

POU Data Streamlining



DECEMBER 14, 2023

Goals for POU's

- Reduce the complexity of choosing the right permutation for:
 - Report / Claims
 - Planning / Budgeting
- Understand the uncertainty / risk associated with streamlined data
 - No risk
 - Minimal risk
 - Mitigate risk

Could part of this plan work for IOUs also?

3 Levels of Permutation Collapse

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Full eTRM Data

- ~20,000 perm/CZ
- Full set
- Nightly sync
- eTRM naming
- Updated by measure package owner

Streamlined Data

- ~1,400 perm/CZ
- Offering / CZ / Sector
- Quarterly Review
- Streamline designation
- Script to combine; looks like AR
- Memo describes script

Collapsed Offerings

- ??? Perm/CZ (~1/3)
- Offering / CZ / Sector
- Guidance document to collapse offerings
- Same as Streamlined
- Same as Streamlined
- Memo to recommend collapse

Questions:

- Using Res / NonRes for sector, would you also distinguish building type for NonRes?
- Using AR columns to be consistent, would you also distinguish MAT to make permutations easier to use?
- Would IOU consider using Streamlined data for planning?

How Energy Savings (kWh) Vary?

- Offering
- Climate Zone
- Building Type
- Building Vintage
- Building HVAC

Offering: How Energy Savings (kWh) vary?

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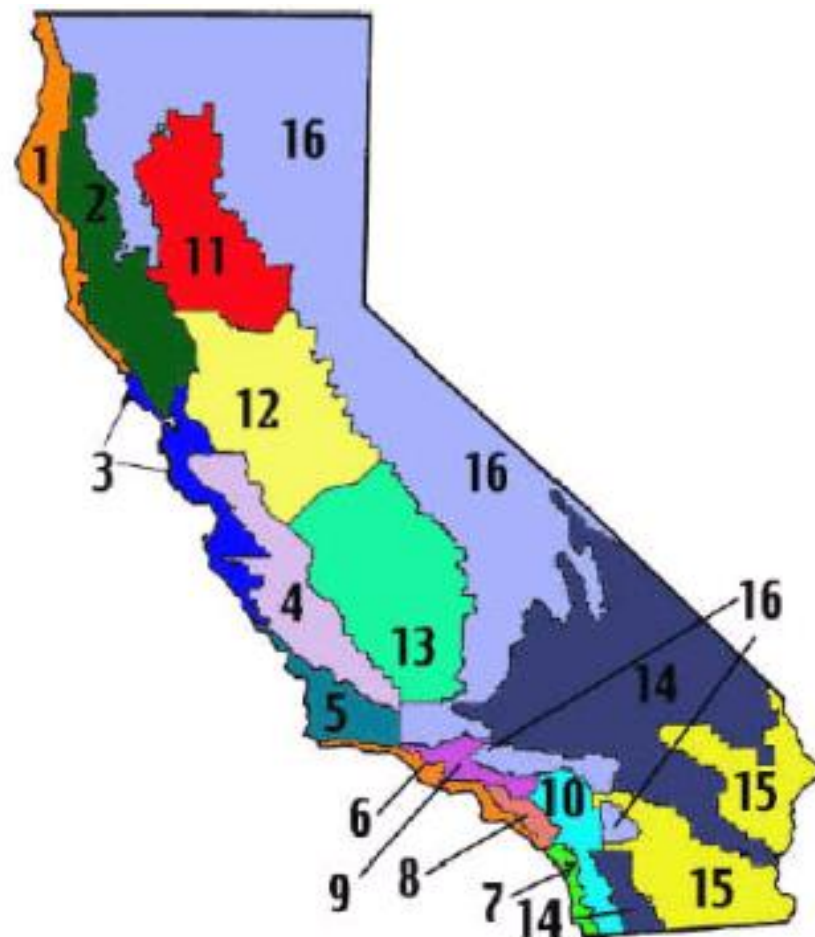
- *This parameter will be handled separately – looking at the measures with the most offerings*
- How to describe this product to a customer:
 - Measure Efficiency (SEER 17, Energy Star, etc)
 - Measure Size (> 10 tons, <2 hp, etc)
 - Physical Description of the Equipment (Side Freezer, R-19 Batt, etc)
- Examples:

Measure Package	Feature 1	Feature 2	Feature 3
Refrigerators	Refrig and/or Freezer	Side/Top/Bot	Efficiency Tier
Clothes Dryers	Fuel	Efficiency Tier	Size
Ceiling Insulation	Insulation value (R-value)		
Fryer	Fuel	Efficiency Tier	
HVAC Package Units	Size (tons)	Efficiency Tier (SEER/SEER2)	Equipment Type (HP/AC)
Whole House Fan	Motor Type	Efficiency Tier (cfm/ft2)	

Climate Zone: How Energy Savings (kWh) vary?

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- 16 Climate Zones
 - Recommend: Do not collapse 16 Climate Zones since POUs already only use a small set of values
 - Typical use cases:
 - ✦ Weather dependent measures such as HVAC (heating and cooling)
 - ✦ Water heating measures due to ground water assumptions



Building Type: How Energy Savings (kWh) vary?

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- Non-Residential and Residential
 - Align building type naming
 - Variation due to building construction, typical usage patterns, typical loads
 - ✦ Often driven by modeled results
 - Sometimes differentiated to make eligibility clearer

- Assembly
- Education - Community College
- Education - Primary School
- Education - Relocatable Classroom
- Education - Secondary School
- Education - University
- Grocery
- Health/Medical - Hospital
- Health/Medical - Nursing Home
- Lodging - Hotel

- Lodging - Motel
- Manufacturing Biotech
- Manufacturing Light Industrial
- Office - Large
- Office - Small
- Other Agricultural
- Other Commercial
- Other Industrial
- Restaurant - Fast-Food
- Restaurant - Sit-Down

- Retail - Big Box
- Retail - Large
- Retail - Small
- Storage - Conditioned
- Storage - Unconditioned
- Warehouse – Refrigerated
- Residential
- Residential - Mobile Home
- Residential - Multi-Family
- Residential - Single-Family

Building Vintage and HVAC: How Energy Savings (kWh) vary?

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- Vintage
 - Associated with differences in prototype model (code construction, age of building, etc)
- HVAC Type
 - Linked to what is typical in a building type

Building Vintage:

- Existing
- New Construction
- *Old (removed 2026)*
- *Recent (removed 2026)*

Building HVAC Type:

- rDXGF (central AC with gas furnace)
- rDXHP (central heat pump with electric resistance backup)
- rNCEH (no cooling, electric baseboard heating)
- rNCGF (no cooling, gas furnace).
- (and more...)

	Number of Measures (Total=164)	AppPlug	BldgEnv	CompAir	ComRefrig	FoodServ	HVAC	Irrigate	Lighting	NonSav	ProcDist	ProcHeat	Recreate	SHW	HotWater	Wh/Bldg
1 Measures already streamlined (no variation beyond Offering, CZ)	81	7	0	0	18	26	6	2	1	1	4	4	2	10	0	0
2 Measures to streamline (variation < Limit)	36	6	0	1	0	1	6	1	1	0	1	0	2	17	0	0
3 Measure very small contribution to portfolio (<0.01%)	21	0	2	0	0	0	18	0	0	0	0	0	0	1	0	0
4 Due to Bldg Type and/or HVAC Type	26	0	3	0	0	0	16	0	2	0	0	0	0	3	0	2

• Types of groups:

1. Already streamlined
2. Variation in BT, HVAC Type and Vintage small
3. Low risk to portfolios
4. Higher risk / higher variation

Streamlining by Group

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- Take-aways:

- Many measures already collapsed or little impact to collapsing
- Focus on HVAC/Lighting measures (mostly)
- Question that we are asking is how to handled bottom two rows

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Questions / Next Steps

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- **Next Steps**

- Integration with ESPPortfolios (POU reporting / planning tool)
- Finalize approach to created streamlined permutation set
- Planned memo to recommend offering collapse

Back-up Information

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Limits Used in Analysis

- Percent of Portfolio taken from IOU claims data from 2020-2023
- Limit compared to % deviation (SD/Average)

Tier	% Portfolio		Limit
1	100%	1%	10%
2	1%	0.50%	15%
3	0.50%	0.25%	20%
4	0.25%	0	25%