

2017 Impact Evaluation Data Collection Launch



April 11, 2017



Why Evaluation

What do we all want?



Energy efficiency programs that save customers money and energy

To be trustworthy stewards of ratepayer money

Evaluation

What did we achieve?

How do we improve?



Impact Evaluation



Savings reliability
with independent
verification



Program
improvement
opportunities

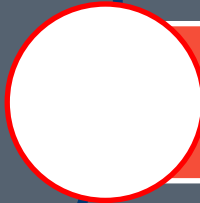
The Team



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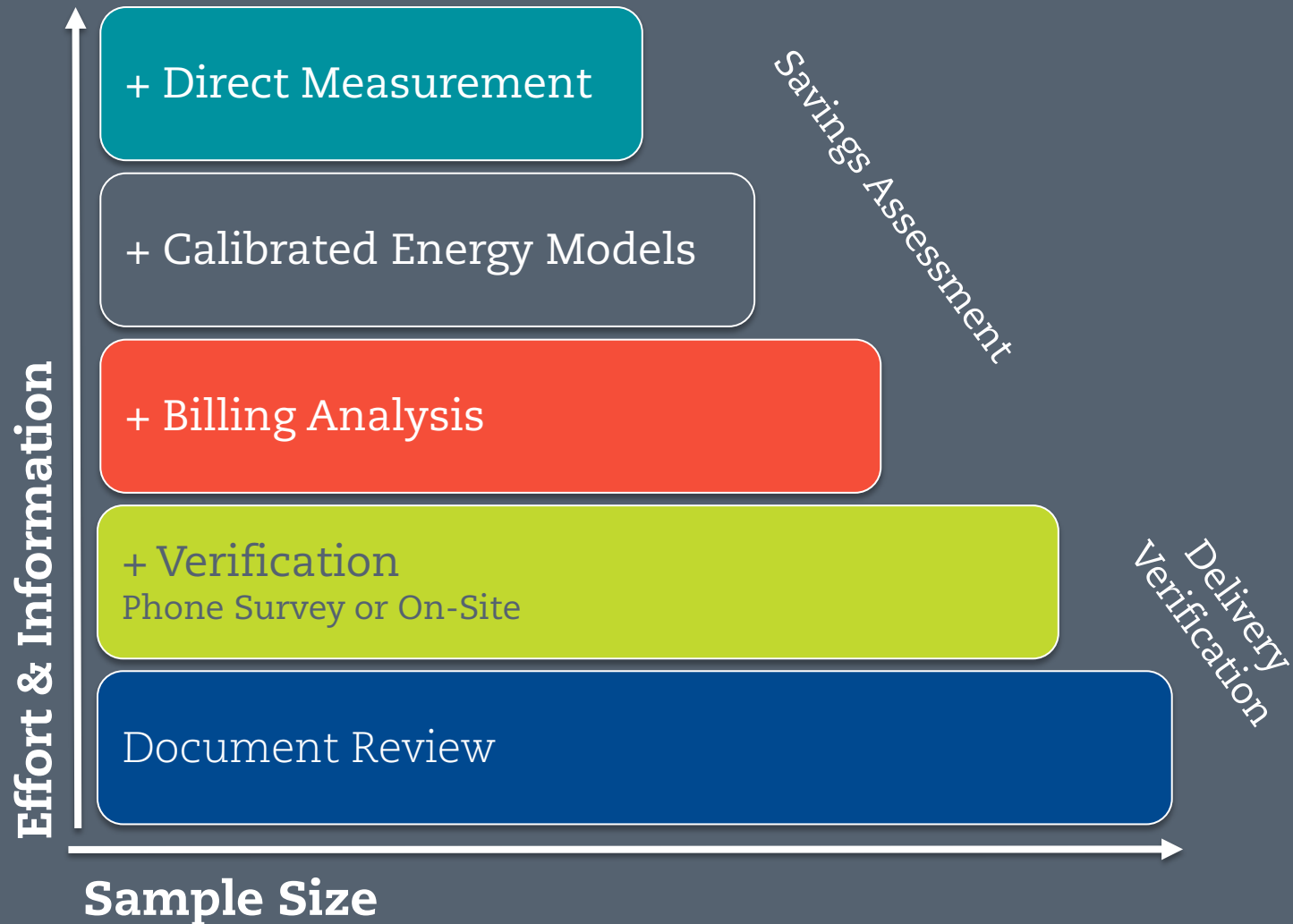


Kuldeep More – Navigant Data Collection
kuldeep.more@navigant.com



Evaluation Approaches Overview

Evaluation Approaches



Data Collection Activities

Document Review (Utility Files)

- 5 measure groups
- ~600 projects across 26 utilities




Verification (Web & Phone Surveys)

- DHP eFAF only
 - *Utilities or Evaluation can field survey*


OPTIONAL Billing Data

- DHP Zonal
- DHP eFAF
- Prescriptive DS

Activities By Measure Group

Sector	Measure Group	FYs Included	Doc Review	Opt-In Billing Analysis	Web & Phone Surveys	Literature Review
Residential	Phase II Data Collection and Analysis for CY2016 Res HVAC and Envelope Billing Analysis*	2015-2016	✓ DHP eFAF	✓ DHP eFAF ✓ Pres DS	✓ DHP eFAF	
	Ductless Heat Pumps replacing Zonal Heat	2016	✓	✓		
	Power Strips	2016	✓			
	Showerheads	2016	✓			
	Heat Pump Water Heaters	2016	✓			
	State Grants – Low Income Weatherization	N/A				✓ 
Agricultural	De-energization	2016	✓ 			
	BPA Green Motors	2016	✓ 			

*The analysis of the remaining res HVAC & envelope measure groups included in the FY2016 billing analysis will be finalized in CY2017.

 No utility data required

+ Research the Retail Sales Allocation Tool (RSAT)

- Allocation methodologies, implementation, discounted bulbs purchased for use in programs



Process

Timeline

Our goal is to make evaluation results timely and relevant

Data Due May 16th

- 6 week data collection timeline
- Alert us if you might need an extra week or two

	2017											
Milestone	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Sample Notification to Utilities				X								
Brown Bag for Sampled Utilities				X								
Primary Data Collection				↔								
Data Clarifications					↔							
Analysis							↔					
Reporting											↔	

Data Security is a Priority



If you have any data-related questions, Kuldeep is here to help!

360.828.4016
kuldeep.more@navigant.com



Secure file transfer options, with file encryption



Anonymized data, remove customer PII



NDA with evaluation contractor

End User Contact Protocols

Contact protocols outlined in Appendix G of Evaluation Plan

DHP in eFAF web or phone surveys

Utilities notified
4 weeks in
advance

Evaluation
provides
support
information

Option for utilities
to email the link to
the web survey or
conduct survey by
phone



Your Data Collection Workbook

Let's Walk Through The Workbook

INSTRUCTIONS

The purpose of this workbook is to provide you an easy mechanism to provide the data needed for the evaluation.

Start on the **'Your Sampled Projects'** tab. This tab includes:

- The project information for your sampled projects, as uploaded into the IS2.0 data system,
- The sampled evaluation measure group each was selected for in this study,
- The required data to be provided to Navigant.



If you have any questions along the way, please contact
Kuldeep More
 360.828.4016
 kuldeep.more@navigant.com

Once this workbook is complete, we will help you transmit it back to us securely. More information on this step is included on the **'How to Save & Send Your Data'** tab.

HOW IS THIS DATA BEING USED?

Our evaluation plan and kick-off presentation can be found [here](#).

WOULD YOU LIKE TO PROVIDE OPT-IN BILLING DATA?

If you'd like to participate in our Opt-In billing analysis, please navigate to the **'How to Provide Billing Data'** tab for instructions.

Sheets in This Workbook

Your Sampled Projects	The complete list of your sampled projects.
How to Save & Send Your Data	Instructions for how to name your files and securely transmit them back to the evaluation contractor.
Definitions	All the data fields included on the 'Your Sampled Projects' tab are defined here for you.
APS Evaluation Data Requirements	A description of the primary data we need to collect for sampled APS units.
Showerheads Evaluation Data Requirements	A description of the primary data we need to collect for sampled showerhead units.
HPWS Evaluation Data Requirements	A description of the primary data we need to collect for sampled HPWH units.
DHP Evaluation Data Requirements	A description of the primary data we need to collect for sampled DHP (zonal or eFAF) units.
How to Provide Billing Data	Instructions for how to provide your billing data.
DHP eFAF	Billing data template used to collect billing data for DHP replacing electric forced air furnace projects.
DHP Zonal	Billing data template used to collect billing data for DHP Zonal projects.
Prescriptive DS	Billing data template used to collect billing data for Prescriptive Duct Sealing projects.
Quick Data Clarifications	List of the key data descriptions to support the billing analysis.

START HERE

Your Sampled Projects

Definitions

How to Save & Send Your Data

Detailed Data Requirements-->

APS

Shower ...





What Data Do We Need?

Residential APS

Detailed Data Requirements

Evaluation Data Requirements for ADVANCED POWER STRIPS		
Our team will use the following BPA documentation requirements to evaluate the impacts from APS units.		
Delivery	Documentation Description	Specific Data Fields
All	Equipment/contractor invoice	Manufacturer
		Model number
		Type
		Size
		Quantity
		Order/Purchase Date
	Cost	
By-Request or Direct Install	Measure Distribution Log (or equivalent form with required information)	
Mail By-Request	Documentation of mailing to document the date the product entered the mail stream	
Retail	Store sales report or invoice	Order/Purchase Date
		Sales by Store Location
		Qualified Product Make
	Model number	
	Report documenting the allocation methodology when a store serves multiple customers.	

Residential Showerheads

Detailed Data Requirements

Evaluation Data Requirements for RESIDENTIAL SHOWERHEADS		
Our team will use the following BPA documentation requirements to evaluate the impacts from residential showerheads.		
Delivery Mechanism	Documentation Description	Specific Data Fields
All	Equipment/contractor invoice	Manufacturer
		Model number
		Type
		Size
		Quantity
		Order/Purchase Date
		Cost
By-Request or Direct Install	Measure Distribution Log (or equivalent form with required information)	
	Fuel source documentation	
Mail By-Request	Documentation of mailing to document the date the product entered the mail stream	
Retail	Store sales report or invoice	Order/Purchase Date
		Sales by Store Location
		Qualified Product Make
	Model number	
	Report documenting the allocation methodology when a store serves multiple customers.	

APS & Showerheads

Example Documents

Invoices - including make, model, quantity, purchase date

UNITED LAMP SUPPLY
215 South 50th Street
Tacoma, WA 98408
Phone # (253) 473-2910
Fax # (253) 473-2352

800180

Invoice

Rep	Date	Invoice #
	7/8/14	657927

PAID 08/19/14

Bill To: [Redacted]

Ship To: [Redacted]

P.O. No.	Ship Via	Terms
		Net 30

Qty	Backordered	Item	Description	Rate	Amount
16		S60-2623	15" Brushed Nickel 3 Lamp 16W Alabaster Glass		
16		3004-GU223-SI	2X23W 24IN Silver Vanity ES		

Fluid
A CLEAR RESULT COMPANY
525 SW Broadway, Ste. 300
Portland, OR 97205
Phone: 503.808.9003
Fax: 503.808.9004

INVOICE

DATE: December 23, 2013
Invoice #: 24-1213-001

FOR: Energy Efficient Residential Products Promotion
Contract Title: Simple Steps, Smart Savings™
Contract Number: 45706

BILL TO:
Bonneville Power Administration
Attn: Sarah Moore/KLJC-1
PO Box 3621
Portland, OR 97208-3621
(503) 239-4157
Email: ssmoore@bpa.gov

DESCRIPTION	AMOUNT
Reporting Period: November-2013	
BONNEVILLE POWER ADMINISTRATION PROMOTIONAL PRODUCT SALES AND SALE ADJUSTMENTS	
CFL twist: 80,740 units, Ref No. RLILF11522	\$ 80,740.00
CFL promo twist: 96 units, Ref No. RLILF11522	168.00
CFL specialty: 17,868 units, Ref No. RLILF10877	39,753.00
CFL promo specialty: 4,089 units, Ref No. RLILF10877	5,911.00
Fixture: 4,057 units, Ref No. RLILF10835	33,458.45
LED Fixture: 453 units, Ref No. RLILF10875	3,850.50
LED Bulb: 16,227 units	56,794.50
2.0 Showerhead: 639 units, Ref No. RWHWU10990	4,696.85
1.75 Showerhead: 20 units, Ref No. RWHWU10991	147.00
1.8 Showerhead: 148 units, Ref No. RWHWU10991	1,087.80
1.5 Showerhead: 68 units, Ref No. RWHWU10992	499.80

Page 1

Measure Distribution Logs - linking sampled line item to invoiced line item

By Request / Event Distribution: Residential CFLs, LEDs, APS and SHOWERHEADS

Sample Measure Distribution Log (customize as needed)

Notes: Remove columns for items not needed; update Refno to reflect the items being distributed.

- CFLs must be ENERGY STAR qualified
- LEDs must be ENERGY STAR or LDL qualified
- APS must be an Advanced Power Strip Qualified Products List; be provided for use with Entertainment Centers; include survey.
- Showerhead includes requesting water heater fuel type.
- Direct install showerheads are only eligible in homes with electric water heat.

Title of Event _____ Utility _____

Row	Date	Customer Address (street, city, zip)	Product Type and # Units Distributed										
			General Purpose CFL (RLILFxxxxx)	Specialty CFL (RLILFxxxxx)	Decorative LED (RLILFxxxxx)	General Purpose LED (RLILFxxxxx)	Reflector (directional) LED (RLILFxxxxx)	Advanced Power Strip (RELPLxxxxx)	APS Survey or website address provided (yes/no)	Showerhead 1.5 gpm or less (RWHWUxxxxx)	Showerhead 1.75 gpm or less (RWHWUxxxxx)	Showerhead 2.0 gpm or less (RWHWUxxxxx)	Water Heater Fuel for Showerheads (Electric/Gas /Propane)
sample	5/1/2013	1234 Main St, Spokane WA 99202	4	3						1		1	Electric

APS & Showerheads

Special Considerations

Largest reported projects are often captured in a single invoice for a large quantity of program units.

ReportableKWh	Sector	MeasureNm	Quantity
857,067	Residential	Power Strips Infrared Signal Sensing By-Request	2621
2,945,616	Residential	Power Strips Infrared Signal Sensing By-Request	9008

ReportableKWh	Sector	MeasureNm	Quantity
1018800	Residential	Showerheads Any Showerhead 1.5 or less Gallons	3600
764100	Residential	Showerheads Any Showerhead 1.5 or less Gallons	2700

Your distribution logs or mapping documents may help us make sense of large and complex invoices.

	A	B	C	D	E	F	G	H
1	Client Invoice: Invoice Tracker Id	Client Invoice: Deltek Invoice Number	Client Invoice: Payee	Client Invoice: Client Invoice Date	PM: Program No.	Reporting Period	Reporting Year	Vendor
2	06							
3	06							
4	06							
5	06							
6	06							
7	06							

Heat Pump Water Heaters

Detailed Data Requirements

Evaluation Data Requirements for HEAT PUMP WATER HEATERS

Our team will use the following BPA documentation requirements to evaluate the impacts from residential HPWHs.

Documentation Description	Specific Data Fields
Equipment/contractor invoice	Manufacturer
	Model number
	Type
	Size
	Quantity
	Order/Purchase Date
	Cost
End-user identifying information including unique site ID and address	
HPWH Program Form	

DHP Zonal

Detailed Data Requirements

Evaluation Data Requirements for DUCTLESS HEAT PUMPS (Zonal and eFAF)

Our team will use the following BPA documentation requirements to evaluate the impacts from DHP in Zonal and eFAF applications.

Documentation Description	Specific Data Fields
Equipment/contractor invoice	Manufacturer
	Model number
	Type
	Size
	Quantity
	Order/Purchase Date
	Cost
Ductless Heat Pump Installation Form (or other form(s) that contain the same information) (available in the Document Library)	

DHP eFAF

Detailed Data Requirements

Evaluation Data Requirements for DUCTLESS HEAT PUMPS (Zonal and eFAF)		
Our team will use the following BPA documentation requirements to evaluate the impacts from DHP in Zonal and eFAF applications.		
Application	Documentation Description	Specific Data Fields
Zonal	Equipment/contractor invoice	Manufacturer
		Model number
		Type
		Size
		Quantity
		Order/Purchase Date
		Cost
Zonal & eFAF	Ductless Heat Pump Installation Form (or other form(s) that contain the same information) (available in the Document Library)	

DHP Projects

Example Documents

Invoices - including make, model, quantity, purchase date

Installation Forms – including home and system details

Please Return This Form To:

Ductless Heat Pump Installation Form

For Electrically Heated Homes- *See page 2 for home and heating system types not eligible for rebate

All sections must be filled out by the installer at the time of installation. A copy of this completed form and the purchase receipt or invoice must be promptly submitted to the homeowner's utility in accordance with utility policy.

Household Information

Customer Name		Installation Address	
City	State	Zip	Customer Phone
Mailing Address, if different:			
Home Type*: <input type="checkbox"/> Existing Site Built <input type="checkbox"/> Manufactured			
Year Built:	Total Heated Area of the Home: Sq Ft	Existing Heating System Being Replaced*: <input type="checkbox"/> Electric Forced Air with AC <input type="checkbox"/> Electric Forced Air without AC <input type="checkbox"/> Electric Zonal ¹	



DHP eFAF

Data Collection Activities

2016 Phased Approach

CY2016 Billing Analysis

- Collected data
- - DHP eFAF
- - Windows
- - Insulation
- - Prescriptive Duct Sealing

Preliminary Results and Exploratory Analysis

Focus on estimating savings

Use data we have

Indicate need for additional work

Phase II

Get additional data on targeted measure groups

In 2016, notified utilities that we may collect more data if savings are low

Why Collect More Data?



Draft results from 2016 billing analysis are low compared to RTF estimates

Data collection activities:

- End user survey (phone and web) of a sample of projects
- Opt-in billing data

We'll use additional data to:

- Investigate savings drivers
- Address outliers
- Understand participants

Conducting the Survey

Web & Phone Surveys

Web Survey



- Higher response rate
- Easier for utilities and end users

Data Required

Participant Email Address

Phone Survey

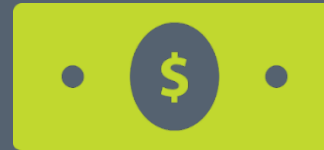


- Option provided

Data Required

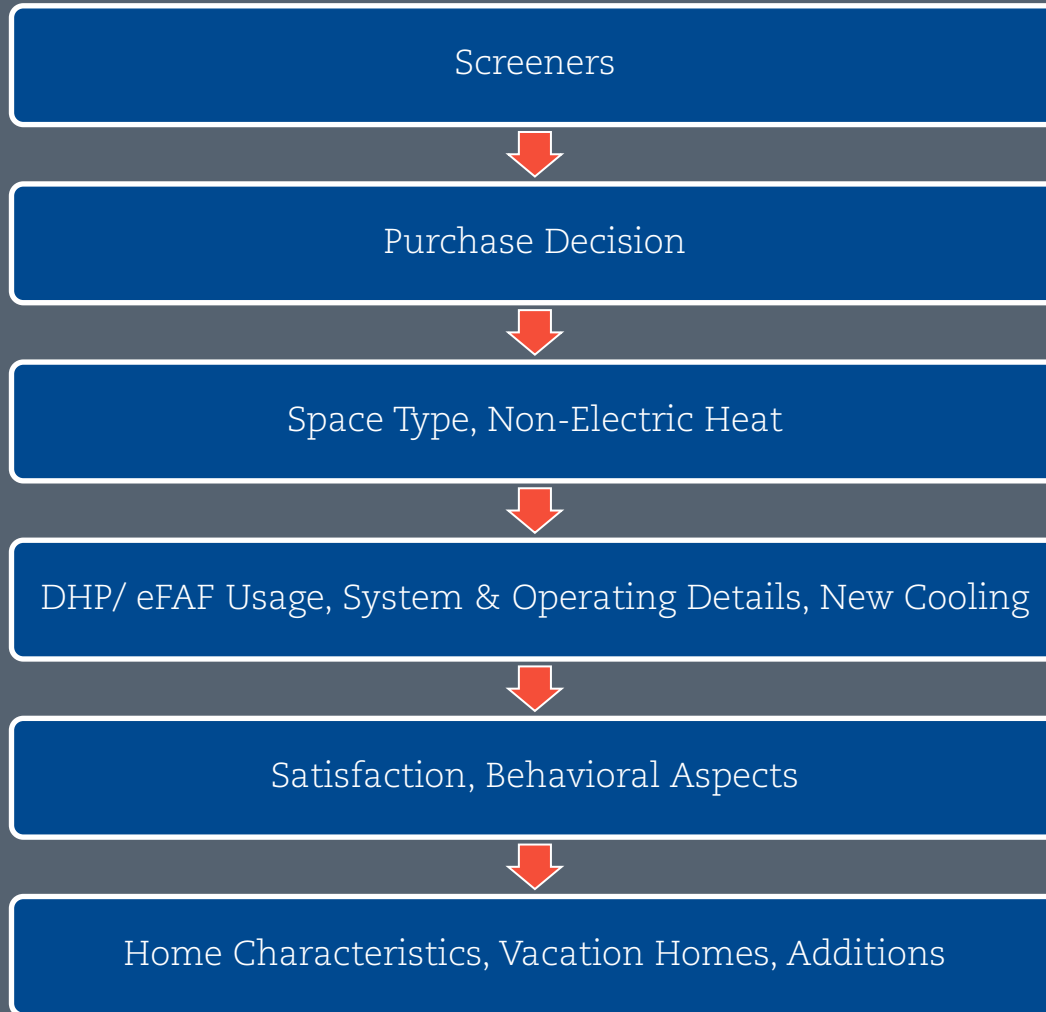
Installation Form

Evaluation Team
OR Utilities
can send survey link
or conduct calls



\$20 Thank You Gift
for participating

Draft Survey Flow



Next Steps

Mid-May	Draft survey circulated for utility comment
End of May	Comments due
Early June	Survey finalized
Mid-June	Survey pre-tested
End of June	Survey instrument, contact lists , and call center talking points sent to utilities Advanced letters mailed to end-users (optional)
Early July	Brown bag to launch survey effort
Mid-July	Begin fielding survey





Opt-In Billing Analysis

Why Opt-In Billing Analysis?

DHP Zonal

- Proven measure, not under review, yet
- Utility interest in understanding savings in their territory

DHP eFAF

- Draft results from 2016 billing analysis are low compared to RTF estimates
- Add'l sample to:
 - improve precision on results
 - east side utility representation

Prescriptive Duct Sealing

- Draft results from 2016 billing analysis are not statistically significant
- Add'l sample to make results meaningful

Let's Walk Through the Data Collection Workbook

How to Provide Your Billing Data

Thank you for participating in our opt-in billing data analysis!

Please use this workbook to provide your billing data. Specifically, use the [data collection tab\(s\)](#) for the measure(s) for which you want to provide your project energy consumption data, as well as the ['Quick Data Clarifications'](#) tab to provide some quick clarifications that will help our team better understand your data and reduce our follow-up questions.

Instructions

Beyond the FAQs below, our team is standing by to help! Please don't hesitate to reach out to Kuldeep More, 360-828-4016, kuldeep.more@navigant.com with any question.

Which projects are eligible? Eligible projects are any projects [installed between 1/2015 and 8/2016](#).

What dates do we need? Please provide billing data from [two years prior to 'Completion Date'](#) to the [most current data available](#) for each site. If it's easier for you, we're happy to receive billing data beginning in 10/1/2014 through present for all measures.

Key fields on the [data collection tabs](#). Please provide a unique end user identifier (e.g. account #) in **Column B**, and a unique site identifier (e.g. site ID) in **Column C**. If you use one identifier that tracks this data together, please include that in **Column B** and ignore **Column C**. If you prefer, you can anonymize all identifying fields prior to sending us the data.

What are we getting at? The evaluation team uses the unique combination of end user and site to track move ins/outs and distill billing data to the relevant combination of end user and site. If you have a parameter that tracks Move Ins/Outs directly, please provide that in **Column K**. If instead you need more than two fields to do this, please feel free to add columns.

What's the format? Please use a new row for each monthly or bi-monthly meter read. Please keep all your billing data for a specific measure on one tab.

Why do we need address? We will use the site address to link your data back to the projects reported into BPA's IS2.0 system.

Save time answering our follow-up questions! On the ['Quick Data Clarifications'](#) tab, please provide the requested information to help us more quickly understand and better utilize your billing data. This data can be provided one time for all projects and measures for which you are providing billing data.

All Set? When your data is entered, please email Kuldeep More at Kuldeep.More@navigant.com, so that he can send you a link to upload your file to our secure file transfer server.



Tracking Move Ins & Move Outs

What we DO want:



Billing data for the unique combination of the sampled **end user** and the **site** at which the measure was installed

What we DON'T want:

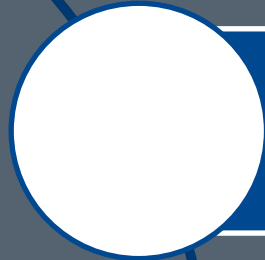


Billing data for the sampled site **before or after** the participating end user lived there



Billing data for the participating end user **at a different site**

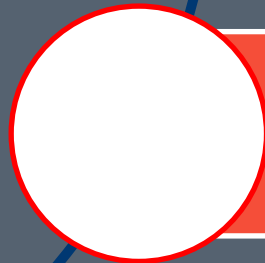
Contact Info



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