

# Electronic Technical Reference Manual (eTRM): Path to the New California “Database of Record”



**CAL TF STAFF  
STAKEHOLDER PRESENTATION  
APRIL 26, 2018**

# Executive Summary

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- Introduction to the Cal TF
- What is the eTRM?
- Benefits of the eTRM
  - To Users/Implementers
  - To Measure Developers/Ex Ante Team
  - Aligns with Policy Objectives
- Path Forward
  - Regulatory Path
  - eTRM Development/Measure Consolidation Milestones

# The California Technical Forum (Cal TF)

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## *What is the Technical Forum?*

A group of in-state and out-of-state technical experts that work in a collaborative and transparent way to review new and updated energy efficiency measures and other technical information related to California's integrated demand-side management portfolio.

# The Cal TF

## A Broad Collaborative

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CPUC Office of Ratepayer  
Advocates



**SMUD**



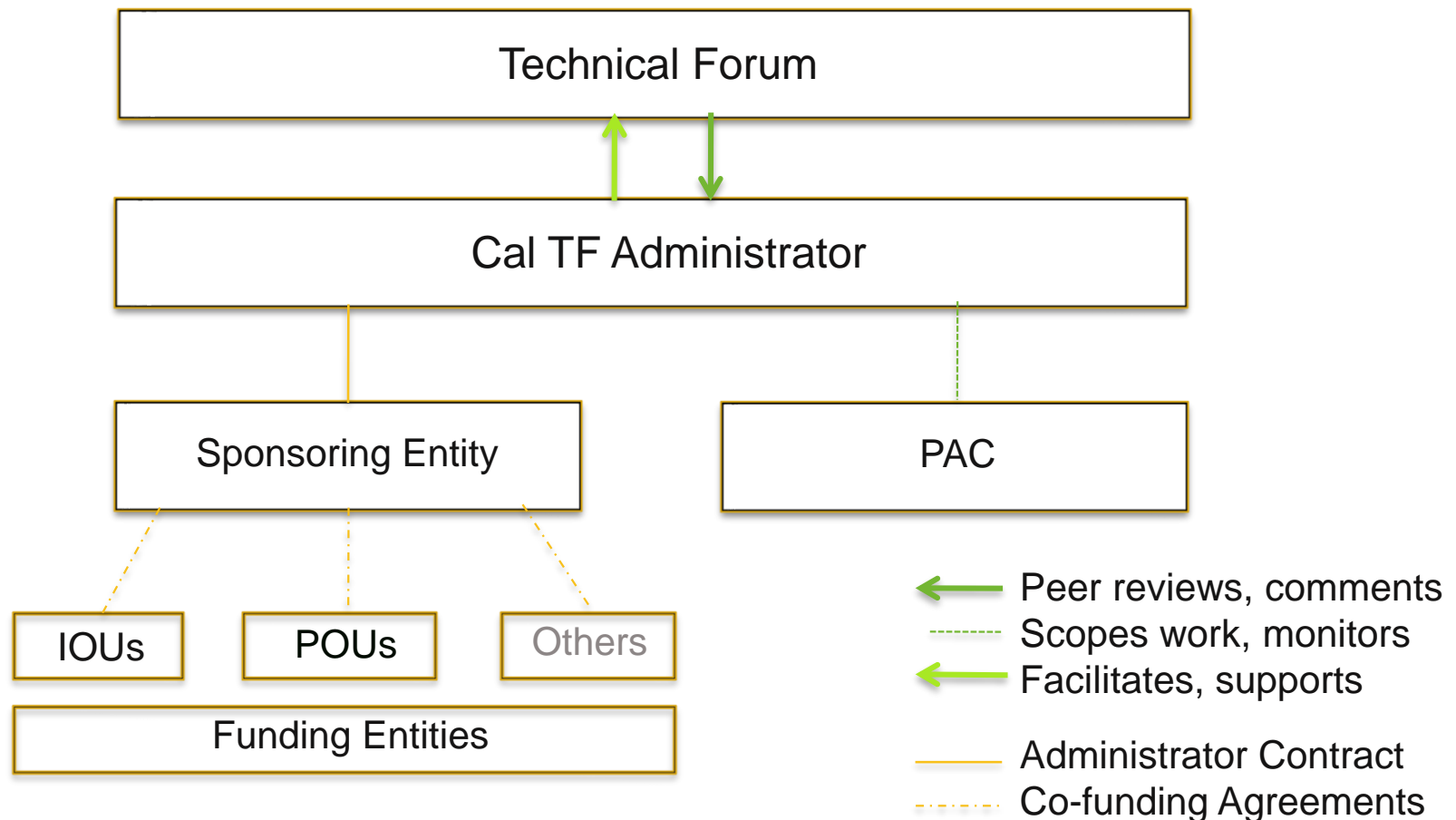
California  
Energy Efficiency  
Industry Council



# The Cal TF

## The Collaborative Supports the Technical Experts

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# What is the eTRM?

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- The electronic technical reference manual (eTRM) will serve as the repository for California statewide deemed energy efficiency measures
  - Replacement for utility workpapers & POU TRM
- An online relational database, will significantly improve workflow (planning, reporting, measure development/updates) and accuracy
- Conforms to (exceeds) TRM best practices
- Populated with statewide “consolidated” measures developed through a collaborative process with utilities (IOUs/POUs) & industry experts
  - Utility-specific workpapers (already approved) are being “harmonized” and standardized

# Benefits of the eTRM

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- **All Measures are Fully Documented and Reproducible**
  - All measure parameters for a single measure linked
  - Source documents are clearly cited and hosted in the tool
  - Methods, calculations, models are clearly documented
- **Automates Measure Updates when Inputs Change—Weather Files, Code Updates, Etc.**
  - Changes that apply to multiple measures or all measures will occur automatically
  - Reduces potential for errors
  - Includes clear update and revision histories for each measure
- **Clear and Documented Workflow Management**
  - Identifies who has updated and/or reviewed a measure
- **Generates All Key Outputs (Ex Ante Data)**
  - Utility/POU tracking, reporting and cost-effectiveness databases; CPUC reporting and CEC forecasting databases
  - Streamlined regulatory reporting
  - APIs will link directly to utility data systems
- **Differential Access**
  - Permits restricted access to prevent unapproved changes
  - Accurate revision history archived

# The eTRM

## Benefits to Implementers

- **Statewide Applicability & Consistency**

- No gaps in utility service territories or climate zones
- Consistent offerings
  - ✦ Baselines and measure definitions, units, methods, adjustment factors, etc.
- Statewide naming conventions
- Consistent, detailed descriptions
- Essential for third-parties to effectively design and implement an increasing share of the EE portfolio

- **Transparent and Fully Documented**

- Full documentation of input parameters, assumptions, models
- Clear, concise explanations of impact and cost analyses and key measure information
- Reference library contains source documents - no broken links

- **Easily Accessible**

- User-friendly interface
- All measure values/information, review disposition, etc. in a single platform



## Benefits to Measure Developers/Ex Ante Review

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- **Single, Statewide Measures**

- ❑ Rather than utility-specific workpapers for similar measures that may or may not be consistent
- ❑ Centralized measure and measure documentation repository within the eTRM
- ❑ Reduces time and resources required for review

- **Streamlined Workflow**

- ❑ Measures are developed within the eTRM
- ❑ All development and review documentation and results stored within the eTRM platform, easily accessible and always available
- ❑ Roles and permissions defined for developers vs reviewers vs approvers (will separately indicate Cal TF vs CPUC approval)

- **Fully Documented**

- ❑ Methodology & calculations
- ❑ Linkages between input values & original sources (not other TRMs)
- ❑ eTRM Reference library
  - ✦ All documentation uploaded and stored in eTRM, readily available, no broken links
  - ✦ Quality of documentation assessed
- ❑ QA/QC guidelines for developers help to ensure review requirements are met

# The eTRM Supports Policy Objectives

Since 2012, the Commission has directed utilities to prepare *statewide* workpapers.

We agree that **similar measures delivered by similar activities should have single statewide values** [emphasis added] unless recent evaluations show that a significant variation between utilities and that difference is supported by a historical trend of evaluation results. (D.12-05-015, p. 54)

Commission Staff guidance to utilities for 2017 workpapers in the Ex Ante Team 2017 Workpaper Guidance Memo:

**Statewide Workpapers:** Only one workpaper may be submitted for each set of programs/measures which are adopted by more than one program administrator; such workpapers have been termed “statewide workpapers” and program administrators have been directed to collaborate on such efforts. (p.7)

Direct regulatory support is contained in the Phase 2A decision in the Rolling Portfolio proceeding

“.. to improve the usability and transparency of all ex ante values... a common platform for all PAs to compose savings estimates transparently and consistent with Commission direction... should be focused on opportunities to facilitate transparency and collaboration. ”

# The Path Forward

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- Critical Path for eTRM Approval and Acceptance:
  - Regulatory path
  - Measure consolidation
  - eTRM development, acceptance testing

# The Path Forward Regulatory

## Motion to ALJ Seeking Approval to Consider Issues in Phase 3 of Rolling Portfolio Proceeding

- Substantive Request: Consider whether eTRM should be “database or record” for approved deemed values, including eTRM Data Specification as data specification for new and updated measures
- Procedural Request: Adopt process for considering whether eTRM should be the “Database of Record” for deemed ex ante measures
  - File eTRM with all consolidated measures and all documentation on Jan. 15, 2019
  - Conduct 4 demos/trainings throughout State to demo eTRM and review documentation: by Jan. 31, 2019
  - Joint CEC–CPUC Workshop (Full Day) comparing features/opportunities/challenges of continuing with DEER or switching to eTRM as Database or Record. (Mid-February 2019)
  - Joint CEC–CPUC Workshop (Full Day) on proposed eTRM Data Specification for deemed (new and updated) measures (mid-February 2019)
  - Briefing (no cross)
  - Opening Comments: March 15, 2019
  - Reply Comments: April 15, 2019
  - Commission Decision by June 1, 2019

# The Path Forward

## eTRM Development Schedule



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- Phase 1 (June 2018): Testing and acceptance w/ first 75 consolidated measures.
  - Cal TF will receive a demo of Phase 1 in the June 2018 Cal TF meeting. This demo is open to the public.
- Phase 2 (October 2018): eTRM complete for 1-month testing and acceptance.
- Complete Measure Consolidation and Upload (December 2018):
  - Cal TF affirmation of consolidated measures
  - Measures submitted for Commission Staff approval beginning in September 2018

# The Path Forward

## Measure Consolidation

- 75 Measures Consolidated in 2017
- Complete Consolidation of Remaining Measures by Q3 2018
  - Roughly 100 remaining that were flagged to be statewide deemed measures will be consolidated through subcommittee process
  - Primarily lighting, HVAC, building envelope, process, pools, and miscellaneous measures
- Related Issues and Uncertainties
  - Deliberations with TF members and other experts to identify open source building modeling tool
  - Most lighting measures sunset

# APPENDICES

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- TRM Best Practices
- Benefits of Electronic TRMs
- Measure Consolidation Benefits
- Graphical Comparison of DEER/READi and a Traditional TRM

# Appendix

## TRM Best Practices

- Best Practice Research
  - Reviewed over 20 TRMs from jurisdictions across the country to identify best practices for measure development and measure repositories
  - Interviewed developers and users in with strong TRMs, including MA, NY, PA and Mid-Atlantic, IL, TX.
- Identified Best Practices for:
  - Process – Process for developing and updating EE measures.
  - Structure – Structure for maintaining measures and associated documentation.
  - Content – Technical guidelines, directives and practices for developing/updating EE measures.



# Appendix

## TRM Best Practices: Process

- Open - Technical collaboratives open to the public
- Regular Updates - Predictable and regular update processes
  - Existing measures must be updated regularly
- Regulatory Staff Participation is Key
  - Speeds issue resolution
  - Speeds regulatory review
  - Fosters technical understanding between regulators and other stakeholders
  - Builds regulator confidence in results
  - Results of collaborative consensus-building process generally adopted by decision makers with little change
- Regulatory Commissions (Not Staff) Approve Final Values
  - Regulators approve final value but depend on robust, public process to inform decision-making.

# Appendix

## TRM Best Practices: Structure

- Standard Format for Each Measure Characterization
  - Narrative explanation of measure
  - Base and measure case technical specifications
  - Energy and demand savings algorithms
  - Other key parameters (measure life, costs, etc.)
  - Pertinent implementation details (e.g. exclusions)
- All Measure Parameters Clearly Linked to Measure
- Measure is Well-Documented, Values are Reproducible
  - Citations to primary sources, not other TRMs
  - Primary sources maintained and readily available
  - Measure values linked to embedded calculators, look up tables, and simulation models that are used to generate savings, other values.
- Appendices Contain Additional Relevant Information
  - Detail descriptions of building prototypes, interactive effects, non-energy benefits, etc.

# TRM Best Practices: Content

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- Written Guidelines to Ensure Consistent Measure Development
  - NW RTF and Mid-Atlantic state use process language
    - ✦ Use of reproducible methods, diligent review of all sources...
  - PA and IL identify what data will receive greater weight (e.g. local data superior from data that is not local/regional)
  - NW RTF has several guidelines on measure complexity, statistical significance, other
- Careful Consideration of Modeling vs. Engineering Equations vs. Field Data
  - No “one size fits all”; consider pros and cons of different approaches
- Key Parameters (from Modeling or Engineering Equations) Should Be Validated With Real Data!
  - Field conditions and human behavior may alter forecasted savings
  - Collect data through implementation or early EM&V
  - Identify and implement use of AMI data (e.g. EnergySavvy) and other tools (DOE Building Performance Database)

# Appendix

## Benefits of Electronic TRMs

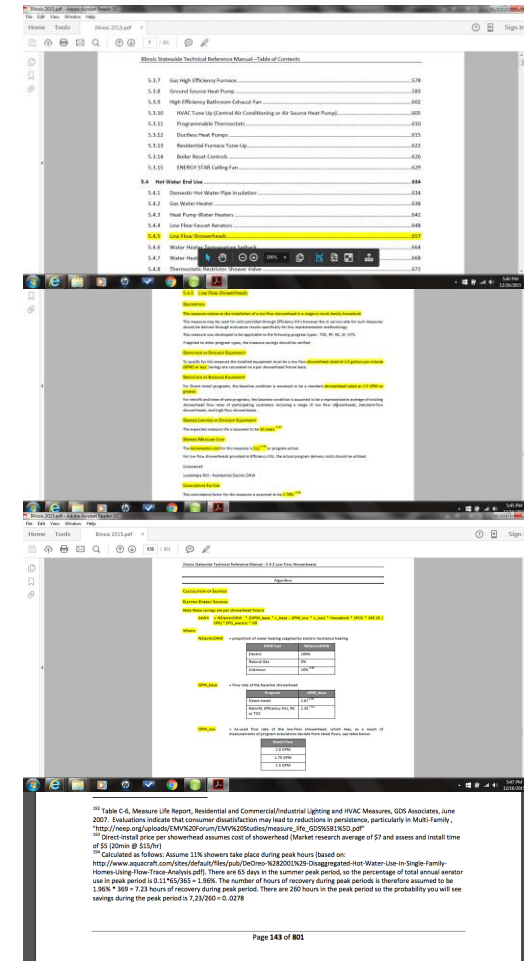
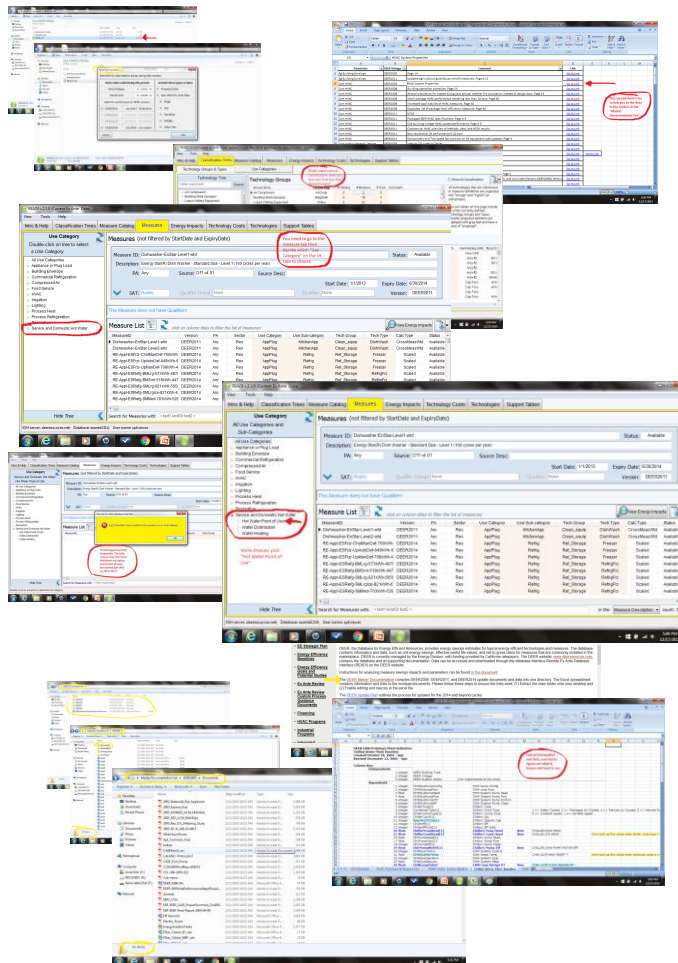
- Key Benefits :
  - Improves Documentation and Transparency
    - ✦ Ability to embed tools and supporting documents
    - ✦ Enables more detailed revision histories
  - Reduces Cost and Increases Efficiency of Data Management
    - ✦ Through APIs, automatic download of values into utility tracking and planning databases
  - Highly Transparent Workflow Management for New and Updated Measures
  - Keyword Searchable
- Current Examples:
  - VEIC
  - Nexant iEnergy Technical Reference Library (TRL)
  - Energy Platforms
  - Frontier Associates
  - U.S. DOE “Open Studio” Platform

# Appendix

## Measure Consolidation Benefits

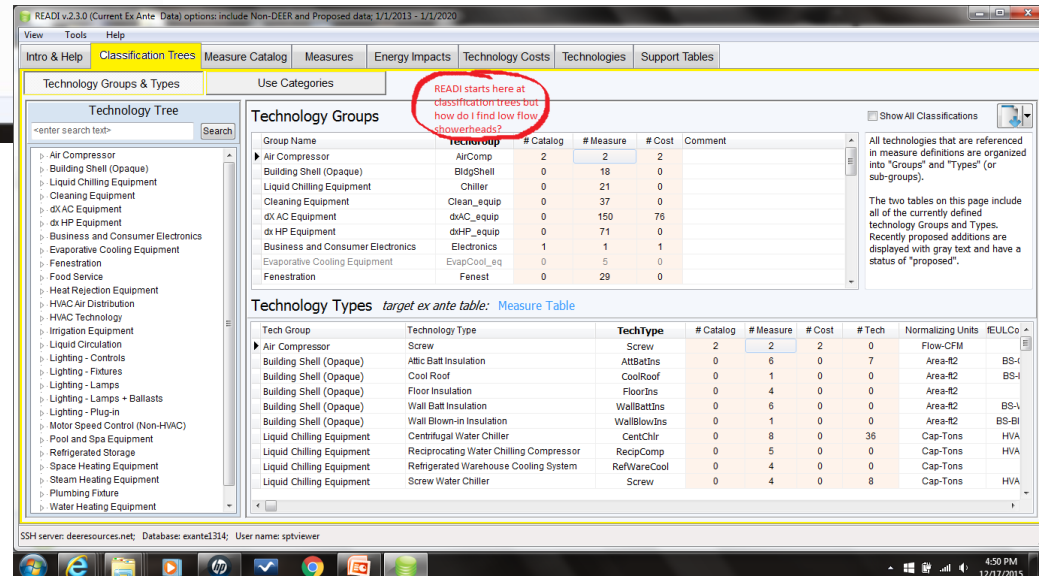
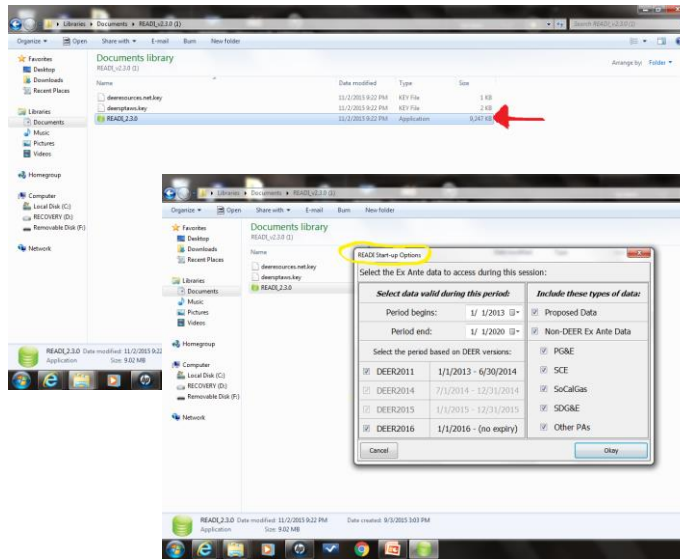
- Extension of measures across all utility territories
- Buildout of missing permutations
- Consistent treatment of climate zones
- Harmonization of parameters
  - Units of measurement, baselines, measure costs, building types & vintages, etc.
- Issue resolution
- Correction of errors
- Text consolidation:
  - Improved readability, flow & continuity
  - Accessible to a non-engineer, broader audience
- Reference library contains the actual source document
  - Adds transparency to measures and underlying assumptions

## Traditional TRM



# Appendix Comparison Finding a Measure in READi

Once the latest READi tool is downloaded, and the right DEER version is selected, it is still difficult to find individual measures.





# Comparison: Finding a Measure in READi

READi v.2.3.0 (Current Ex Ante Data)

View Tools Help

Intro & Help Classification Trees Measure Catalog Measures Energy Impacts Technology Costs Technologies Support Tables

**Use Category**  
Double-click on tree to select a Use Category

- All Use Categories
  - Appliance or Plug Load
  - Building Envelope
  - Commercial Refrigeration
  - Compressed Air
  - Food Service
  - HVAC
  - Irrigation
  - Lighting
  - Process Heat
  - Process Refrigeration
  - Service and Domestic Hot Water

**Measures (not filtered by StartDate and ExpiryDate)**

Measure ID: Dishwasher-EnStar-Level1-wtd Status: Available

Description: Energy Star(R) Dish Washer - Standard Size - Level 1 (160 cycles per year)

PA: Any Source: D11 v4.01 Source Desc:

Start Date: 1/1/2013 Expiry Date: 6/30/2014

SAT: RobNc Qualifier Group: None Qualifier: None Version: DEER2011

This Measure does not have Qualifiers

**Measure List** click on column titles to filter the list of measures

MeasureID	Version	PA	Sector	Use Category	Use Sub-category	Tech Group	Tech Type	Calc Type	Status
Dishwasher-EnStar-Level1-wtd	DEER2011	Any	Res	AppPlug	KitchenApp	Clean equip	DishWash	CrossMeasWtd	Available
Dishwasher-EnStar-Level2-wtd	DEER2011	Any	Res	AppPlug	KitchenApp	Clean equip	DishWash	CrossMeasWtd	Available
RE-AppI-ESFrz-ChstManDef-700kWh	DEER2014	Any	Res	AppPlug	Refrig	Ref_Storage	Freezer	Scaled	Available
RE-AppI-ESFrz-UpAutoDef-849kWh-6	DEER2014	Any	Res	AppPlug	Refrig	Ref_Storage	Freezer	Scaled	Available
RE-AppI-ESFrz-UpManDef-708kWh-4	DEER2014	Any	Res	AppPlug	Refrig	Ref_Storage	Freezer	Scaled	Available
RE-AppI-ESRefrg-BMLrg-573kWh-4871	DEER2014	Any	Res	AppPlug	Refrig	Ref_Storage	Freezer	Scaled	Available
RE-AppI-ESRefrg-BMSml-518kWh-447	DEER2014	Any	Res	AppPlug	Refrig	Ref_Storage	Freezer	Scaled	Available
RE-AppI-ESRefrg-SMLrg-921kWh-5651	DEER2014	Any	Res	AppPlug	Refrig	Ref_Storage	Freezer	Scaled	Available
RE-AppI-ESRefrg-SMLrglce-821kWh-6	DEER2014	Any	Res	AppPlug	Refrig	Ref_Storage	Freezer	Scaled	Available
RE-AppI-ESRefrg-SMMed-703kWh-526	DEER2014	Any	Res	AppPlug	Refrig	Ref_Storage	Freezer	Scaled	Available

SSH server: deeresources.net; Database: exante1314; User name: sptviewer

READi v.2.3.0 (Current Ex Ante Data)

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**Use Category**  
All Use Categories and Sub-Categories

- All Use Categories
  - Appliance or Plug Load
  - Building Envelope
  - Commercial Refrigeration
  - Compressed Air
  - Food Service
  - HVAC
  - Irrigation
  - Lighting
  - Process Heat
  - Process Refrigeration
  - Recreation
  - Service and Domestic Hot Water
    - Hot Water Point of Use
    - Water Distribution
    - Water Heating

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Search for Measures with: < text1 And/Or text2 > in the: Measure Description count: 3169

SSH server: deeresources.net; Database: exante1314; User name: sptviewer

READi v.2.3.0 (Current Ex Ante Data)

View Tools Help

Intro & Help Classification Trees Measure Catalog Measures Energy Impacts Technology Costs Technologies Support Tables

**Use Category**  
Service and Domestic Hot Water

- All Use Categories
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  - Food Service
  - HVAC
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  - Service and Domestic Hot Water
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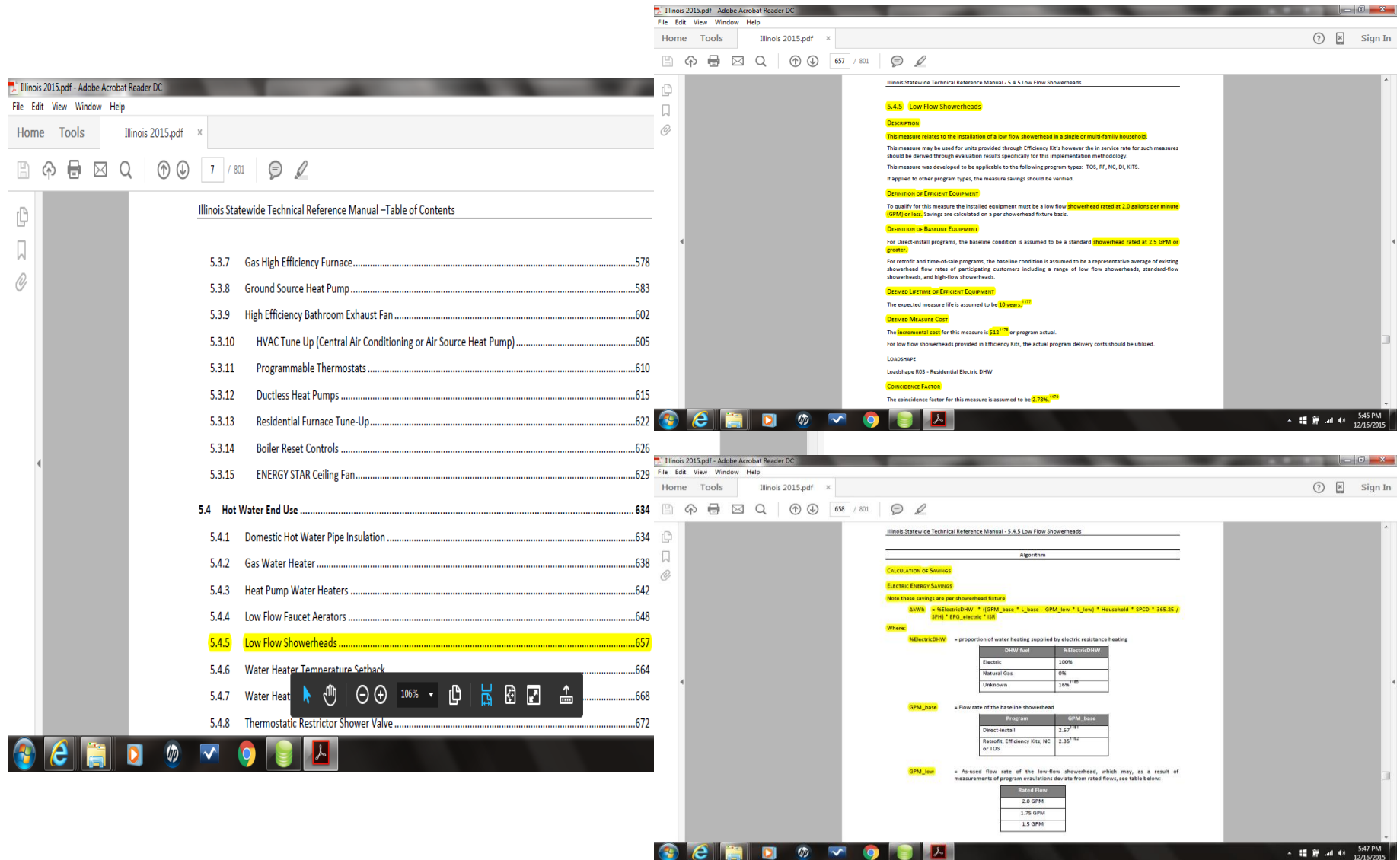
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Search for Measures with: < text1 And/Or text2 >

SSH server: deeresources.net; Database: exante1314; User name: sptviewer



# Comparison: Finding a Measure in a TRM



The screenshot displays the Adobe Acrobat Reader interface with two documents open. The left document, 'Illinois 2015.pdf', shows the 'Table of Contents' for the 'Illinois Statewide Technical Reference Manual'. The right document, 'Illinois Statewide Technical Reference Manual - 5.4.5 Low Flow Showerheads', provides detailed information about the 'Low Flow Showerheads' measure.

**Table of Contents (Left Document):**

- 5.3.7 Gas High Efficiency Furnace .....578
- 5.3.8 Ground Source Heat Pump .....583
- 5.3.9 High Efficiency Bathroom Exhaust Fan .....602
- 5.3.10 HVAC Tune Up (Central Air Conditioning or Air Source Heat Pump) .....605
- 5.3.11 Programmable Thermostats .....610
- 5.3.12 Ductless Heat Pumps .....615
- 5.3.13 Residential Furnace Tune-Up.....622
- 5.3.14 Boiler Reset Controls .....626
- 5.3.15 ENERGY STAR Ceiling Fan.....629
- 5.4 Hot Water End Use .....634**
  - 5.4.1 Domestic Hot Water Pipe Insulation .....634
  - 5.4.2 Gas Water Heater .....638
  - 5.4.3 Heat Pump Water Heaters .....642
  - 5.4.4 Low Flow Faucet Aerators .....648
  - 5.4.5 Low Flow Showerheads .....657**
  - 5.4.6 Water Heater Temperature Setback .....664
  - 5.4.7 Water Heater .....668
  - 5.4.8 Thermostatic Restrictor Shower Valve .....672

**Low Flow Showerheads Measure Details (Right Document):**

**5.4.5 Low Flow Showerheads**

**Description**  
This measure relates to the installation of a low flow showerhead in a single or multi-family household.  
This measure may be used for units provided through Efficiency Kit's however the in service rate for such measures should be derived through evaluation results specifically for this implementation methodology.  
This measure was developed to be applicable to the following program types: TOS, RF, NC, DI, KITS.  
If applied to other program types, the measure savings should be verified.

**Detection of Efficient Equipment**  
To qualify for this measure the installed equipment must be a low flow showerhead rated at 2.0 gallons per minute (GPM) or less. Savings are calculated on a per showerhead future basis.

**Detection of Baseline Equipment**  
For Direct-install programs, the baseline condition is assumed to be a standard showerhead rated at 2.5 GPM or greater.  
For retrofit and time-of-sale programs, the baseline condition is assumed to be a representative average of existing showerhead flow rates of participating customers including a range of low flow showerheads, standard-flow showerheads, and high-flow showerheads.

**Default Lifetime of Efficient Equipment**  
The expected measure life is assumed to be 10 years<sup>100</sup>.

**Default Measure Cost**  
The **Measurement cost** for this measure is \$12.75<sup>100</sup> or program actual.  
For low flow showerheads provided in Efficiency Kits, the actual program delivery costs should be utilized.

**Loadshape**  
Loadshape R03 - Residential Electric DHW

**Coincidence Factor**  
The coincidence factor for this measure is assumed to be 2.78%<sup>100</sup>.

**Algorithm**

**CALCULATION OF SAVINGS**

**ELECTRIC ENERGY SAVINGS**  
Note these savings are per showerhead future

$$E_{DHW} = NElectricDHW * ((GPM_{base} * L_{base} - GPM_{low} * L_{low}) * Household * SPD * 365.25 / 24)$$

Where:

**NElectricDHW** = proportion of water heating supplied by electric resistance heating

Energy Source	NElectricDHW
Electric	100%
Natural Gas	0%
Unknown	16% <sup>100</sup>

**GPM\_base** = Flow rate of the baseline showerhead

Program	GPM_base
Direct-install	2.67 <sup>100</sup>
Retrofit, Efficiency Kits, NC or TOS	2.35 <sup>100</sup>

**GPM\_low** = Adjusted flow rate of the low-flow showerhead, which may, as a result of measurements of program evaluations deviate from rated flows, see table below:

Rated Flow
2.0 GPM
1.75 GPM
1.5 GPM

# Comparison: Measure Documentation in a TRM

## DEFINITION OF EFFICIENT EQUIPMENT

To qualify for this measure the installed equipment must be an energy efficient showerhead rated at 2.0 gallons per minute (GPM) or less. Savings are calculated on a per showerhead fixture basis.

## DEFINITION OF BASELINE EQUIPMENT

The baseline condition is assumed to be a standard showerhead rated at 2.5 GPM.

## DEEMED LIFETIME OF EFFICIENT EQUIPMENT

The expected measure life is assumed to be 10 years.<sup>192</sup>

## DEEMED MEASURE COST

The incremental cost for this measure is \$12<sup>193</sup> or program actual.

## LOADSHAPE

Loadshape C02 - Commercial Electric DHW

## COINCIDENCE FACTOR

The coincidence factor for this measure is assumed to be 2.78%<sup>194</sup>.

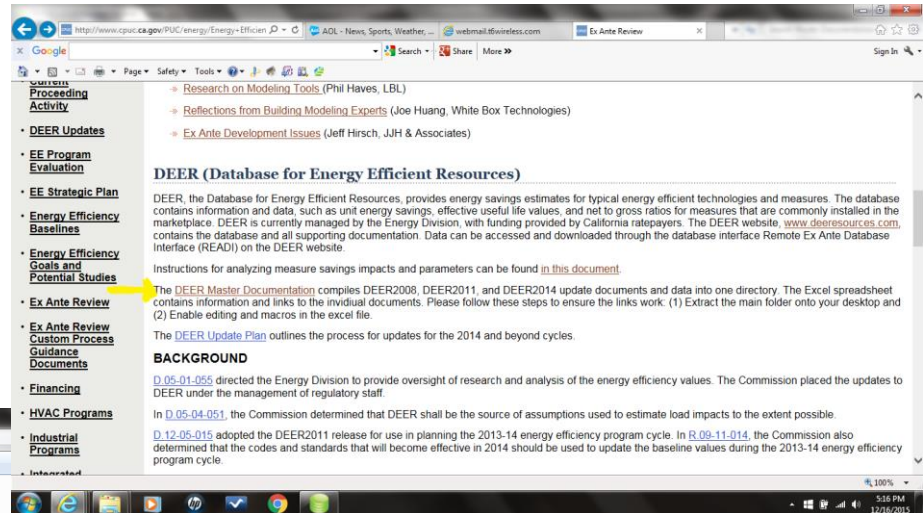
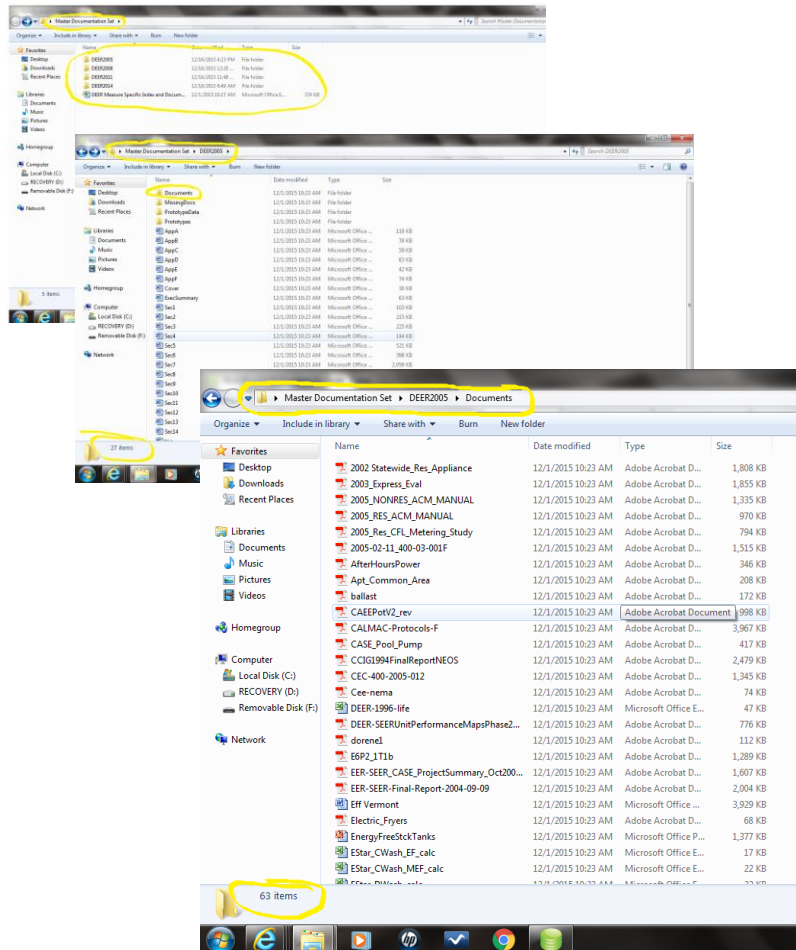
Electronic TRMs also  
host source  
documents—no risk of  
broken links

<sup>192</sup> Table C-6, Measure Life Report, Residential and Commercial/Industrial Lighting and HVAC Measures, GDS Associates, June 2007. Evaluations indicate that consumer dissatisfaction may lead to reductions in persistence, particularly in Multi-Family , [http://neep.org/uploads/EMV%20Forum/EMV%20Studies/measure\\_life\\_GDS%5B1%5D.pdf](http://neep.org/uploads/EMV%20Forum/EMV%20Studies/measure_life_GDS%5B1%5D.pdf)

<sup>193</sup> Direct-install price per showerhead assumes cost of showerhead (Market research average of \$7 and assess and install time of \$5 (20min @ \$15/hr)

<sup>194</sup> Calculated as follows: Assume 11% showers take place during peak hours (based on: <http://www.aquacraft.com/sites/default/files/pub/DeOreo-%282001%29-Disaggregated-Hot-Water-Use-in-Single-Family-Homes-Using-Flow-Trace-Analysis.pdf>). There are 65 days in the summer peak period, so the percentage of total annual aerator use in peak period is  $0.11 * 65 / 365 = 1.96\%$ . The number of hours of recovery during peak periods is therefore assumed to be  $1.96\% * 369 = 7.23$  hours of recovery during peak period. There are 260 hours in the peak period so the probability you will see savings during the peak period is  $7.23 / 260 = 0.0278$

# Comparison: Measure Documentation for DEER



# Comparison: Measure Documentation for DEER

DEER Measure Specific Index and Documentation [Compatibility Mode] - Microsoft Excel non-commercial use

Parameter	DEER Vintage	Comment	Link
Ag Building Envelope	DEER2005	Page 14	<a href="#">Go to Link</a>
Ag Building Envelope	DEER2011	Updated agricultural greenhouse retrofit measures: Page A-13	<a href="#">Go to Link</a>
Com HVAC	DEER2005	HVAC System Properties	<a href="#">Go to Link</a>
Com HVAC	DEER2008	Building operation schedules: Page 24	<a href="#">Go to Link</a>
Com HVAC	DEER2008	Annual simulation for system sizing uses annual weather file simulation instead of design days: Page 24	<a href="#">Go to Link</a>
Com HVAC	DEER2008	Small package HVAC performance modeling less than 20 tons: Page 36	<a href="#">Go to Link</a>
Com HVAC	DEER2008	Increased applicability of HVAC measures: Page 40	<a href="#">Go to Link</a>
Com HVAC	DEER2008	Expanded list of package HVAC efficiency measures: Page 40	<a href="#">Go to Link</a>
Com HVAC	DEER2011	NTGR	<a href="#">Go to Link</a>
Com HVAC	DEER2011	Packaged SEER HVAC specifications: Page A-5	<a href="#">Go to Link</a>
Com HVAC	DEER2011	Old building vintage HVAC system performance: Page A-6	<a href="#">Go to Link</a>
Com HVAC	DEER2011	Commercial HVAC overview of methods, data, and NTGR	<a href="#">Go to Link</a>
Com HVAC	DEER2011	Non-residential DX performance 0-20 tons	<a href="#">Go to Link</a>
Com HVAC	DEER2014	Economizers and Two-speed fan controls on DX equipment	<a href="#">Go to Link</a>
Com Indoor General Lighting	DEER2005	Interior CFL Lighting Tables	<a href="#">Go to Link</a>
Com Indoor General Lighting	DEER2005	Interior Non-CFL Lighting Tables	<a href="#">Go to Link</a>
Com Indoor General Lighting	DEER2008	Interior lighting: Page 24, Page 38	<a href="#">Go to Link</a>
Com Indoor General Lighting	DEER2011	Large office primary lighting schedule: Page A-3	<a href="#">Go to Link</a>
Com Indoor General Lighting	DEER2011	Nonresidential indoor lighting operating hours and schedules	<a href="#">Go to Link</a>
Com Indoor General Lighting	DEER2011	T12 linear fluorescent baseline fixtures: Page A-6	<a href="#">Go to Link</a>
Com Lighting	DEER2008	Interior lighting measures are classified as weather sensitive	<a href="#">Go to Link</a>
Com Lighting	DEER2011	Interactive effects updates (DEER2008), hours or use	<a href="#">Go to Link</a>
Com Lighting	DEER2011	NTGR (DEER2008)	<a href="#">Go to Link</a>

But the sources it links to are still problematic.

This spreadsheet tries to link you to the data in the folders in the "Master Documentation Set"

DEER HVAC System Properties-051212 [Compatibility Mode] - Microsoft Excel non-commercial use

Parameter	DEER Vintage	Comment	Link
DEER CHW Prototype Plant Definition			
Chilled Water Plant Baseline			
Created October 19, 2004 - kjm			
Revised December 12, 2005 - kjm			
Column Key:			
Independents			
1 integer DEER Building Type			
2 integer DEER Vintage			
3 integer DEER System Option			
Dependents			
1 integer CHWSysPumpConfig			
2 integer CHWSysLoopFlow			
3 float CHWSysPumpHead			
4 float CHWSysPumpFlow			
5 integer CHWSysPumpCtrl			
6 integer CHWSysPumpEff			
7 integer ChillerType[1]			
8 integer CondenserType[1]			
9 integer ChillerCompType[1]			
10 integer ChillerCount[1]			
11 integer SpecifyChlrCap[1]			
12 integer ChillerEff[1]			
13 integer ChillerEffUnits[1]			
14 float ChillerEvapHead[1]			
15 float ChillerCondHead[1]			
16 float ChlrPumpHead[1]			
17 float ChlrPumpFlow[1]			
18 integer ChlrPumpEff[1]			
19 float ChlrPumpMtrEff[1]			
20 integer CHWSysControl			
21 float CHWSysMaxTemp			
22 integer CHWSysOperation			
23 float CHWSysSetpoint			
24 float CHWLoopDeltaT			

Lots of information and data, user has to figure out what it means and how to use