WBARS - XML Import Documentation - For Software Developers

Recent Changes

- **For each Site that exists in the import all records will be deleted from that Site and it will be loaded with the contents of the XML document.**
- **A new ReportYear top level element has been added. The export should populate the XML document with data that is current as of the end of the ReportYear value included.**
- **Added additional values to the WBAR_UtilityAllowanceSource data type.**

Potential Issues

- **The valid values for the XML Type WBAR_UtilityAllowanceSource have been updated and previous values may no longer be valid. The current values are listed below.**
- **The Project Name and Site Name in the system being exported from may not match the Project Name and Site Name in WBARS. A map may need to be made in the exporting application that contains the WBARS Project and Site Names. Alternately the Project and Site could be renamed in WBARS. If you would like this done please contact one of the funders to see if this is possible**
- **When a Table1_Record has a WBAR_TransferToUnit included with this WBAR_TransferToUnit is referencing another record in the import. This record must exist and have the same HeadOfHouseholdFullName as the Table1_Record with the TransferToUnit. The referenced record must also have the same MoveInDate as the TransferToUnit record. If these requirements are not met the transfer will not pass validation.**
- **There cannot be duplicate records or the records will be seen as two households occupying the unit at the same time.**
- **A household cannot have a move in if there is a record with an earlier move in date that does not have a move out date.**

Current Valid WBAR_UtilityAllowanceSource Values (In XML Schema)

- **Energy Consumption Model**
- **Energy Consumption Model (2)**
- **Energy Consumption Model (3)**
- **HUD Regulated Properties**
- **HUD Utility Schedule Model**
- **Local Utility Company Estimate**
- **Local Utility Company Estimate (2)**
- **Local Utility Company Estimate (3)**
- **Owner Estimate, Actual Usage (2)**
- **Owner Estimate, Actual Usage (3)**
- **Owner Estimate, Actual Usage Data**
- **Owner Estimate, Similar Buildings**
- **Owner Estimate, Similar Buildings (2)**
- **Owner Estimate, Similar Buildings (3)**
- **Owner Pays all Utilities**
- **Public Housing Authority (S8) (2)**
- **Public Housing Authority (S8) (3)**
- **Public Housing Authority (Section 8)**
- **Rural Housing Service (RD)**

WBARS Utility Allowance Descriptions

For a full description of common Utility Allowance Types, please go to the Commission's website Tax Credit Compliance Procedures Manual, Page 2-14, Utility Allowances, and for explanation of additional options see Appendix "O" at: http://www.wshfc.org/managers/ManualTaxCredit/290_AppendixOUtilityAllowanceProcedures.pdf.

There are nine different possible types of utility allowances. We recognize that some projects may have two or more types of estimates for the same Site or even in the same Building. For this reason, some of the types listed below allow for up to three different estimates for the same Utility Estimate or Type.

- **Energy Consumption Model: use this for the first ECM for a Building or Site, approved in advance by the Commission.**
- **Energy Consumption Model (2): use this for the second ECM for a Building or Site in the same Project.**
- **Energy Consumption Model (3): use this for the third ECM for a Building or Site in the same Project.**
- **HUD Regulated Properties: use this type if the property is regulated by HUD and HUD issues annual allowances for the property. If used, this applies to the entire building.**
- **HUD Utility Schedule Model: use this for a HUSM, approved in advance by the Commission.**
- **Local Utility Company Estimate: use this for the first LUCE for a Building or Site, approved in advance by the Commission.**
- **Local Utility Company Estimate (2): use this for the second LUCE for a Building or Site in the same Project.**
- **Local Utility Company Estimate (3): use this for the third LUCE for a Building or Site in the same Project.**
- **Owner Estimate, Actual Usage (2): use this for the second OEAU for a Building or Site in the same Project.**
- **Owner Estimate, Actual Usage (3): use this for the third OEAU for a Building or Site in the same Project.**
- **Owner Estimate, Actual Usage Data use this for the first OEAU for a Building or Site in the same Project, approved in advance by the Commission.**
- **Owner Estimate, Similar Buildings: use this for the first OESB for a Building or Site in the same Project, approved in advance by the Commission.**
- **Owner Estimate, Similar Buildings (2): use this for the second OESB for a Building or Site in the same Project.**
- **Owner Estimate, Similar Buildings (3): use this for the third OESB for a Building or Site in the same Project.**
- **Owner Pays all Utilities: use this type if the owner pays all utilities for the**

XML Schema

The current XML Schema can be downloaded from the following link:
https://www.wbars.com/XML_Schema/WBAR_Table1_Import.xsd

The Import Process

Initiating the XML Upload

The XML upload is done as a file upload to the WBARS website. Any Admin Contact (User) in the Organization that is selected as the Project Property Manager Organization for a Project can initiate an XML import for that Project. If the user has XML import rights they will have a button labeled "Import" on the Projects Page.
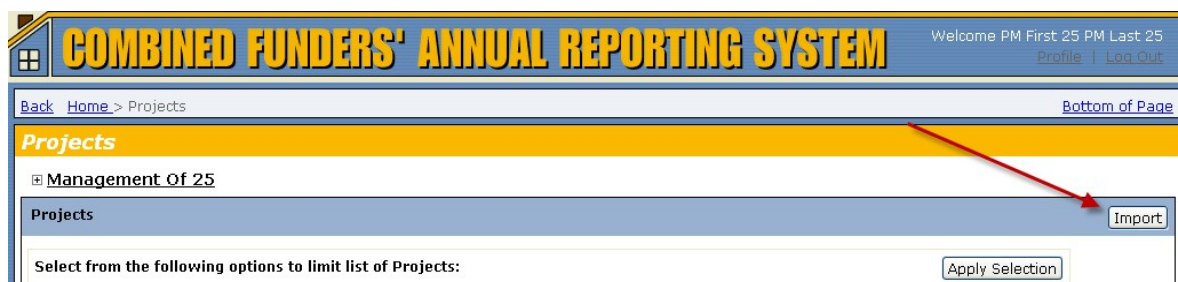
On the import page the user will choose a file to upload for import.

Validation and Error Logging

If the XML document doesn't pass schema validation then the errors are displayed on the screen and are not saved. If the XML document passes schema validation and is processed then any records that are not able to be imported are logged with the results and the reason displayed on the screen. An email is also sent to the user with an HTML attachment containing the results. This attachment can be forwarded for technical support.

Optional Fields and Null Values

Optional Simple Types (entries with one value) can either be not included or must be set to null explicitly if included. For instance if there is no comment the Comment entry can either be left out or included with xsi:nil="true" such as the following.

    <Comment xsi:nil="true"></Comment>

It cannot be included and left blank or the XML schema validation will fail. The following are not valid.

    <Comment></Comment>
    <Comment/>

The Complex Type **WBAR_TransferToUnit** must either be included with all required fields included or be left out if there is no transfer. It cannot be included and set to "nil".

XML Schema Validation

The first step of the XML import process will validate the uploaded XML file against the schema listed above. If there are any issues with the document these will be logged and the results will be displayed on the page with a unique URL. An email will be sent with a link to this unique URL. This link can be returned to later or provided to another person to help resolve any issues. A user must be logged on to WBARS to view the results.

XML Process Validation

If the document being imported passes XML validation against the XML schema it is processed and data is imported. During the import process each record is validated

against import business rules and if that record doesn't pass validation and error is logged, it is skipped, and the next record is processed.

Once the import is complete any validation messages are displayed on the page with a unique URL. An email will be sent with a link to this unique URL. This link can be returned to later or provided to another person to help resolve any issues. A user must be logged on to WBARS to view the results.

Valid records are imported and records not passing validation are skipped.

XML Imports and Existing Data
All existing Table1 records for a Site that is included in an import will be deleted and the site will be loaded with the Table1 data included in the XML Import.

Transfers
When adding a WBAR_TransferToUnit to a Table1_Record the transfer meet the following requirements.
- The transfer must be to another unit in the same Site. (It can be a different building)
- The HeadOfHouseholdFullName must be the same in the Table1_Record being transferred to as in the Table1_Record being transferred from which is the one with the WBAR_TransferToUnit.
- The MoveInDate in the WBAR_TransferToUnit must be the same as the MoveInDate in the Table1_Record being transferred to. This is used to identify the Unit being transferred to.

XML Process Validation Rules
The following are the conditions that need to be met for a record to be valid.

The ReportYear Element
The top level element ReportYear indicates the year of the exported data. The status of each Table1_Record included in the XML document should be as of the end of the year where the year is equal to the value of the ReportYear element or as of date of export if the year is not completed yet. If the current year were 2010 and the ReportYear was set to 2009 then the information exported should be what is current as of the end of the year of 2009. This will allow users to export and import data for the previous year and submit when they are well into the current year.

If any of the records have values for any of the following in a year greater than the ReportYear the whole import will fail:
- RecentRecertificationDate
- PreviousRecertificationDate
- MoveInDate
- MoveOutDate

Users will be provided a dropdown to choose the year for the import. The chosen year must match the ReportYear value in the XML Import.

If any included site has been submitted for the included ReportYear then the import will fail with a validation message indicating that to import for that year the site may need to be submitted or un-submitted. If any included site has an earlier year that has not been submitted then the import will fail with a validation message indicating that to import for that year the site may need to be submitted or un-submitted.

The following keys must find a match in the WBARS system
- "ProjectName" must match an existing project
- "SiteName" must match an existing site that is in the project.
- "BuildingName" must match an existing building in the site.
- "UnitName" must match an existing unit in the building.

Duplicate Projects and Sites Not Allowed
- The "ProjectName" must find an exact match in the WBARS system. If there are more than one projects with a matching name or alias then the import will fail. In this case contact support. Projects and/or aliases will need to be renamed until the project being imported to has a unique name.
- The "SiteName" must find an exact match within the projects. It is unlikely there would be two sites with the same name but if so contact support.
- The "BuildingName" must find an exact match within the site. It is unlikely there would be two buildings with the same name but if so contact support.
- The "UnitName" must find an exact match within the building. It is unlikely there would be two units with the same name but if so contact support.

Invalid Values
- For each record "MoveOutDate", if included, must be greater than "MoveInDate"
- The span of "MoveInDate" and "MoveOutDate" must not overlap with another record in the XML import document for the same unit.
- If there is a record in the database or XML Document that has a "MoveInDate" that is greater than the "MoveInDate" for the record being imported then the record being imported must have a "MoveOutDate" and must not overlap with another residency period.

Conditionally Required Fields
- If "IsHomeProgramUnit" is yes (True) then "HOMEUnitOccupied" is required and must have a value.
- If "IsHomeProgramUnit" is yes (True) then "HeadofHouseholdRace" is required and must have a value.
- If "IsHomeProgramUnit" is yes (True) then "HeadofHouseholdRace" is required and must have a value.
- If "IsHomeProgramUnit" is yes (True) then "HeadofHouseholdEthnicity" is required and is required and must have a value.
- If "IsHomeProgramUnit" is yes (True) then "HouseholdType" is required and must have a value.

- If "SubsidyAmount" has a value then "RentalAssistanceSource"is required and must have a value.
- If "RentalAssistanceSource" has a value then "SubsidyAmount"is required and must have a value.

Who Can Import

The WBARS system has organizations and contacts. Contacts are a member of only one organization. In order to be able to import for a site the contact must be an administrator of their organization, their organization must be a "Project Property Manager" organization, and their organization must be configured as the "Contractor / Owner Organization" for each site being imported.

What If I Continue To Get Errors When Trying To Upload My Data?

First, talk with your internal IT staff and/or your property management software account contact. In most cases your software vendor should be able to troubleshoot any issues you are having. If your software vendor cannot determine the problem, please email Melissa Donahue at melissa.donahue@wshfc.org to request assistance from the WBARS software vendor.