MEMD Existing Measure Review & Calibration Research Prioritization

Consumers Energy
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DTE

October 15, 2019 MPSC Meeting

CADMUS   EMI CONSULTING   NAVIGANT

MEMD Process Review Update
Agenda

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Existing Measure Review & Calibration

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Measure Prioritization Process

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Calibration Research Process

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Proposed Calibration Priorities & Budget

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Next Steps

Proposed Residential Calibration Priorities

PRIORITY RANK	STUDY TYPE	PRIMARY FUEL	MEASURE CATEGORY	% OF SECTOR AND FUEL TYPE SAVINGS (DTE/CE)[1]	UNCERTAINTY IN ESTIMATED SAVINGS	ESTIMATED COST OF MEMD CALIBRATION
1	Calibration Research	Gas	Furnaces	28%/27%	High	$75,000 (does not include logger pick up by implementer)
2	Calibration Research	Gas	Tier 3 Thermostats	24%/14%[2]	High	$150-$500K (Wide range due to uncertainty in UMP recommended approach)
3	Calibration Research	Gas	Tier 1 Thermostats		High	$150-$500K (Wide range due to uncertainty in UMP recommended approach)[3]
4	Existing Measure Review	Electric	Appliance Recycling	11%/14%	Moderate	$40K (includes surveys)
5	Calibration Research	Both	HER	15% (per cap)	High	$75K - $150K

1. 2018 Achieved
2. 2018 Achieved DTE savings for Tier 3 Thermostats is 14%, Tier 1 Thermostats is 6%, and Tier 2 Thermostats is 3%.
3. Budget may be reduced if Tier 3 Thermostats and Tier 1 Thermostats are calibrated at the same time.

MEASURE CATEGORY	STUDY TYPE	OBJECTIVE	KEY CONSIDERATIONS
Furnaces	Calibration Research	• Conduct measure calibration research using MI-specific field data; collect efficiency and meter usage data	• Large contribution to portfolio gas savings and no calibration history • Housing Baseline Study could be leveraged for lower cost calibration effort
Tier 3 Thermostats	Calibration Research	• Conduct measure calibration research using MI-specific data; methodology dependent on UMP guidance	• Utilities agreed to complete calibration research when UMP guidance released (planned for Q1 2020)
Tier 1 Thermostats	Calibration Research	• Review Tier 1 Thermostat (setback/setup) measure savings values, energy models, baselines, and key assumptions (near-term) • Conduct measure calibration research using DTE/CE AMI data; final method may also be dependent on UMP guidance (long-term)	• Tier 1 Thermostats remain in EWR programs due to system compatibility challenges with Tier 3 Thermostats • Ongoing Housing Baseline Study will also inform savings • Calibration may be combined with Tier 3 Thermostats for a lower cost effort
Appliance Recycling	Existing Measure Review	• Update baseline for recycled appliances based on DTE and CE program tracking data	• Last update occurred in 2015 • Agreed to periodic baseline review
HER	Calibration Research	• Update savings estimates in the BRM to reflect current program design	• See in BRM verification discussion

Proposed C&I Calibration Priorities

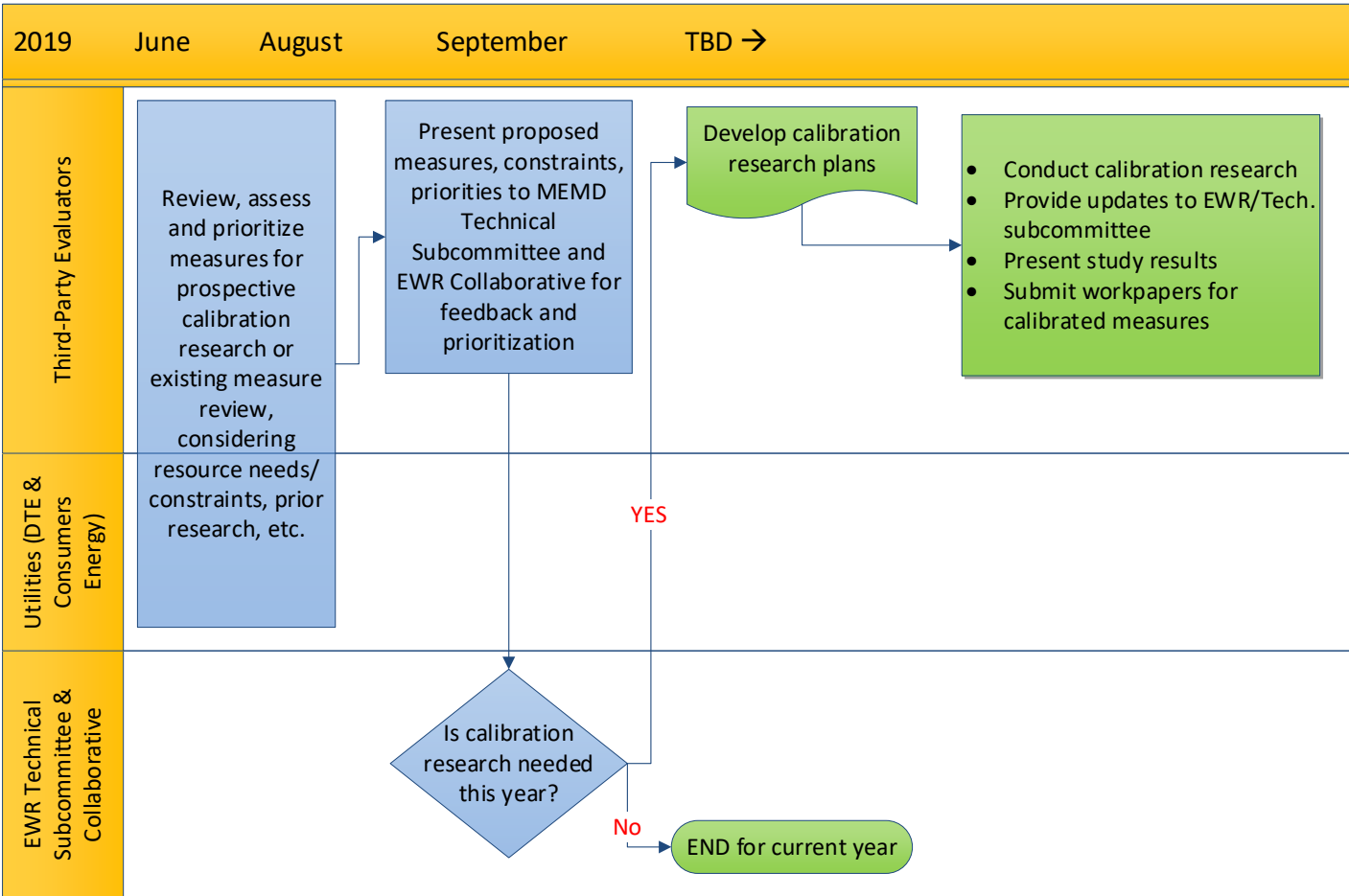| PRIORITY RANK	STUDY TYPE	PRIMARY FUEL	MEASURE CATEGORY	% OF SECTOR AND FUEL TYPE SAVINGS (DTE/CE)[1]	UNCERTAINTY IN ESTIMATED SAVINGS	ESTIMATED COST OF MEMD CALIBRATION
1	Calibration Research	Electric	Deemed LED Lighting	66%/24%	High	$275K - $475K depending on scope
2	Existing Measure Review/Calibration Research	Gas	Boiler Tune-Up	29%/5%	High	Phase 1: $35K Phase 2: $90K
3	Calibration Research	Gas	HVAC Controls	20%/25%	High	$160K

1. 2018 Achieved for DTE, 2020 Planned for CE

MEASURE CATEGORY	STUDY TYPE	OBJECTIVE	KEY CONSIDERATIONS
Deemed LED Lighting	Calibration Research	• Update 2014 C&I Hours-Of-Use Study focusing on additional building types and high bay lighting	• Lighting potential remains large in the coming years • Partial study would focus primarily on small businesses and high bay ($275K) • Full study would update all sectors from previous study ($475K)
Boiler Tune-Up	Existing Measure Review/Calibration Research	• Complete initial review of Boiler Tune-Up values, calculations, baselines, and key assumptions, including CE/DTE EWR program project-files (Phase 1) • Conduct measure calibration using MI-specific field data and efficiency testing (possible Phase 2)	• Historical evaluation results suggest little efficiency improvements based on review of pre/post- combustion analysis results provided in the customer application • Phase 1 would cost $35K, while optional Phase 2 would cost an additional $90K
HVAC Controls and Measures	Calibration Research	• Conduct measure calibration research using MI-specific field data focusing on Energy Management Systems	• Potential increased focus on Energy Management Systems • High uncertainty due to lack of primary data in MI

DTE Energy and Consumer Energy identified additional priorities for future research. These measures are increasing in importance, but not yet ready for calibration.

Sector	Measure	Study Type/Details
Residential	Ductless heat pumps	Track results from the Housing Baseline Study for potential as a window AC retrofits or other opportunities.
Commercial and Industrial	Direct-fired makeup air units	Conduct billing analysis to validate savings estimates.