



Technical Reference Manual
Advisory Committee Meeting
August 26, 2014

Agenda

- Membership update
- Update on recent work
- TRM update planning
- New measures for 2015/2016
- Process for proposing new measures

Membership Update

- Mike Bull replaces Bridget McLaughlin on TRMAC for CEE

Organization	Who	Category	Sub-Category
CEE	Mike Bull	Advocates	
Fresh Energy	Will Nissen	Advocates	
Commerce	Mark Garofano	Commerce	
Commerce	Joe Plummer	Commerce	
Energy Insight, Inc	Matt Haley	Technical Advisor	
Energy Platforms	Leo Steidel	Technical Advisor	
Franklin Energy	Dean Laube	Technical Advisor	
GDS Associates	Travis Hinch	Technical Advisor	
Michaels Energy	Bryce Dvorak	Technical Advisor	
Dakota Electric	Michael Hoy	Utilities	Coops
Great River Energy	Jeff Haase	Utilities	Coops
CenterPoint Energy	Eric Johansen	Utilities	IOUs
Great Plains Natural Gas	Jeremy Fischer	Utilities	IOUs
MERC	Jim Phillippo	Utilities	IOUs
Minnesota Power	Tim Gallagher	Utilities	IOUs
Otter Tail Power	Jason Grenier	Utilities	IOUs
Xcel Energy	Kelsey Genung	Utilities	IOUs
Buffalo Public Utilities	Joe Steffel	Utilities	Munis
MMPA	Kim Lillyblad	Utilities	Munis
MRES	Kurt Hauser	Utilities	Munis
SMPA	John O'Neil	Utilities	Munis

Update on Recent Work

- TRM 1.1 posted 7/15/14 for PY2014
 - Corrects errors, missing info
 - C/I lighting updates (grocery store CF)
 - Increase to baseline wattages for incandescents
 - Cap on savings for comm. water heaters
- TRM 1.2 released 8/1/14 for PY2015
 - Codes and standards changes (next slide)
 - New algorithm for exhaust recovery

Update on Recent Work

- MN commercial and residential energy codes to take effect January 2015
- TRM changes for 2015 (v1.2):

Measure	New Code or Standard (Date)	Summary of Changes	TRM Change Year	Change notes
Commercial Combination Ovens	ENERGY STAR (7.31.13)	New 2014 requirements for electric and gas	2015	new savings
ENERGY STAR Room AC	Federal standard (4.21.14), ENERGY STAR (9.30.13)	New minimum efficiencies and ENERGY STAR standards	2015	new efficiency, savings changes
Residential Lighting	Federal standard	EISA phase-outs were completed in 2014 with 60W, 40W	2015	Decreased baseline wattages for 2015 and 2016+
Commercial Exhaust Energy Recovery		Correct V1 algorithm	2015	Algorithm update, savings change

Update on Recent Work

- Lighting technical WG meeting May 27
 - Discussed deeming inputs for residential lighting depending on program delivery model (instant rebate, D.I., etc.)
 - DER to distribute survey to electric utilities
 - % of households with AC, natural gas
 - % of lamps installed by space type
 - RECS data will serve as default
 - Target including changes in TRM 1.2/2.0 for PY2015/6

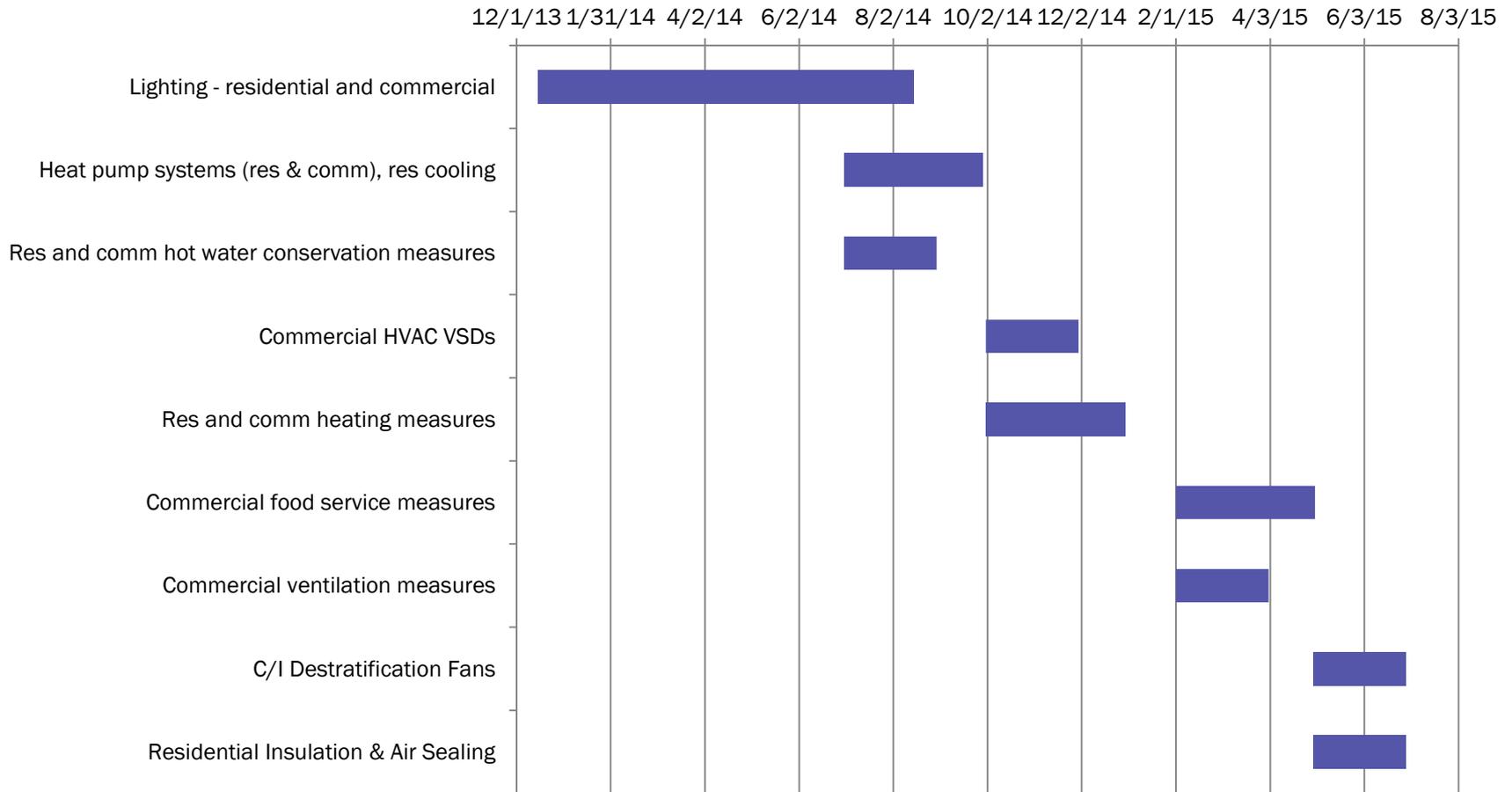
Update on Recent Work

- AC/HP technical workgroup meeting July 30
 - Action items:
 - DER to clarify HP vs. supplemental heating hours
 - DER to clarify whether ECMs apply to retrofits
 - DER to research/propose decreased QI and early replacement lifetimes
 - Recommendation to require contractor qualifications for tune-ups
 - Need for a broader conversation on trade ally qualifications

Update on Recent Work

- Hot water conservation technical workgroup
 - Met on July 28
 - Recommendations:
 - Raise hot water temperature for pre-rinse sprayers
 - Simplify measures to require fewer inputs from utility/contractor due to low impact

Update on Recent Work



TRM Update Planning

- Order approving one-year extensions of 2013-2015 triennials issued Aug 1

		2014	2015	2016	2017	2018	2019	2020
Combined and Gas IOUs (CPE, GMG, GP, IPL, MERC, Xcel)	File		1-Jun	1-Jun			1-Jun	
	TRM Version (Plan)		N/A	3.0			4.0	
	Plan in Effect	2013-2015		1 yr. ext.		2017-2019		2020-2022
Electric IOUs (MP, OTP)	File			1-Jun			1-Jun	
	TRM Version (Plan)			3.0			4.0	
	Plan in Effect	2014-2016				2017-2019		2020-2022
COUs	File	5-Sep	1-Jun	1-Jun	1-Jun	1-Jun	1-Jun	1-Jun
	TRM Version (Plan)	1.1	2.0	3.0	3.1	3.2	4.0	4.1
	Plan in Effect	2014	2015	2016	2017	2018	2019	2020
TRM	Version	2.0	3.0	3.1	3.2	4.0	4.1	4.2
	Release Date	31-Dec	31-Dec	31-Dec	31-Dec	31-Dec	31-Dec	31-Dec
	Years	2016	2017-2019	2017-2019	2017-2019	2020-2022	2020-2022	2020-2022

TRM Update Planning

- TRM 2.0 for PY2016 to be released by 12/31/14
 - MN energy code, federal C&S changes already identified
 - Recommendations from technical workgroups (TBD)
 - New C/I lighting tables
 - New measures

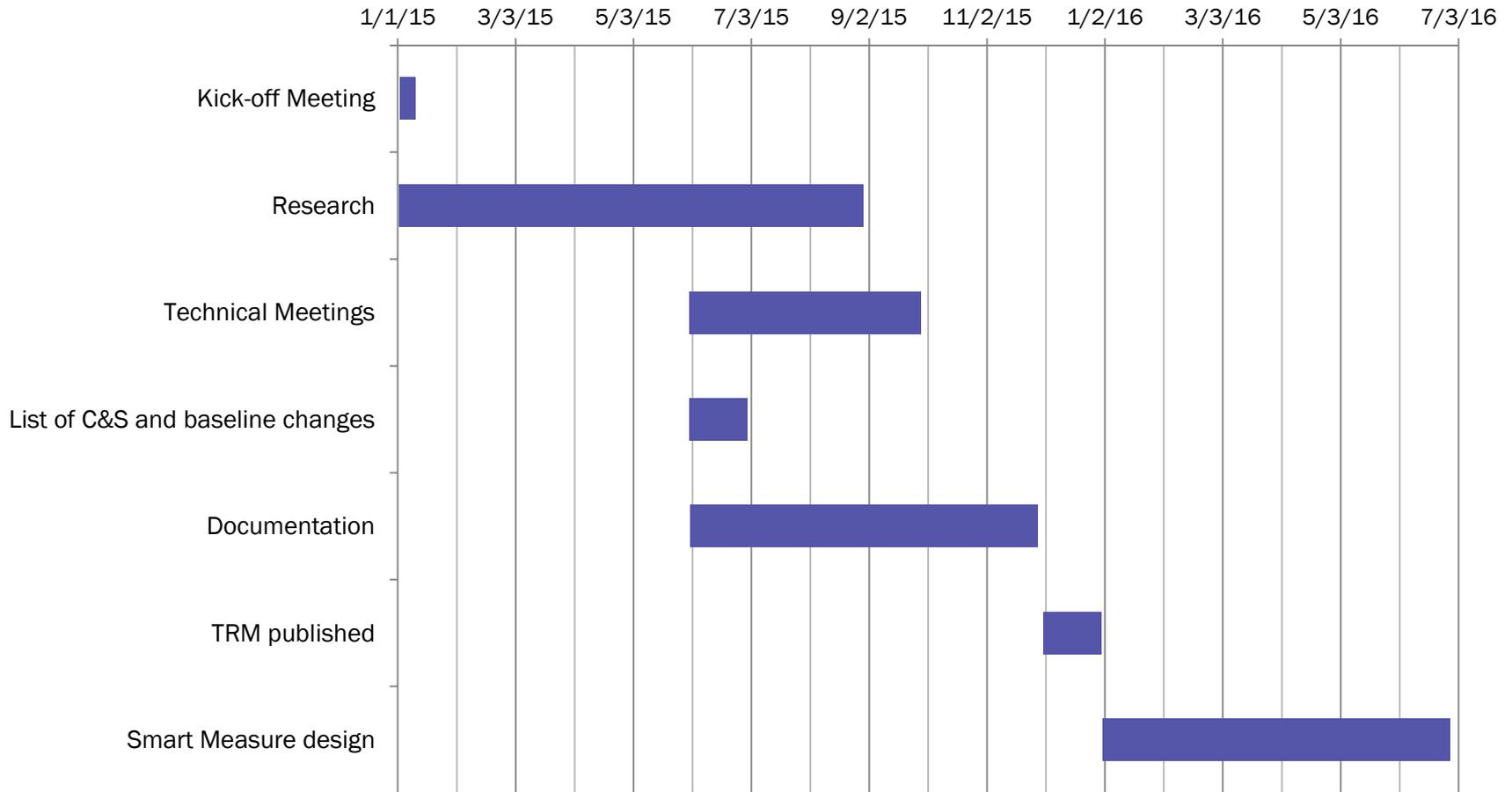
TRM Update Planning

- Planning for TRM 3.0 for PY2017-2019
 - RFP to be released this Fall for third-party review
 - Final TRM to be released by 12/31/15
 - Preliminary list of changes provided sooner
 - Smart Measures finished by 9/1/16
 - Consistent with goal of third-party reviews every 3 years

TRM Update Planning

- Objectives of TRM 3.0 development
 - Build on existing work of FES and technical workgroups
 - Gap analysis of MN TRM vs other TRMs
 - Update incremental costs and baselines according to latest market data and general practices
 - Preference for Minnesota data, followed by regional and national
 - Update measure lifetimes with latest evaluation results
 - Analyze measures with respect to Uniform Methods Project (UMP) protocols

TRM 3.0 Development Timeline (Preliminary)

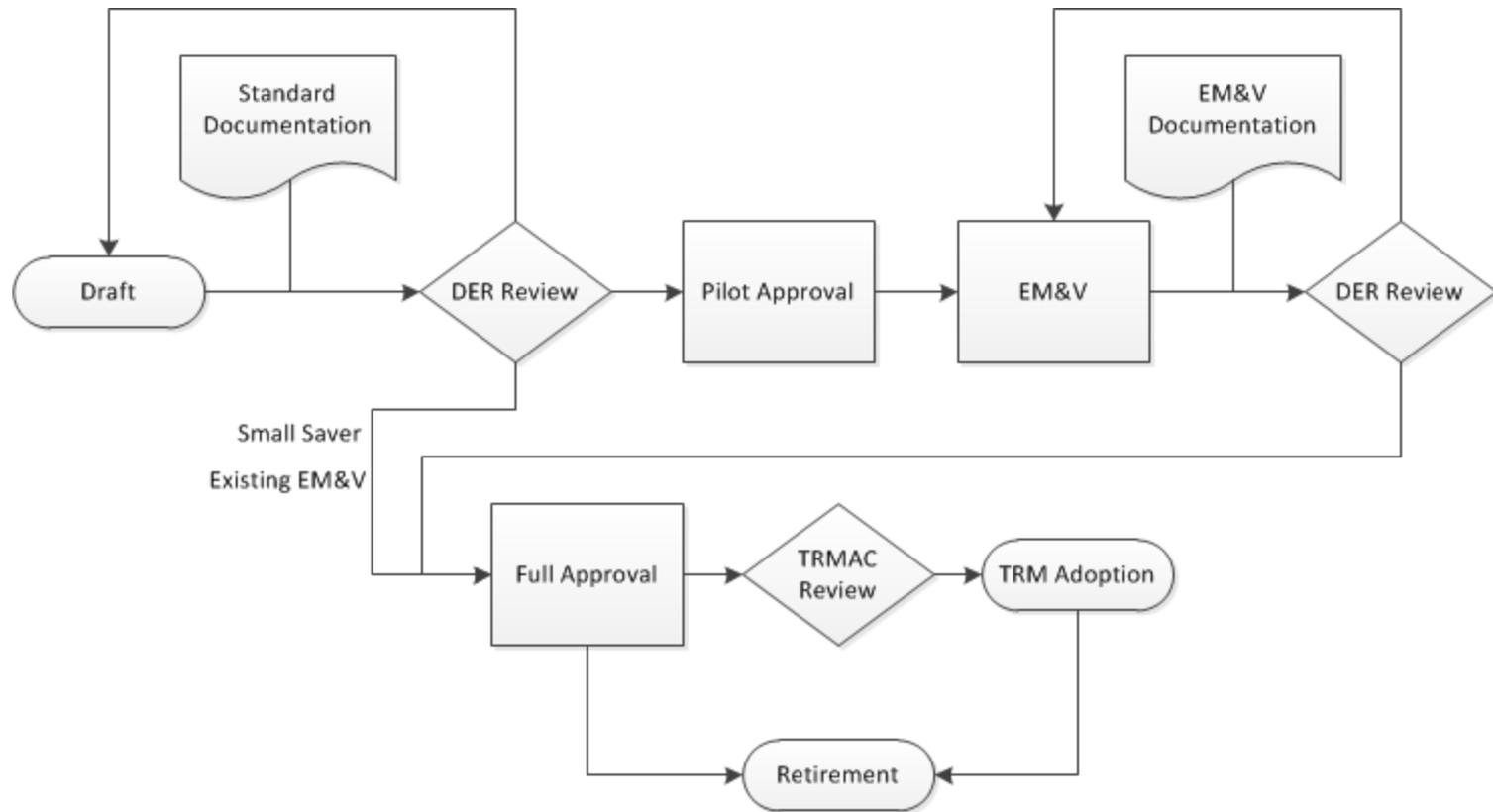


Possible New Measures in TRM 1.2 & 2.0 (for 2015/2016)

- Energy Star Dryers (gas and electric)
 - Specification 1.0 released effective 1/1/2015
 - ES units to use 20% less energy than standard
 - Certifications beginning May 2014
- Building Operator Certification (BOC)
 - NEEC is program owner, MEEA regional licensee
 - 3rd party evaluation of MN BOC completed in 2011 showed electric and gas savings
- Other ideas?

Measure Lifecycle (Continued)

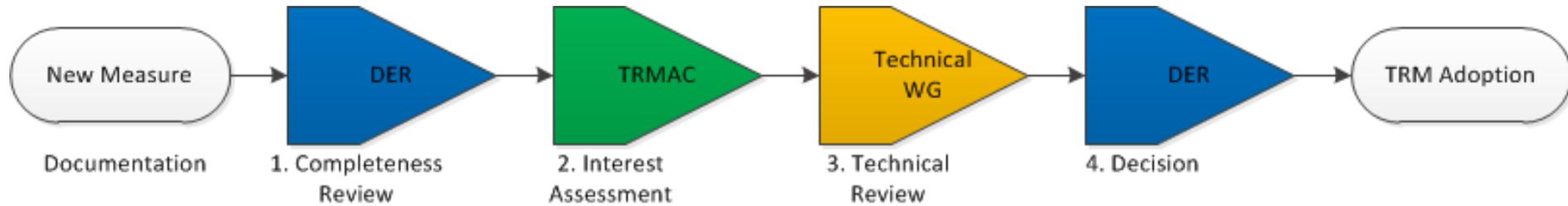
- Initial concept introduced last meeting



New Measure Process

- Vision is to leverage expertise of MN utilities and implementation contractors to grow/maintain TRM and thereby provide new savings opportunities
 - New measure or modification to existing measure could be proposed by utility, third party, or DER at any time

New Measure Process



New Measure Process Documentation

- Information needed to propose a measure or modify an existing measure:
 - TRM specification
 - Any existing EM&V data
 - All referenced sources
 - Estimated savings potential, cost-effectiveness (new measures only)
 - Smart Measure or spreadsheet calculator (optional)

New Measure Process

Step 1. Completeness Review

- Who: DER staff
- Review items
 - All required information has been submitted
 - Screen for measures that have already been debunked
- Decisions
 - Move/do not move to High Level Review

New Measure Process

Step 2. Interest Assessment

- Who: TRMAC, presentation by measure designer
- TRMAC discusses relative usefulness to MN utilities and makes suggestions for Technical Review
- Recommendations
 - Move on/do not move on to Technical Review with any suggestions

New Measure Process

Step 3. Technical Review

- Who: Technical Working Group/TRM Contractor/DER
- Review items
 - Algorithms, assumptions, lifetime, costs
 - Program requirements
 - Sources
 - Existing EM&V data (if any)
 - Smart Measure or calculator (optional)
- Recommendations:
 - Adopt/do not adopt with classification and sunset date
 - For provisional measures, specific requirements to reach proven status

New Measure Process

Step 4. Decision

- Who: DER staff
- Decision:
 - Adopt/do not adopt with classification and sunset date
 - Special requirements for Provisional measures
 - M&V
 - Any restrictions on use
 - Specific requirements to reach Proven status

Measure Classifications

- Proven – measure can be used as is
- Provisional – measure can be used with additional data collection requirements (M&V)
- Small Saver – more empirical data would improve accuracy but savings impacts are too small to warrant the cost of obtaining the data

Considerations

- Define minimum level of interest, savings potential for a new measure to be considered for adoption
 - Should there evidence of interest by utility to propose a measure?
- Define quality/accuracy standards for Proven and Provisional status

Next Steps

- “Pilot” new measure process with Energy Star Dryers, BOC
- Discuss considerations on previous slide

Thank you!

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