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Accounting for EE in Load Forecasts

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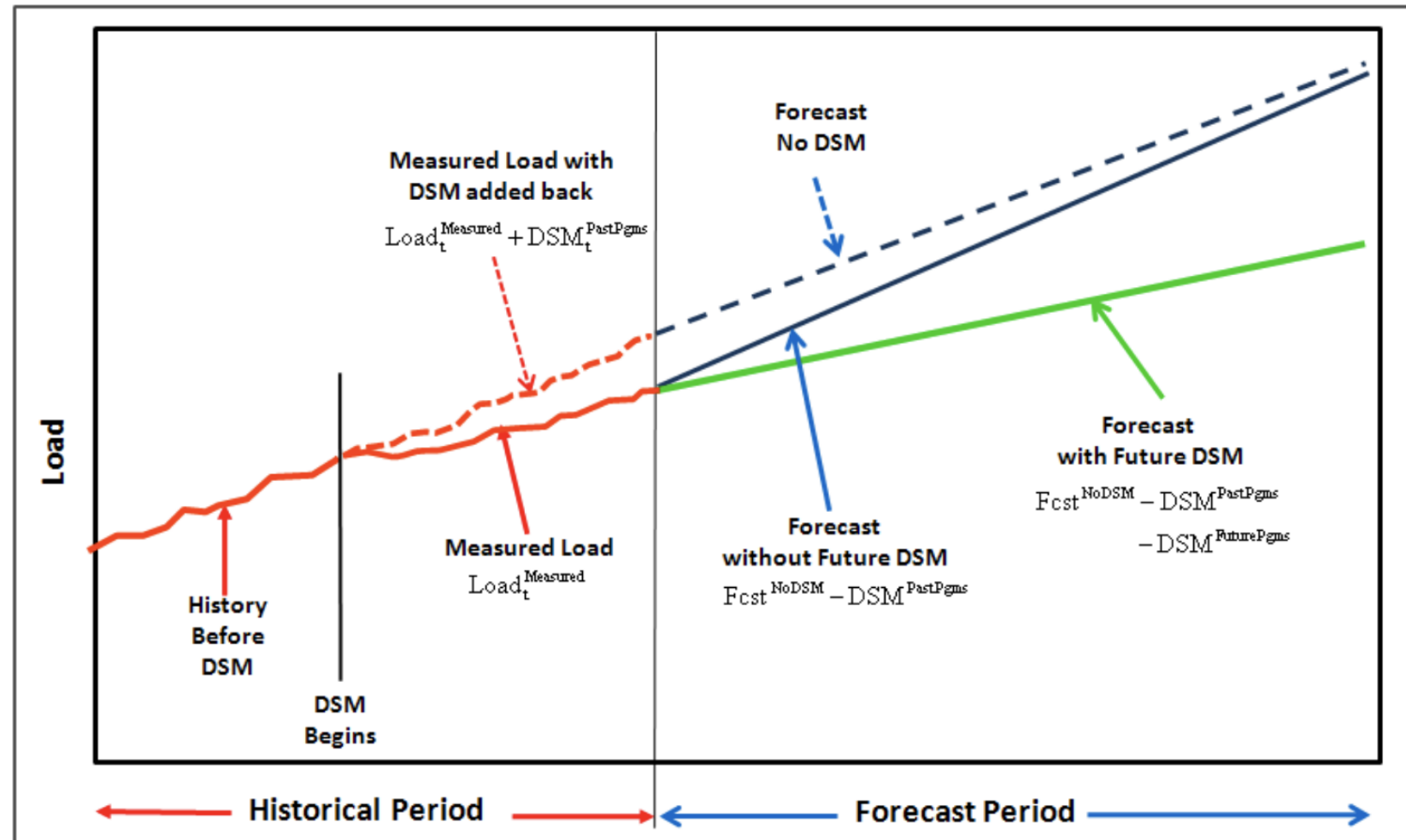# Accounting for Energy Efficiency in Itron Load Forecasts

- **Method 1, "Add Back" Method** - attempts to reconstitute load by adjusting the left-hand-side of the SAE model to create a model without DSM. Once the model is developed, the forecast is adjusted to account for past and future DSM impacts. This method appears to work well in situations were there is a short history of minor DSM investments, and the historical impacts can be reconstituted from program data.

- **Method 2, "DSM Variable" Method** - attempts to model DSM by inserting a variable on the right-hand-side of the SAE model. Once the model is developed, the forecast is created by inserting a forecast of the cumulative impact of past and future programs. This method requires that historical programs have had a major impact on historical sales and that there is enough independent variation in the impact history to generate statistically significant parameters. **(AES Indiana and Centerpoint use Method 2)**

- **Method 3, "DSM Trend" Method** - attempts to capture the underlying DSM trend without adjusting either the right or left-hand-side of the SAE model. Assuming that the DSM trend is obtainable, the forecast is adjusted for net changes from the DSM trend line. This method is well suited to a situation where there has been a longstanding and relatively stable DSM history and where there is expected to be significant acceleration of deceleration of program activity.

- <u>**I&M uses none of these methodologies**</u>

Methodologies taken from "Incorporating DSM into the Load Forecast" by McMenamin, Stuart and Mark Quan. https://www.itron.com/-/media/feature/products/documents/white-paper/incorporating-dsm-into-the-load-forecast.pdf

I&M Should Try Method 1: Add Back

Taken from "Incorporating DSM into the Load Forecast" by McMenamin, Stuart and Mark Quan. https://www.itron.com/-/media/feature/products/documents/white-paper/incorporating-dsm-into-the-load-forecast.pdf

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I&M's Use of Supplemental Efficiency Adjustment Is Not Persuasive Evidence of its Accuracy

Year	Total Adjustment at Meter	Total Retail Sales	Adjustment as % of Sales
2019	83.8 GWh	17,751 GWh	0.47%
2020	87.8 GWh	17,231 GWh	0.51%
2021	27.4 GWh	TBD	TBD
2022 & beyond	0 GWh	TBD	0%

- I&M's adjustment to load forecast is only for three years simply because extending out the application of the supplemental energy efficiency adjustment would change the sign of the adjustment.
- Rather than adjusting the sales forecast upwards to add back EE savings, I&M is actually subtracting the adjustment from its load forecast.

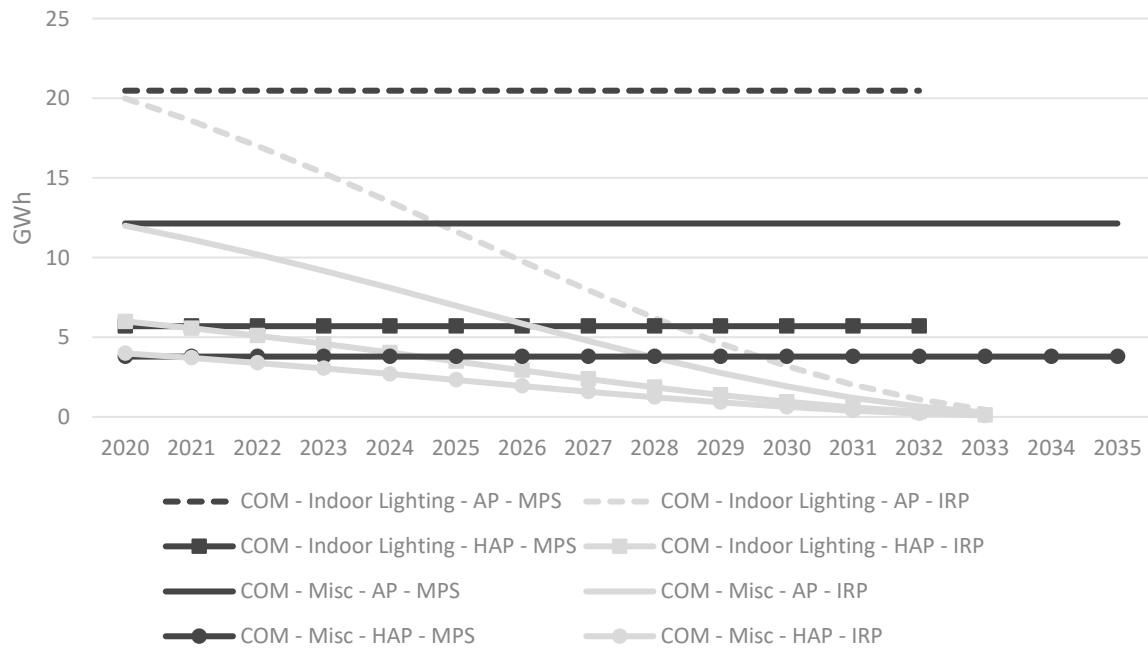# I&M's "Supplemental Efficiency Adjustment" Lacks Analytical Basis

- Not aligned with the actual impact of codes and standards nor the manner in which they are implemented.

- While the level of EE savings in load forecast is fixed, approximately 50% of savings are removed from EE bundles regardless of the level of savings in the resulting plan.

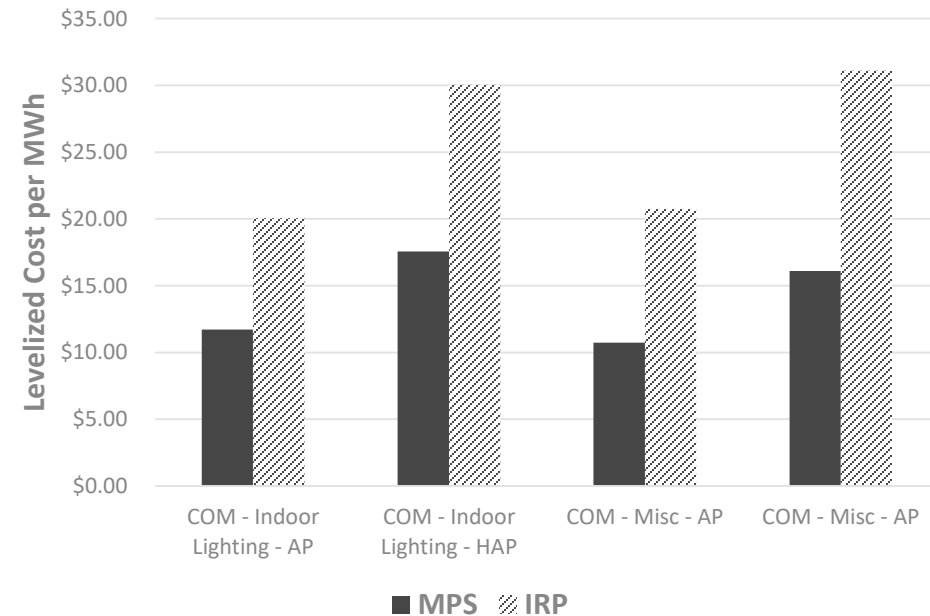**I&M's "Adjustment" to Modeled EE Savings**
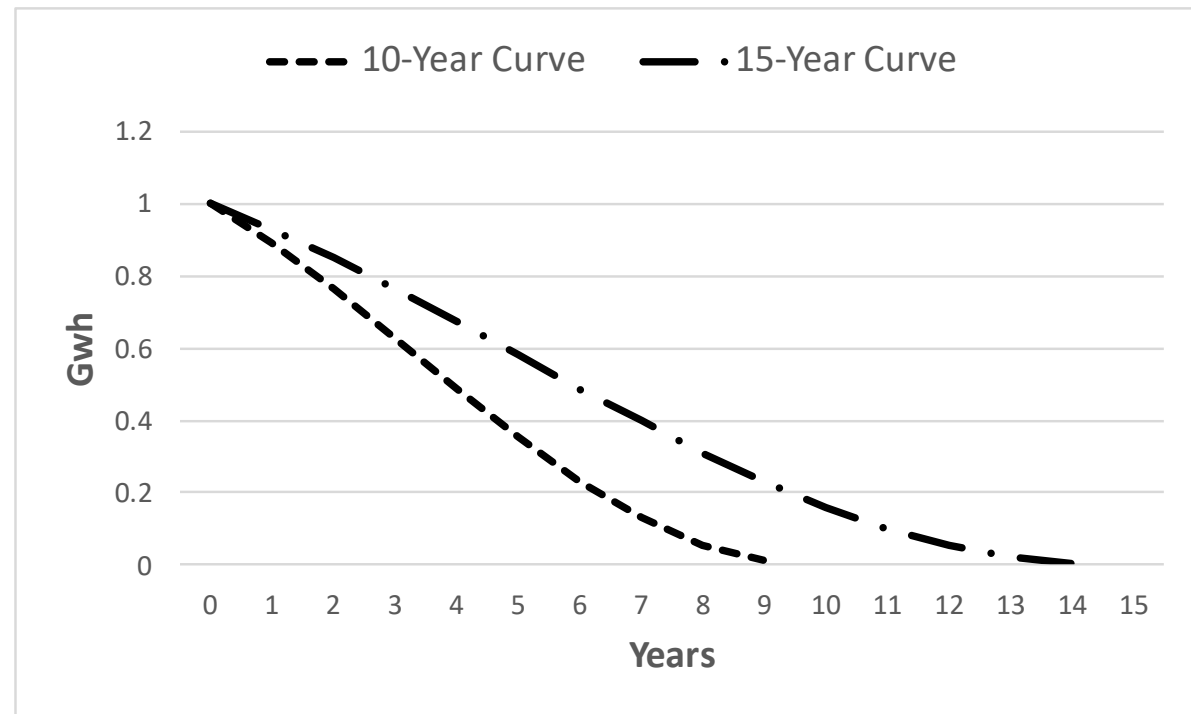
I&M's "Supplemental Efficiency Adjustment" Greatly Distorts EE Impacts and Costs

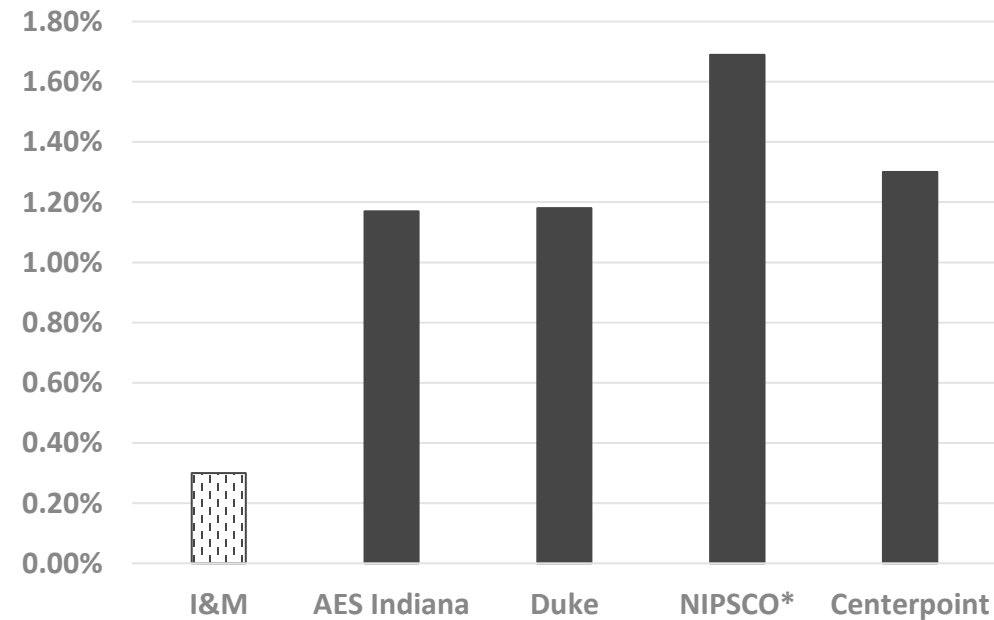**I&M's "Adjustment" Assumes EE Savings Can Move Around in Time and Will Drop to Zero**

I&M's "Adjustment" Effectively Doubles EE Cost

Legend (left chart):
- COM - Indoor Lighting - AP - MPS
- COM - Indoor Lighting - AP - IRP
- COM - Indoor Lighting - HAP - MPS
- COM - Indoor Lighting - HAP - IRP
- COM - Misc - AP - MPS
- COM - Misc - AP - IRP
- COM - Misc - HAP - MPS
- COM - Misc - HAP - IRP

Legend (right chart): MPS, IRP

I&M's Low EE Savings Compared to other IN IOUs is Clear Evidence of Problems with its Supplemental Efficiency Adjustment

2021 Incremental Savings as a % of Eligible Savings (NIPSCO value is for 2022)