleName	LastName	Suffix	BirthDate	Gender	Address1	Address2	City
2	2011	May	2011	111223333	S	Alice	Andria	Anderson		1980-10-25	F	123 Cedar st		Norman
3	2011	May	2011	222334444	S	Bradley	Benjamin	Barker	Jr.	1965-10-10	M	555 Pine blvd	apt. 23	Moore
4	2011	May	2011	333445555	S	Charlie	Clarence	Clinton		1970-05-20	M	1959 Cyprus rd		Norman
5	2011	May	2011	444556666	S	Debra	Denise	Drake		1982-01-22	F	1300 Maple dr		Del City
6	2011	May	2011	555667777	S	Ernie	Edwin	Edison	III	1960-11-11	M	153 Cherry st		Moore
7	2011	May	2011	666778888	S	Frank	Frederic	Forrester		1983-05-05	M	1753 Almost rd		Mustang
8	2011	May	2011	777889999	S	Gloria	Grace	Goodwin		1950-05-05	F	45 Evergreen wy		Moore
9	2011	May	2011	888990000	S	Ingrid	Irene	Idris		1984-06-16	F	1879 Poplar lp		Oklahoma

STEP 2: POPULATING REPORTING TEMPLATE

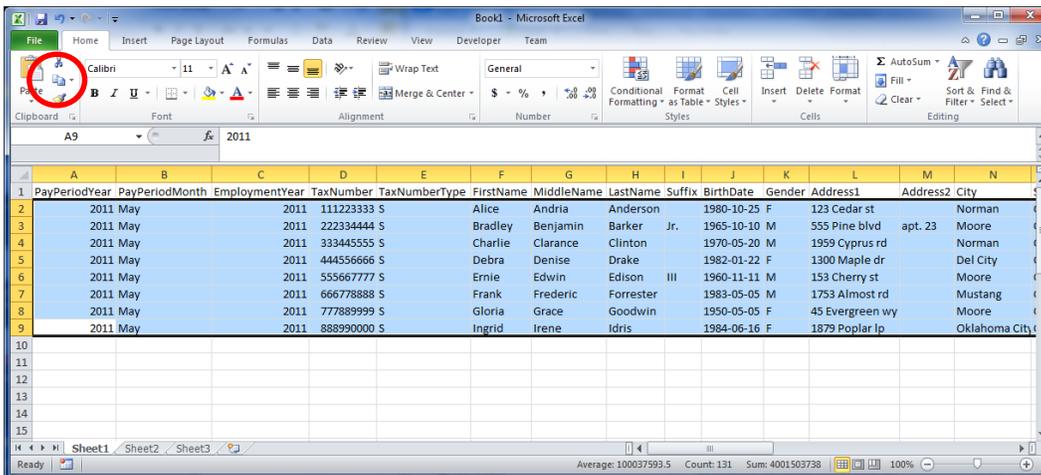
Open the accompanying template (*Employer Monthly Report Template 110520.xlsx*).



Before copying your data from the first step into the template, enter the appropriate County Code and District Code within the “Header” section.

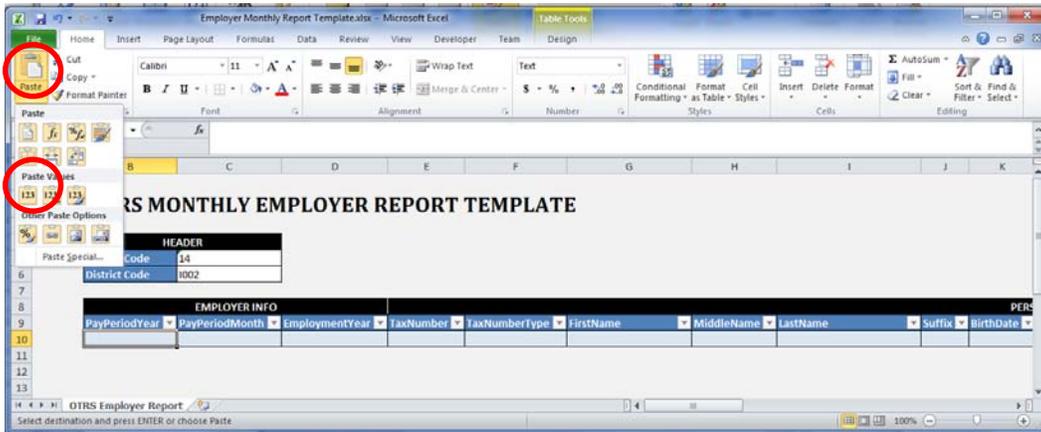
HEADER	
County Code	14
District Code	1002

Next, select all of the data that you prepared within the first step and prepare to copy it. Do not include column headers within the data that you select.

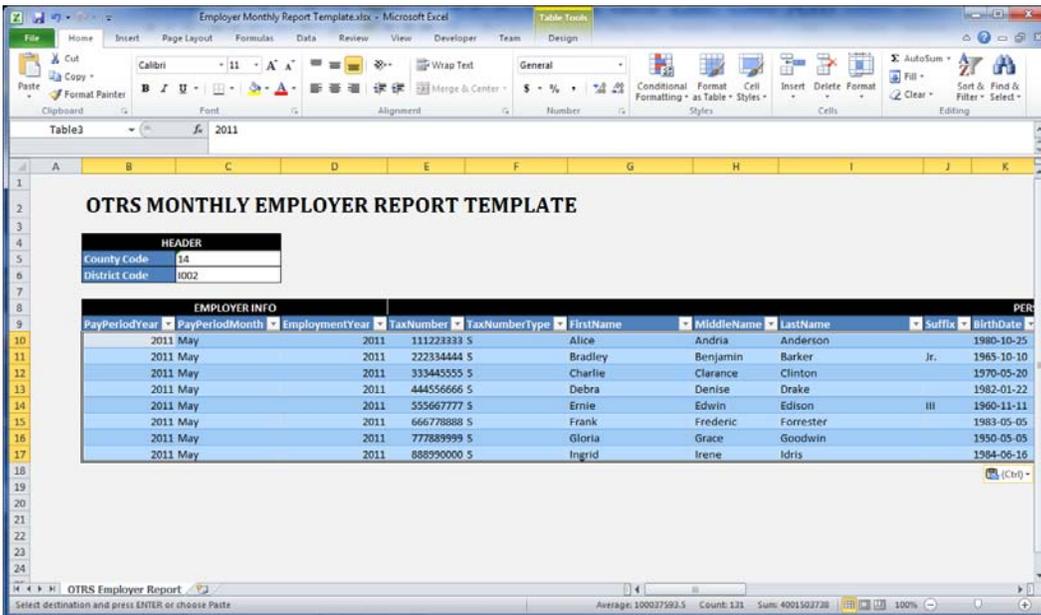


To copy the data that you have selected, **either** press Control+C on the keyboard **or** select the “Copy” button identified within the preceding illustration.

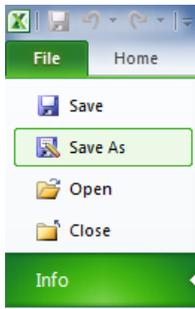
To insert the data that you have selected, first select the first cell of the data input area within the template (cell B10 within the template accompanying these instructions). Next, select the left-most “Paste Values” icon from the “Paste” dropdown command list as shown in the following illustration. The dropdown list will appear when the “Paste” icon in the upper left corner of the Excel window is selected.



Your template should now look something like this:

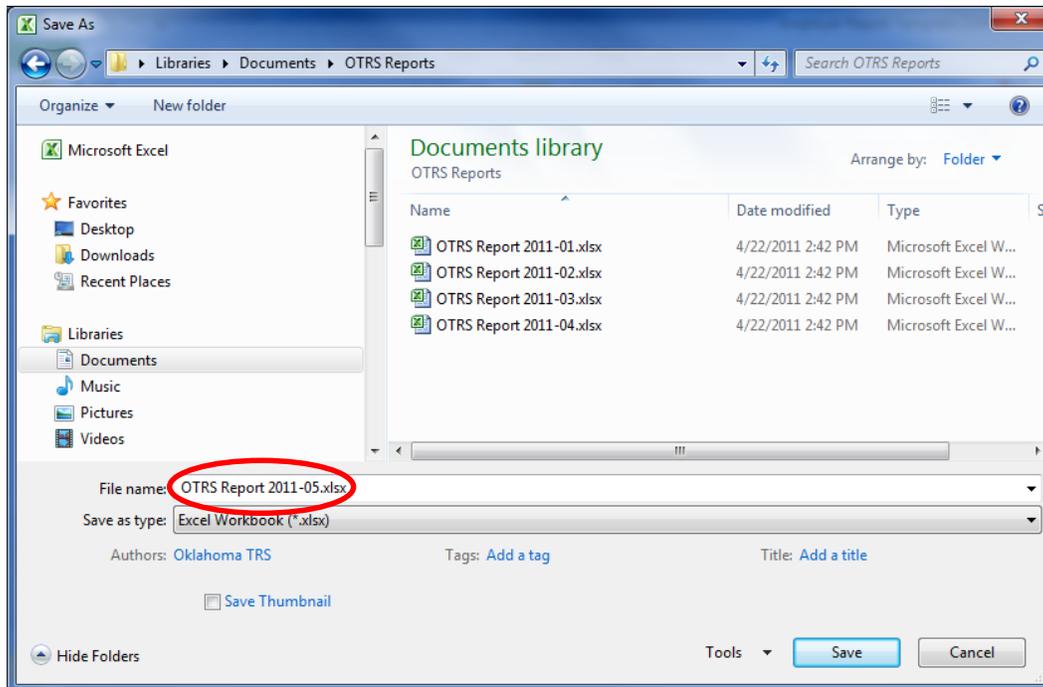


STEP 3: SAVING AND EXPORTING WORK

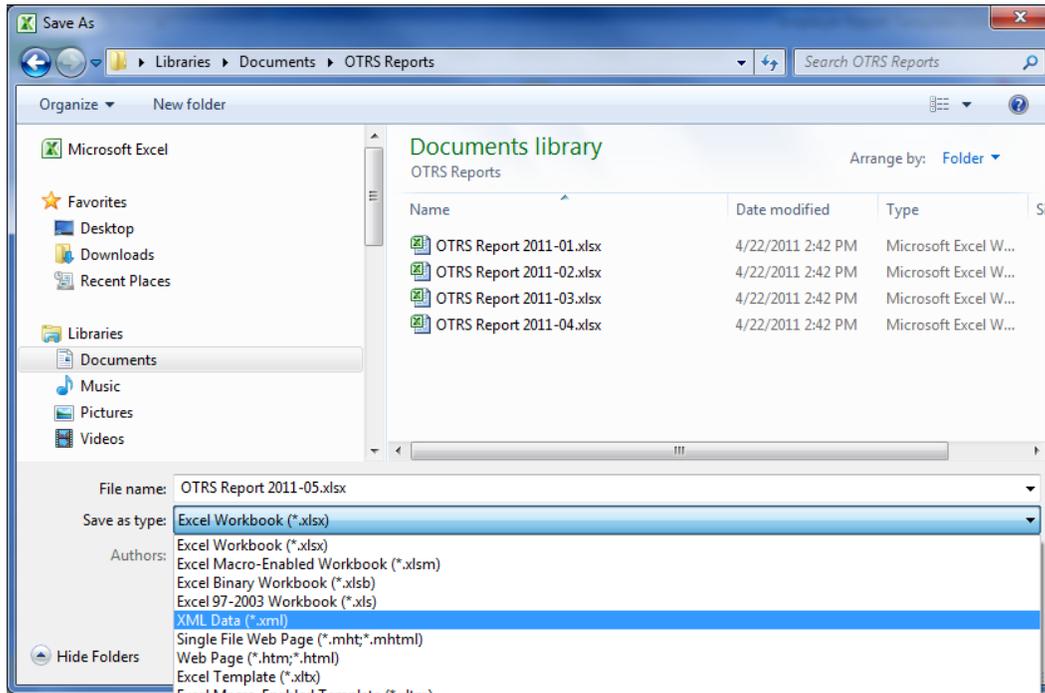


To save the file that you just created, first select “Save As” from the “File” dropdown command list as shown to the left. The dropdown list will appear when the “File” tab in the upper left corner of the Excel window is selected.

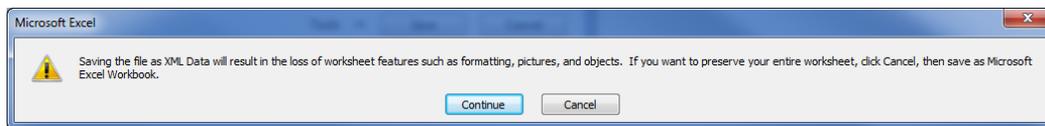
This will open a file dialog box that will allow you to name the file you are saving and choose where you want to save it. It is important to choose a file location and unique file name that will allow you to find and identify this report at a later time. Do not save it with the name of the reporting template. In the example below, “OTRS Report 2011-05.xlsx” has been entered.



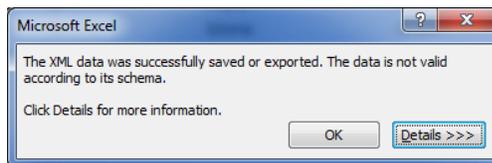
To export this data into XML format, again select “Save As” from the “File” dropdown command list. Select “XML Data (*.xml)” from the “Save as type” dropdown list within the file dialog box that appears, and press the “Save” button to create the XML file.



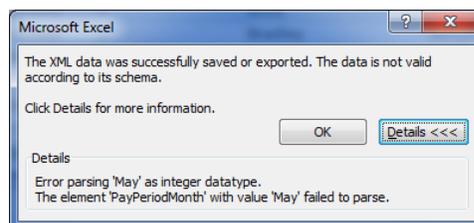
Upon pressing the “Save” button, a dialog box that prompts you to confirm that you want to save the file in XML format should appear. Press the “Continue” button when you see this prompt.



If no further dialog boxes appear, the XML file has been successfully created. If an error is encountered in saving the file, a dialog box similar to the following will appear.



In this instance, some of the data was not entered within the template in the correct format. More information can be obtained by pressing the “Details” button.



This error was caused by entering the word "May" in the "PayPeriodMonth" column. Since this column is set up within the template to only accept numerical data, each occurrence of the word "May" must be replaced with the number "5" within this column. Specific requirements for each data field are identified within the separate monthly employer reporting information provided by OTRS.

Information about other data entries will also be provided by pressing the "Details" button. Continue correcting errors until the file saves successfully.