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July 2, 2013

MEMORANDUM

TO: Council Members

FROM: Nicholas O'Neil

SUBJECT: Regional Technical Forum 2012 Annual Report

The Regional Technical Forum (RTF) is publishing its annual report highlighting important milestones and accomplishments that occurred during the 2012 calendar year as well as activities currently underway in 2013. Over the past year, the RTF has boosted its work load, brought on new staff, and has made great strides towards maintaining consistency, credibility, and transparency with the way it goes about estimating energy efficiency measure savings.

Staff will provide an overview of the 2012 Annual Report and how that work is shaping where the RTF is headed in the future.

The annual report will be provided at the July Council meeting and also made available online at the RTF website.

Regional Technical Forum 2012 Annual Report

July 2013 Council Presentation
Seattle, Washington



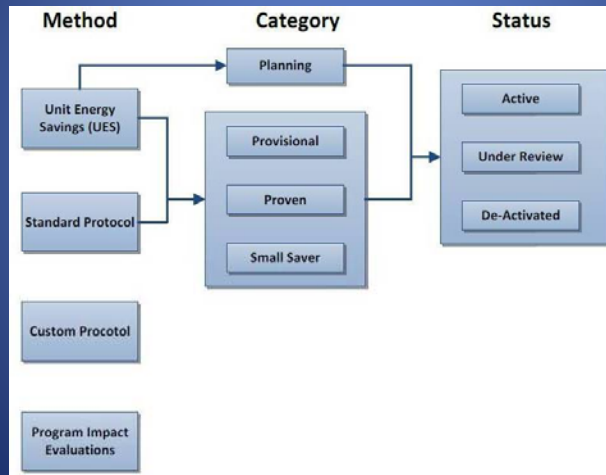
2012 In Review

- Updated complete set of operative Guidelines for estimating energy savings, cost and life
- Reviewed and assigned status to existing library of measures and protocols
- Developed RTF PAC dashboard
- Created a Business Case for a new End-Use study
- Planned to expand RTF Staff and institute 3rd party review of RTF work



Bringing Consistency to RTF Work

The RTF has officially entered the era of the guidelines



Measure Categorization

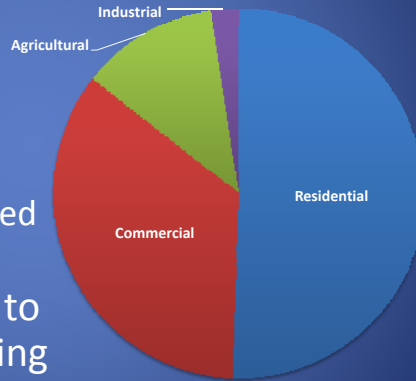
Measure Category*	Measure Status				Grand Total
	Active	Deactivated	Out-of-compliance	Under Review	
(none)	–	10	–	–	10
Proven	32	1	24	8	65
Provisional	4	–	2	1	7
Small Saver	5	–	–	6	11
Grand Total	41	11	26	15	93

* Proven savings estimation methods are those that the RTF considers reliable; Provisional methods are those the RTF approves with special conditions requiring the collection of additional data; Small Saver are measures for which likely savings are too small to warrant the resources needed to meet the Proven or Provisional standards.



2012 - Measure Review

- Acted upon over 80 measures
 - 42 Residential
 - 29 Commercial
 - 10 Agricultural
 - 2 Industrial
 - 2 new measures added to RTF library
- Developed schedule to update measures going forward



More Insight for the RTF PAC

Worksheet Focus

- Indicates where bulk of RTF work is focused
- Show what percent of decisions receive yes and no votes
- Highlight who does primary analysis to bring decisions before RTF
- Show the voting record for past decisions

Worksheet Categories	Count
Existing Measure Review & Updates	33
New Measure Development & Review of Unsolicited Proposals	2
Standardization of Technical Analysis	1
Tool Development	0
Research Projects & Data Development	0
Regional Coordination	0
Website, Database support, Conservation Tracking	0
RTF Member Support & Administration	0
RTF Management	1

Voting Statistics	Percentage
Average Percent of Members Present Voting Yes	95%
Average Percent of Members Present Voting No	1%
Percent of Decisions requiring Subcommittee work	8%
Percent of motions that pass	100%
Percent of motions that fail	0%
Percent of Decisions applicable to Small/Rural Utilities	32%
Percent of measures brought through Small/Rural Checklists	32%
Number of times Chair has needed to vote on tie break	0%

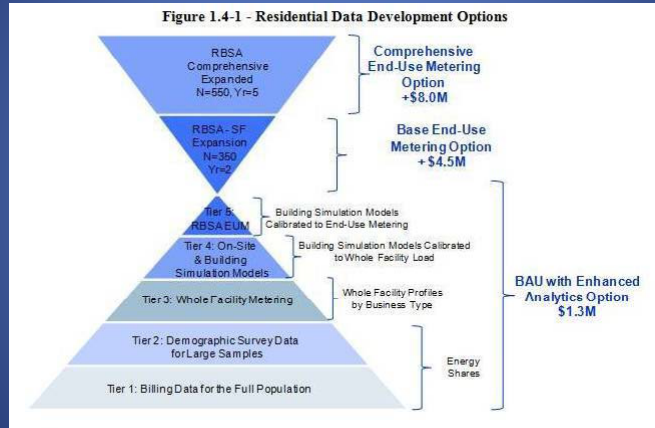
Decision Categories Based on Workplan

Significant Contributors

Significant New Contribution or Revision

Entity	UES / Protocol	Method or Analysis	Data or Measurement
RTF	14	8	0
Bonneville Power Administration	1	7	1
Energy Trust of Oregon	0	0	0
Puget Sound Energy	0	0	0
Idaho Power Company	0	0	1
Baskin Corporation, Inc	0	0	0
PacifiCorp	0	0	0
Northwestern Energy	0	0	0
Seattle City Light	0	0	0
Clark Public Utilities	0	0	0
Tacoma Power	0	0	0
PUD #1 of Snohomish	0	0	0
Eugene Water and Electric Board	0	0	0
PUD #1 of Cowlitz County	0	0	1
NECA	0	0	1
Vendor	0	0	0
Consultant	0	0	6

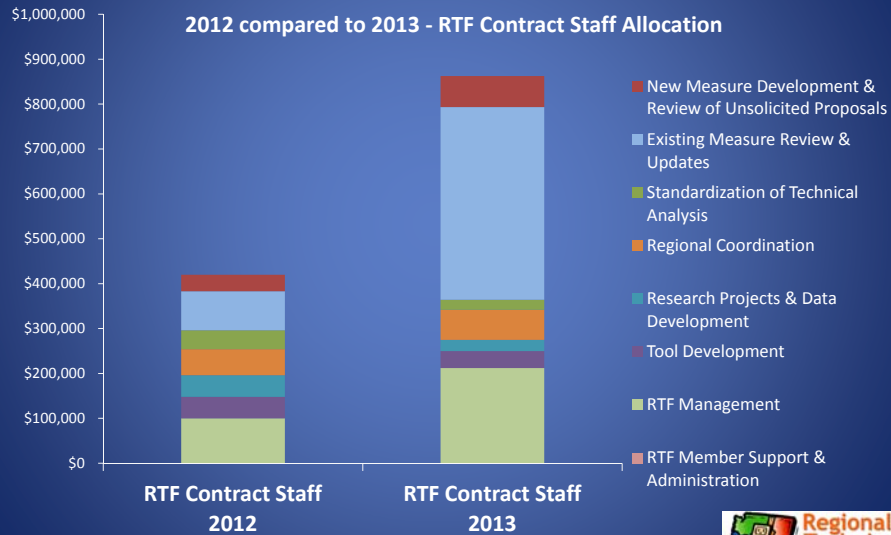
A Plan for End-Use Data



Report link: <http://rtf.nwcouncil.org/subcommittees/enduseload/>



Work Plan Expands RTF Staff



Financials for 2012

Category	Projected Allocation in Work Plan	Actual Funds Spent	% Spent Compared To Allocated
Existing Measure Review & Updates	\$487,000	\$558,036	115%
New Measure Development & Review of Unsolicited Proposals	\$138,000	\$103,857	75%
Standardization of Technical Analysis	\$176,000	\$163,591	93%
Tool Development	\$134,000	\$94,479	71%
Research Projects & Data Development	\$228,000	\$177,822	78%
Regional Coordination	\$58,000	\$55,301	95%
Website, Database Support, Conservation Tracking*	\$0	\$0	100%
RTF Member Support & Administration	\$174,000	\$147,269	85%
RTF Management	\$105,000	\$112,965	108%
Total	\$1,500,000	\$1,413,321	-

* Council in-kind contribution



What has been happening in 2013

- Welcomed new RTF members with orientation
- Ongoing review and update of existing measures
- Setting research priorities for measures
- Digitizing all elements of the ELCAP study
- Continuing to support to Small and Rural utilities
- Created online proposal form for new measures
- Using third party QC process to make RTF work more transparent



Welcoming New RTF Members



Ongoing Measure Review in 2013

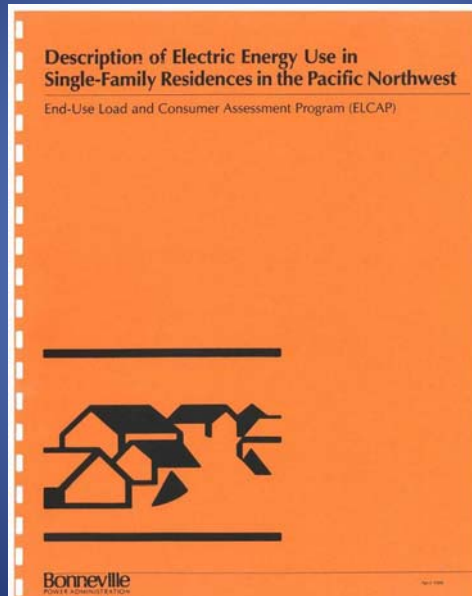
Sector	Measure	Category	Status	Latest RTF Decision	Sunset Date
Commercial	Non-Res - Network Computer Power Management	Proven	Active	6/28/2011	7/31/2013
Residential	Appliances - Clothes Washers in SF	Proven	Active	11/14/2012	11/30/2013
Residential	Lighting - CFLs	Proven	Active	8/30/2011	12/31/2013
Residential	New Construction - Energy Star Homes SF - ID/MT BOP2	Proven	Active	12/7/2010	12/31/2013
Residential	New Construction - Energy Star Homes SF - WA/ID/MT DHP TCO (provisional)	Proven	Active	12/7/2010	12/31/2013
Commercial	Grocery - Display Case Motion Sensors	Small Saver	Out-of-compliance	5/21/2013	7/31/2013
Commercial	Grocery - Anti-sweat Heater Controls	Proven	Out-of-compliance	4/16/2013	9/30/2013
Agricultural	Variable Frequency Drives - Dairy	Proven	Out-of-compliance	10/24/2012	11/30/2013
Agricultural	Variable Frequency Drives - Potato/Onion Shed	Proven	Out-of-compliance	10/24/2012	11/30/2013
Commercial	Appliances - Dishwashers	Proven	Out-of-compliance	10/24/2012	11/30/2013
Commercial	Appliances - Ice Makers	Proven	Out-of-compliance	10/24/2012	11/30/2013
Commercial	DHW - Efficient Tanks	Proven	Out-of-compliance	10/24/2012	11/30/2013
Commercial	Grocery - ECMs for Walk-ins	Proven	Out-of-compliance	10/24/2012	11/30/2013
Commercial	Grocery - Lighting - CFLs	Proven	Out-of-compliance	10/24/2012	11/30/2013
Commercial	Grocery - Lighting - T8s	Proven	Out-of-compliance	10/24/2012	11/30/2013
Residential	DHW - Drain Waste Heat Recovery	Provisional	Out-of-compliance	10/24/2012	11/30/2013
Residential	Heating/Cooling - PTCS Commissioning, Controls, & Sizing MH	Proven	Out-of-compliance	10/24/2012	11/30/2013
Commercial	Grocery - Autoclosers	Proven	Out-of-compliance	12/11/2012	12/31/2013
Commercial	Grocery - Compressor Head Fan Motor Retrofit to ECM	Proven	Out-of-compliance	12/11/2012	12/31/2013
Commercial	Grocery - Door Gasket Replacement	Proven	Out-of-compliance	12/11/2012	12/31/2013
Commercial	Grocery - Floating Head Pressure Controls for Single Compressor Systems	Proven	Out-of-compliance	12/11/2012	12/31/2013
Commercial	Grocery - Walk-in Evaporator Fan ECM Motor Controllers	Proven	Out-of-compliance	12/11/2012	12/31/2013
Commercial	Grocery - Walk-in Evaporator Fan Shaded-Pole Motor Controllers	Proven	Out-of-compliance	12/11/2012	12/31/2013
Commercial	Cooking Equipment - Combination Ovens	Small Saver	Under Review	4/16/2013	7/31/2013
Commercial	Cooking Equipment - Convection Ovens	Small Saver	Under Review	4/16/2013	7/31/2013
Commercial	Cooking Equipment - Fryers	Small Saver	Under Review	4/16/2013	7/31/2013
Commercial	Cooking Equipment - Hot Food Holding Cabinets	Small Saver	Under Review	4/16/2013	7/31/2013
Commercial	Cooking Equipment - Steamers	Small Saver	Under Review	4/16/2013	7/31/2013
Residential	Heating/Cooling - Air Source Heat Pump Upgrades MH	Proven	Under Review	5/21/2013	9/30/2013
Residential	Heating/Cooling - Ductless Heat Pumps SF	Provisional	Under Review	4/17/2012	9/30/2013
Commercial	Cooking Equipment - Pre-Rinse Spray Valves	Small Saver	Under Review	12/11/2012	12/31/2013
Residential	Heating/Cooling - Air Source Heat Pump Conversions MH	Proven	Under Review	12/11/2012	12/31/2013
Residential	Heating/Cooling - PTCS Commissioning, Controls, & Sizing SF	Proven	Under Review	11/14/2012	12/31/2013
Residential	Heating/Cooling - PTCS Ducts Inside	Proven	Under Review	12/11/2012	12/31/2013
Residential	New Construction - Built Green Washington	Proven	Under Review	12/11/2012	12/31/2013
Residential	New Construction - Energy Star and Ecorated Homes MH	Proven	Under Review	1/23/2013	12/31/2013
Residential	New Construction - Energy Star Homes SF - WA/ID/MT	Proven	Under Review	12/11/2012	12/31/2013
Residential	New Construction - Slab Insulation	Proven	Under Review	12/11/2012	12/31/2013

Determining Research Needs

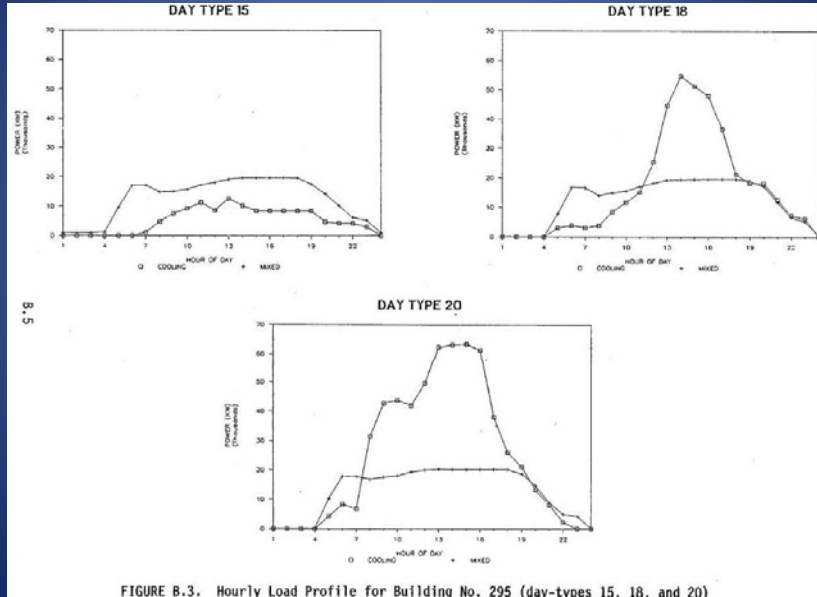
- 27 UES measures categorized as “Out-of-Compliance” with respect to RTF Guidelines
 - All require a research plan to go get data
- RTF serves a role in coordinating
 - Facilitator will help lead Subcommittee with prioritizing and grouping common research needs
- RTF relies on regional stakeholders to get the data
 - No funding for primary research in RTF budget



Accessing ELCAP online



Accessing ELCAP online



Accessing ELCAP online

Site Level Hourly Metering Data

The hourly data in the 458 site level meter files ranges from April 1, 1987 to August 31, 1989. The hourly site level meter files are grouped into six site type categories, shown in Table 1 with the number of sites by category.

Table 1. Number of Sites by Category

Category	Number of Sites
Commercial	81
Commercial Audit Program	16
Multifamily	17
Purchase of Energy Savings	4
Residential	257
Residential Standards Demonstration Program	83



Accessing ELCAP online

ELCAP

Home About Queries Reports Account

RESIDENTIAL SITE METER
 The Residential Site Meter Pivot Grid allows users to analyze hourly metered loads for residential sites in the ELCAP study. Users can look at the average, sum, and count of the metered loads (Description). Through the Pivot Grid, users can drill down to the individual site and hourly level. Metered loads can be analyzed by combinations of time (hours, A.M. vs. P.M., date, month, year, water heating, clothes drying, etc.), and by some site characteristics (number of occupants, income level, building vintage, nearest weather station, etc.). The Pivot Grid functions similarly to an Pivot Grid in Microsoft Excel, with rows and columns, filter area, and data area. The default view when loading the Pivot Grid initially shows the average loads by end use (Metric Description) by month and year.

Export to: Pdf Save Open

Export Options:
 Print headers on every page
 Print filter headers
 Print column headers
 Print row headers
 Print data headers

Pivot Grid Field List

Hidden Fields:
 Measures
 Date Fields
 Geographic Fields
 Hour Fields

Pivot Grid Usage Instructions Expand All Columns

ELCAP Site ID: [Dropdown]
 Right Click Here For Filter and Field List Menu

Average

Measurement Description

Measurement Description	1987	1988	1989	Grand Total
AIR CONDITIONING (Watts)	101.61	84.12	63.59	85.04
AIR TO AIR HEAT EXCHANGER TEMPERATURE 1	626.5	587.46	630.4	610.89
BUILDING TOTAL (Watts)	1978.54	2400.02	2353.01	2252.73
CLOTHES DRYING (Watts)	116.02	132.64	128.44	126.55
CLOTHES WASHING (Watts)	15.77	22.92	15.01	18.68
DISH WASHING (Watts)	13.81	13.93	13.77	13.85
DQ FLAG (Quality Rating)	1.08	1.08	1.02	1.06
DQ LEVEL (Quality Rating)	1.36	1.35	1.21	1.32
EXTERIOR TEMP#1 (Degrees)	546.64	502.58	503.98	517.56
EXTERIOR TEMP#2 (Degrees)	496	515.59	496.25	505.56

Small/Rural Subcommittee Work

- 2013 Focus on:
 - Finalizing several commercial UES measures specific to schools from work started in 2012
 - Creation of new measures identified by the Subcommittee as priorities
 - Exploring option of increased RTF funding for measure more development
 - Continued use of checklist to ensure small/rural consideration when assessing and approving UES measures



Standardizing Proposal Process

RTF Proposal Submission Form

[Register](#) [Log in](#)

Welcome. Use this form to submit required information and files regarding proposed new energy efficiency measures, or to propose modifications to existing RTF-approved measures or specifications

To use this site, [register](#) (new users) or [log in](#).

See [RTF guidelines](#) for more information on how the RTF selects, develops and maintains methods for assessing the lifetime costs and benefits of energy efficiency measures.

Read the Guidelines thoroughly before submitting a proposal. Missing information will significantly slow the review process. If you have any question about whether your proposal will meet the requirements of the RTF, use this form to submit a short summary of the measure for a brief review by RTF staff.

Contact [Nick O'Neil](#) at 503-222-5161 with questions.

IMPORTANT: The availability of this form does not constitute any commitment by the RTF or the Council to accept or approve the proposed measure. The RTF provides independent, peer review of savings estimation methods for electrical efficiency measures commonly used by utility efficiency programs in the Pacific Northwest. It does not certify, endorse, or promote any measure, project, specification or product, nor does it perform any regulatory function. All submissions will be reviewed and those meeting basic requirements may be passed on to the RTF for further consideration.



Reviewing RTF Work Products

QA/QC Review Memorandum

To: RTF Staff
From: [EnerNOC](#) review team
CC:
Date:

RTF Work Product:

This memo serves as documentation of EnerNOC's review of the RTF work products titled:

Review Summary

The following comments are offered to correct errors or omissions found in the review of this RTF work product:

Alterations Made to Work Product

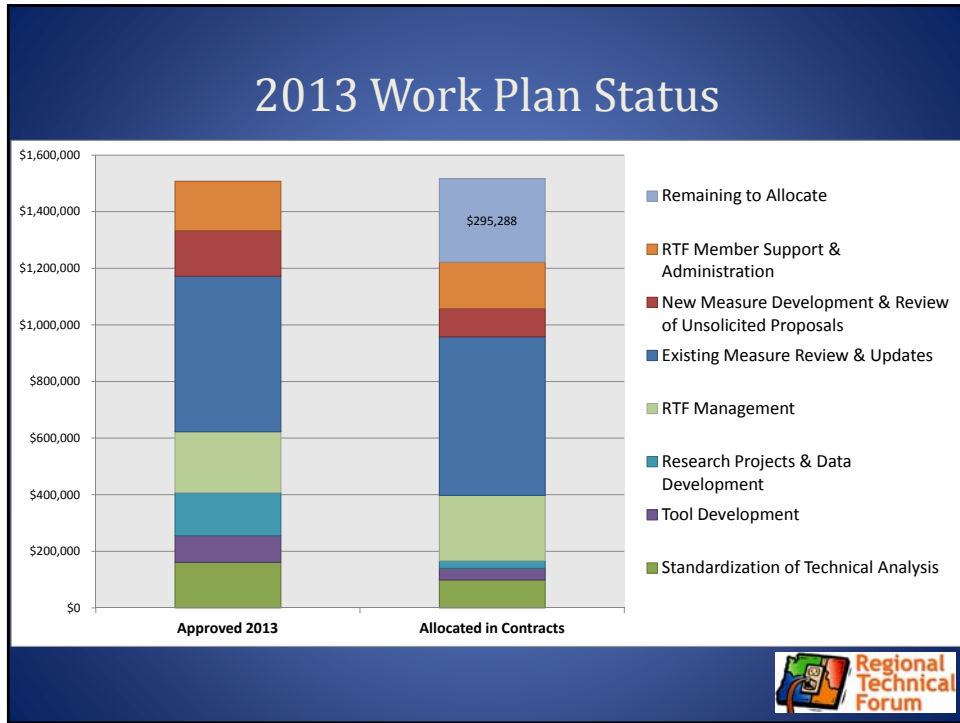
Any changes that EnerNOC made to the RTF staff submitted work product are documented below.

Limitation of Review

[EnerNOC](#) did not attempt to review the areas of work listed below.

Additional Considerations

Suggested changes to the analysis, work product construction, or underlying methodology that are not captured in the above comments are offered below.]



Website of Work Products

Measures:

- UES measures
- Standard protocols
- Supporting files

Meetings:

- Current meeting
- All meetings
- Decisions

New! Calendar

Work plan

- RTF Policy Advisory Committee

Subcommittees:

- Ag/Irrigation Hardware
- Automated CVR
- Direct Use of Gas
- End-Use Business Case
- Fan & Pump VFD
- Grocery Refrigeration
- Guidelines
- HPWH Evaluation
- IT Sector
- Lighting
- Refrigerator Decommissioning
- Research and Evaluation
- Residential Weatherization & HVAC
- Ground Source Heat Pump
- Heat Pump CC&S Specifications
- PTCS
- Residential Weatherization and Ventilation

Upcoming RTF Meeting Dates

2013: July 16 (Tuesday), August 20, September 17, October 15, November 19, December 17

Calendar of Upcoming RTF Events/Meetings

Tuesday, July 2

- 8:00am SEEM Calibration subcommittee meeting
- 1:00pm RTF Residential HVAC subcommittee meeting
 - When: Tue, July 2, 1pm - 4pm
 - Where: NW Power & Conservation Council / Webinar (map)
 - Description: To join the webinar: <https://www1.gdomeeting.com/join/974457302>
 - 1-800-736-1922
 - Participant Code: 965488318
 - [more details](#) [go to my calendar](#)
- 1:30pm IT Subcommittee meeting

Highlights

Operative Guidelines

April 2013: At its April meeting, the RTF adopted the consolidated volume series of its Guidelines for estimating Savings, Costs, Non-Energy Benefits and Effective Useful Life. This volume series includes a new Roadmap for navigating the Guidelines and incorporates significant changes to language and content from all previous versions of the independent Guidelines. These Guidelines describe how the RTF will judge whether the quality of the data and analytical methods are sufficient to produce reliable savings estimates. As of April 2013, these are the operative guidelines the RTF will use to judge the quality and reliability of its savings estimates, costs, benefits, and life for measures and protocols.

End Use Load and Consumer Assessment Program (ELCAP) Database

March 2013: As part of its 2012 work plan, the RTF enlisted the services of a competitively bid contractor (The Cadmus Group) to assemble the systems, written and digital documents.

News

- Next Mtg: July 16
- Final 2013 Work Plan
- Quarterly Newsletter
- Executive Summary - End-Use Business Case
- Revised Charter and bylaws
- Revised Conflict of Interest Policy
- 2011 Annual Report
- RTF Member Solicitation for 2013-2015
- NW Energy Coalition awards the RTF with Resolution of Commendation
- Operative Guidelines for RTF Savings
- Policy Advisory Committee
- EMI Evaluation of the RTF
- RTF solicits open RFQ
- Conservation Resources in the Sixth Power Plan
- More...

Contacts

- Tom Eckman, Chair
- Charlie Grist, Vice-Chair
- Nick O'Neil, Manager
- Gillian Charles, Business Ops
- Aggar Assefa, Administrative Assistant
- Adam Hadley, Contract Staff
- Christian Douglass, Contract Staff
- Josh Rushton, Contract Staff
- Mohit Singh-Chhabra, Contract Staff
- Ryan Firestone, Contract Staff

Thank You

“The RTF could not have served the region without the financial support of our sponsors and the time and expertise contributed by our members and other parties across the Northwest.”



Contact

For more information, contact:

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