LIHEAP Performance Measures Reporting: Step-by-Step Guidance for Energy Burden Targeting: Section V Parts B & C

#1 - Preparing Vendor Data

- 1. For each vendor's submitted data file...
 - a. Review the data. Remove blank rows, cases missing annual bill amount, or cases where the vendor indicates that data could not be provided (no account number match).
 - b. Check for duplicates where the same client has more than 1 record. If exact duplicates, keep only 1 record. If the records have conflicting information, ask the vendor. If unable to resolve, remove the records.
 - c. Standardize the format and the names of the fields so that the same field names are used across the vendor files. For example, all vendor files can have the annual bill/cost amount labeled as "AnnualBill".
 - d. If the fuel type is not indicated, indicate the appropriate fuel type that the data is associated with (electric, gas, propane, oil, Kerosene, etc,).
 - e. Save a new cleaned and formatted version.
- 2. Combine all of the cleaned and formatted versions of the vendor files to create one file with all of the submitted vendor data.
- 3. Check for duplicates where the same client appears more than once across the vendor files <u>for the same fuel</u>. This could be because one vendor (such as Sharp Energy) has multiple files and the same client was in more than one of their files. If this is the case, keep only 1 record. If there are duplicates that are unclear, remove all of these records. This is only for duplicates for the same fuel because non-electric main heat clients will have electric data from the electric vendors and their main heat data from their main heat vendor, which means one client will have 2 records.
- 4. Reshape the layout so that there is only 1 record per client.
 - a. Here is an example. Client #1 has two records: one with propane vendor data and one with their electric vendor data.

MCI	Fuel	BillAmount
#1	Propane	\$810
#1	Electric	\$510

b. After reshaping, this client would have 1 record like this:

MCI	BillAmount_Propane	Bill_Amount_Electric
#1	\$810	\$510

c. Sum the bill amounts to have one total energy bill amount – "Total_Bill".

MCI	BillAmount_Propane	Bill_Amount_Electric	Total_Bill	
#1	\$810	\$510	<mark>\$1,320</mark>	

#2 - Merging Vendor Data with Your LIHEAP Household Data

- 1. Using the unique client ID (MCI), merge the vendor data to your LIHEAP household data.
 - a. Prior to doing this, your LIHEAP household data should be formatted and combined so that there is 1 record for each household that received bill-payment assistance during the FFY. This file should include the unique client ID (MCI), the annual household income amount, the main heating fuel type, and the total LIHEAP benefit amount for the FFY.
- 2. Drop all the records from your LIHEAP client data that are not matched. Those records are missing vendor data. If vendor data is unmatched to your LIHEAP client data, investigate. Only cases that have both vendor and client data should be kept.
- 3. To be used for the Performance Measures Energy Burden Targeting statistics in Section B (and subsequently, Section C if identified as high burden), a client must have billing data from their main heat vendor and their electric vendor. To mark clients that have this, mark cases in a new field called "heat_and_elec". Mark as follows:
 - a. If their main heating fuel is electric, mark if they have electric bill data.
 - b. If their main heating fuel is not electric, mark if they have bill data for their main heat AND if they have electric bill data.

MCI	BillAmount_Propane	Bill_Amount_Electric	Total_Bill	Heat_and_elec
#1	\$810	\$510	\$1,320	<mark>1</mark>

- 4. Keep those with "heat_and_elec" marked.
- 5. To be used for the Performance Measures Energy Burden Targeting statistics, a client must have an annual household income amount (including those with \$0 annual household income), a main heating fuel type, and a LIHEAP benefit amount from your LIHEAP records. If any of these are missing, you should work to get that information or drop those records.

MCI	BillAmount_Propane	Bill_Amount_Electric	Total_Bill	Heat_and_elec	<mark>Income</mark>	PrimarySource	LIHEAP Benefit Amount
#1	\$810	\$510	\$1,320	1	<mark>10,000</mark>	<mark>Propane</mark>	<mark>\$200</mark>

- 6. Create new fields for the PM statistics
 - a. Create a "MainHeat" variable. Assign the Main Heating type. Assign Kerosene main heat homes as Fuel Oil.
 - b. Create a "main_bill" variable. Assign this as the bill amount for each client's main heating fuel. *If the client uses electric main heat, be sure to assign the electricity bill value as the "main_bill"*.
 - *c.* Create a "elec_bill" variable. Assign this as the electricity bill amount for non-electric main heat clients. <u>This should be assigned as \$0</u> for electric main heat.
 - d. Create a "total_res_bill" variable. Assign this as "main_bill" + "elec_bill".

MCI	BillAmount_Propane	Bill_Amount_Electric	Total_Bill	Heat_and_elec	Income	MainHeat	LIHEAP Benefit Amount	<mark>MainHeat</mark>	main_bill	elec_bill	<mark>total_res_bill</mark>
#1	\$810	\$510	\$1,320	1	10,000	Propane	\$200	<mark>Propane</mark>	<mark>\$810</mark>	<mark>\$510</mark>	<mark>\$1,320</mark>

- 7. There may be instances where "total_res_bill" is not equal to "Total_Bill" due to households having supplemental fuel usage beyond their main heat or electric usage, or due to error. Drop these client's records if these are only a small portion of your cases (less than 1%).
- 8. Examine the main bill amounts and the electric bill amounts for potential errors and outliers. Drop clients with bill amounts that may be errors or outliers (such as bill amounts greater than \$10,000. Outliers dropped should only be a small portion of your cases.
- 9. You now have the final population to use for Section B of the Energy Burden Targeting Section.

#3 - Generating Statistics for Part B

- 1. Line 1 Report the number of cases for each main heating type (using "MainHeat")
- 2. Line 2 Calculate the average income for each main heating type (using "MainHeat")
- 3. Line 3 Calculate the average LIHEAP benefit for each main heating type (using "MainHeat")
- 4. Line 4 Calculate the average main heating bill for each main heating type (using "MainHeat")
- 5. Line 5 Calculate the average electric bill for each main heating type (using "MainHeat"). Electric main heat should be \$0.

<u>#4 - Selecting High Burden Households for Part C</u>

- 1. Calculate energy burden for each client as follows: (total_res_bill/Income)*100.
 - a. If Income = 0, define energy burden = 100%.
 - b. If total_res_bill is greater than Income, define energy burden = 100%.

MCI	BillAmount_Propane	Bill_Amount_Electric	Total_Bill	Heat_and_elec	Income	MainHeat	LIHEAP Benefit Amount	MainHeat	main_bill	elec_bill	total_res_bill	<mark>Energy</mark> Burden
#1	\$810	\$510	\$1,320	1	10,000	Propane	\$200	Propane	\$810	\$510	\$1,320	<mark>13%</mark>

- 2. Sort the cases from greatest to least energy burden. Mark the top 25% of the list to select the high burden households, and keep only these clients.
- 3. You now have the final population to use for Section C of the Energy Burden Targeting Section.

<u>#5 – Generating Statistics for Part C</u>

- 1. Line 1 Report the number of cases marked as high burden for each main heating type (using "MainHeat")
- 2. Line 2 Calculate the average income for those marked as high burden for each main heating type (using "MainHeat")
- 3. Line 3 Calculate the average LIHEAP benefit for those marked as high burden for each main heating type (using "MainHeat")
- 4. Line 4 Calculate the average main heating bill for each main heating type (using "MainHeat")
- 5. Line 5 Calculate the average electric bill for those marked as high burden for each main heating type (using "MainHeat"). Electric main heat should be \$0.