



2015 MCE Energy Efficiency Annual Report

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Introduction

Marin Clean Energy (MCE), a local government agency, was formed in December 2008 as the first community choice aggregator in the State of California and began serving customers with retail electricity service in 2010. MCE currently serves approximately 171,000 customers in Marin County, unincorporated Napa County and the cities of Benicia, El Cerrito, Richmond and San Pablo.¹ As a local public agency, MCE is governed by a 17-member Board of Directors comprised of one elected Councilmember or Supervisor from each of our member communities.

MCE's mission is to promote the development of energy efficiency programs to address climate change by reducing energy related greenhouse gas emissions and securing energy supply, price stability, energy efficiencies and local economic and workforce benefits.

In support of this mission, MCE applied for funding from the California Public Utilities Commission (CPUC) to launch a portfolio of energy efficiency programs for the 2013-2014 program cycle pursuant to California Public Utilities Code section 381.1 (a)-(f). Under direction from the CPUC, MCE's programs were designed to serve gaps in programs administered by investor owned utilities (IOUs) and hard-to-reach market sectors.²

MCE's programs were approved in Decision 12-11-015 for 2013-2014 and subsequently approved for 2015-2025 by D. 14-10-046.

MCE's energy efficiency programs are available to all ratepayers within MCE's service area, regardless of their retail electricity provider.

¹ MCE enrolled new communities in 2015, representing an approximately 30% increase in customer accounts over 2014.

² Decision (D.) 12-11-015 at p. 45-46.

Portfolio Overview

In 2015, MCE administered the following four programs:

- Multifamily
- Small Commercial
- Single Family
- Financing

Multifamily

Program Description

MCE's Multifamily Program provides technical assistance, a free direct install service for light touch efficiency measures,³ and financial incentives for cost-effective energy efficiency improvements to occupants and owners of low-income and market rate multifamily buildings in the MCE service area. This program is implemented in partnership with the Association for Energy Affordability (AEA) and the Marin City Community Development Corporation (MCCDC).

The Multifamily Program's incentive structure was reformed in 2015 to use a point system. The point system is structured so measures that achieve greater savings or directly impact tenants receive more points. Points are converted to a dollar amount and the total rebate is calculated by multiplying that dollar amount by the total number of treated units. This incentive structure is much easier to communicate to program participants and allows property owners to more easily estimate the amount of the program rebate before committing to a project.

Properties that participate in the program are also eligible for financing through MCE's on-bill repayment program.

MCE coordinates closely with the Bay Area Regional Energy Network (BayREN) and Pacific Gas & Electric Company (PG&E) to ensure that there is no double counting of savings and to share best practices.

Strategies Employed in 2015

During 2015, MCE deployed the following strategies in its multifamily offerings:

- Developed a point-based incentive system for easier communication and calculation of projected rebate amounts.
- Added a water assessment to the existing ASHRAE I/II site assessment.

³ The direct install service is not a standalone service, but is offered to participants in the program.

- Required a “Good Faith Deposit” to show intent to follow through on upgrade projects; the deposit is rebated at project completion.
- Revamped the energy report provided to customers after the assessment to more easily communicate opportunities. This also shortened the time between assessment and report delivery.
- Communicated program success stories through published case studies and testimonials from program participants.

Program Performance and Major Achievements

MCE’s multifamily energy efficiency programs were particularly successful in serving low income communities and collaborating with Marin Municipal Water District to integrate water-saving measures; 792 of the 1,073 units touched by energy efficiency projects were low-income. Other major program achievements in 2015 include:

- Disbursed \$402,428 in rebates
- Provided technical assistance to 1,356 units
- Installed free LEDs, low-flow showerheads, and faucet aerators in 221 units
- Successful relationship with local water agencies saved 7,861,459 gallons of water
- Trained 22 workforce entrants or re-entrants⁴ in direct install, and provided 718 local on the job training hours

Program Changes and Improvements for 2016

MCE is planning to implement the following program improvements in 2016:

- Partnering with GRID Alternatives to offer technical assistance and community engagement to affordable housing properties installing solar.
- Working with energy efficiency and water conservation product manufacturers to provide discounted prices on energy savings technologies for MCE customers.
- Developing strategies to more effectively serve Home Owners Associations, such as partnering with lighting and water conservation manufacturers to provide product discounts, and developing measure specification sheets for residents to ensure in-unit upgrades meet program standards.
- Requiring MCE’s technical assistance provider to submit claims data on a monthly basis to increase time for review and improve accuracy of reporting.

⁴ Workforce re-entrants are trainees with some construction experience, but who are new to energy efficiency and renewable energy.

Small Commercial

Program Description

MCE partners with the Marin Energy Watch, the East Bay Energy Watch, and SmartLights (a program of the Community Energy Services Corporation) to implement an energy efficiency program for small commercial customers throughout its service area. Coordination between small commercial direct install energy efficiency program providers in the region reduces customer confusion and program funding overlap.

The small commercial program offers free energy assessments and rebates on lighting, heating, HVAC, refrigeration, food service, and building envelope upgrades. In addition, the program offers customers pre-negotiated contractor discounts on certain measures, project management assistance and post-project quality assurance. Customers that participate in the program are also eligible for financing through MCE's on-bill repayment program and the relevant information is presented to them in the energy assessment report.

In 2015, the program was marketed through contractor referrals, door-to-door outreach campaigns, call campaigns, and partnerships with local business groups.

Strategies Employed in 2015

MCE's small commercial program employed the following strategies in 2015:

- Outreach campaign through the San Rafael Chamber of Commerce that touched 80 businesses
- Communicated program success stories through case studies of projects to promote program offerings
- Partnership with Marin Builders Association to help raise visibility with contractors, as contractor program referrals provide the highest conversion rate
- Close coordination with Marin Energy Watch and East Bay Energy Watch programs
- Promoted technologies with water-energy savings
- MCE customer account representatives referred high energy intensity businesses that would be ideal candidates for participation in the program.
- Instituted a performance incentive into consultant contracts to encourage project completion.

Program Performance and Major Achievements

In 2015:

- Completed energy audits at 420 businesses.⁵
- Completed upgrades at 50 small businesses.

⁵ The number of audits includes all those conducted in Marin, Richmond, El Cerrito and San Pablo by the SmartLights program, not just those funded by MCE. As projects are attributed to either the PG&E portfolio or the MCE portfolio at the time of completion, audits reported are those performed under both contracts.

- Paid \$93,671 in rebates.

Program Changes and Improvements for 2016

MCE is planning the following program improvements in 2016:

- Strengthen partnerships with cities and counties, especially in new communities.
- Develop business segment-specific case studies and creative marketing collateral.
- Increase training of contractor network to refer projects to the program at key trigger points such as at equipment failure or tenant turnover.
- Leverage partnerships with organizations such as local chambers of commerce to build on the value of trusted messengers.
- Extend performance incentive to terms-based savings targets to encourage innovation in providing comprehensive upgrades to small businesses.
- Improve reporting accuracy by requiring contractors to submit data required for quarterly CPUC reports on a monthly basis.

Single Family

Program Description

In 2015, MCE's Single Family Program employed two strategies to educate homeowners on how to save energy in their homes.

My Energy Tool

MCE partners with Planet Ecosystems, Inc. (PEI) to offer an online energy tool ("My Energy Tool"). My Energy Tool helps single-family residential customers to better understand their energy reduction options by generating energy action plans based on their specified objective (e.g., saving money, improving comfort or reducing greenhouse gasses [GHGs]), home characteristics and energy usage. In addition to providing customers with estimated lifetime savings (in dollars and GHGs) for personalized energy saving measures, My Energy Tool connects customers interested in pursuing projects with local qualified contractors, financing options and rebates.

In 2015, MCE partnered with the statewide Marketing, Education and Outreach program to facilitate the participation of cities in our service area in the Cool California Challenge. The Cool California challenge is a six month long competition among participating cities in the state to incentivize residents to take simple steps to reduce their carbon footprint and better manage energy use. Participating households can log their energy usage and earn points depending on the energy savings within their home, through reduction of vehicle miles driven, as well as points for inviting friends to the Challenge and sharing energy saving tips.

Points earned by each household will be pooled by city. The participating cities will each receive a portion of \$150,000 in prize money based on their total points. The money earned will help fund a local sustainability project.

Customers in participating MCE cities were able to use My Energy Tool as the interface to take part in the challenge. The collaboration drove additional participants to My Energy Tool and gave MCE customers the option to link their account number to their Cool California Challenge registrations and have points they receive for reducing usage tally automatically.

Home Utility Reports

In order to encourage customers in MCE's service area to reduce their energy consumption and use My Energy Tool to develop energy Action Plans, MCE (in collaboration with PEI) began employing "Home Energy Report" direct mailers in 2013 on a pilot basis. After a successful pilot, MCE expanded this offering in 2014. The content of Home Energy Report mailers was expanded to provide a comparative analysis of customers' energy usage in relation to other customers with similar home characteristics.

MCE's HUR program underwent its first CPUC-led evaluation in late 2015. The evaluation focused on impacts from report delivered in 2014. When applying CPUC-approved evaluation methodology the evaluation found no measureable electricity savings. MCE believes the lack of savings is due to data quality issues and mid-year program design changes that compromised the integrity of the experimental design. In response, MCE suspended its HUR program in January 2016 in order to study the program and improve performance.

Strategies Employed in 2015

In 2015, MCE's single family energy efficiency program achieved:

- Identified metrics to track marketing campaigns in real time to adjust to the most effective strategies (*e.g.* which ads result in the most quality traffic to site.)
- Established metrics for tracking Action Plan uptake and measuring quality traffic to site.
- Updated Finance Marketplace of the My Energy Tool to support the local roll out of residential Property Assessed Clean Energy (PACE) programs.

Program Performance and Major Achievements

Major achievements in 2015 included:

- 504 new customers generated Action Plans, which brought the total number of Action Plans created since program launch to 1,983.
- Added 486 new registered users to the My Energy Tool website bringing the total number of users to 2,632.

Program Changes and Improvements for 2016

Some program improvements that are planned for 2016 include:

- Suspending the HUR program while we address the program design issues found in the 2014 evaluation.
- Administering a feedback survey of My Energy Tool users to better understand how they engage with the website and how customers view the usefulness of the tools it provides.

Financing

Program Description

MCE's Financing Program includes an on-bill repayment loan and online tools to help consumers navigate financing options. MCE also serves as the liaison for the Property Assessed Clean Energy (PACE) Open Marketplace in Marin County.

MCE's on-bill repayment (OBR) program is a public/private partnership between commercial banks and MCE to provide a source of funding to residential and commercial property owners to complete energy efficiency projects on their properties. Loans are available to fund energy efficiency projects that are completed either through the MCE commercial or multifamily rebate programs. Due to a decision by MCE's partner bank to withdraw from the program, limited customer demand and the presence availability of alternative financing options available to single family customers such as residential PACE, MCE closed the single family OBR program in Q3 2015.⁶ There is one outstanding loan under this program, which MCE and the partnering bank continue to serve.

Third party loans are supported by a credit enhancement known as a loan loss reserve. The loan loss reserve is available to compensate the bank in the event of a loss subject to program limits. In 2015, MCE agreed to increase the loan loss reserve it offers for the multifamily and small commercial program to a maximum of \$547,500 or 20% of total program loans. MCE increased the loan loss reserve in exchange for a program loan commitment of \$2.74 million and the bank agreeing to offer loans to non-MCE customers.

Table 1. Multifamily / Commercial Loan Characteristics

Bank Partner	River City Bank
Length of Loan	2-10 years
Interest Rate	5%
Minimum – Maximum Project Size	\$10,000-\$265,000*
Loan Loss Reserve	20%
Security	UCC-1 Fixture Filing

*Larger loans may be considered on a case by case basis.

In addition to offering an OBR program for multifamily and commercial customers, MCE also serves as a liaison for the PACE Open Marketplace in Marin County. PACE financing targets energy efficiency, renewable energy, and water upgrades to residential and commercial buildings. Property owners can finance up to 100% of the project, for up to 30 years, as a tax assessment on their property tax bill. The assessment obligation may be assumed by the new owner upon property sale, and under most leases,

⁶ MCE AL-11-E.

can be shared with tenants. In its role as a liaison, MCE assists with lead generation, marketing, data collection, and consumer protection activities.

MCE's online tools include a Finance Marketplace that allows customers and contractors to search for a variety of financing options, including PACE financing, secured and unsecured loans, and solar-specific options and is sortable by city and zip code.

Strategies Employed in 2015

In 2015, MCE's financing program employed the following strategies:

- Utilized tables displaying a summary of the financing options available through MCE included with all applicable energy assessment reports provided to customers (**Attachment B**).
- Conducted education and training for contractors to encourage greater adoption of PACE and OBR.

Program Performance and Major Achievements

In 2015:

- Participation continues to be slow. Informal feedback indicates the minimum loan size could be a barrier for commercial customers.
- Worked with the County of Marin to offer an 'open market' PACE model to increase the financing options available to residential and non-residential customers.

Program Improvements for 2016

Program improvements that are planned for 2016 include:

- Increase the visibility of the financing summary in the assessment reports.
- Increase alignment between financing and incentive program offerings.
- Conduct outreach activities to increase awareness about the program.

Overarching Strategies

In addition to the program level efforts described above, MCE made several changes at a portfolio level in 2015 to improve program performance and make program performance more transparent to stakeholders:

- Standardized pipeline tracking to monitor program success and fund shift between programs as necessary.
- Coordination with local water utilities to maximize energy and water savings.
- Better use of customer account representatives and data to identify potential program participants and enroll them in the program.

Energy Savings

MCE's 2015 portfolio savings are shown below (**Table 2**).

Table 2. Electricity and Natural Gas Savings and Demand Reduction

Annual Results	Installed Gross Savings
TOTAL 2015 Energy Savings (GWh) - Annual	1.337
TOTAL 2015 Energy Savings (GWh) – Lifecycle	14.692
TOTAL 2015 Natural Gas Savings (MMth) – Annual	.0366
TOTAL 2015 Natural Gas Savings (MMth) – Lifecycle	.5414
TOTAL 2015 Peak Demand savings (MW)	0.340

Savings by Program and End Use

The bulk of the portfolio's electric savings come from the Commercial Program which installed a high number of lighting and refrigeration measures. While the commercial program achieved some gas savings mainly through food service equipment, most of the portfolio's gas savings come from the Multifamily Program which installed a high number of water heating related measures.

Table 3. Gross Savings by Program

Annual Results	2014 Annual Savings		
	Electric (MWh)	Demand (MW)	Gas (therm)
Multifamily	248.64	.140	33,001
Commercial	1,088.39	.113	-1,136
Total	1,337.03	.340	36,607

Table 4. Annual Gross Savings by End-Use

2014	GWH	% of Total	MW	% of Total	MMTh	% of Total
Residential	0.249	18.60%	0.165	48.48%	0.039	106.06%
HVAC	.041	3.04%	.145	42.69%	0.023	62.10%
Lighting	.147	11.02%	0.012	3.54%	0.003	-8.87%
Refrigeration	.055	4.12%	.007	2.06%	0.002	-5.31%
Water Heating	0.006	0.42%	.001	0.19%	0.021	58.14%
Nonresidential	.088	81.40%	0.175	51.52%	(0.002)	-6.06%
HVAC	.006	0.43%	-	0.00%	0.001	3.04%
Lighting	.014	75.86%	0.166	48.78%	(0.005)	-13.07%
Refrigeration	.068	5.11%	.009	2.74%	-	0.00%
Other	-	0.00%	-	0.00%	0.001	3.97%
MCE Annual Portfolio Savings	1.337	100%	0.340	100%	0.037	100%

Environmental Impacts

The avoided emissions data in Table 5 is calculated using the Cost Effectiveness Tool, developed by the Energy Division of the CPUC.

Table 5. Environmental Impacts

Annual Results	Annual tons of CO2 avoided	Lifecycle tons of CO2 avoided	Annual lbs of NOx avoided	Lifecycle lbs of NOx avoided
2015 Total	857	12,670	1,347	19,924

Expenditures

MCE's 2015 budget expanded by almost \$700,000 due to an increase in gas funding and the closing of the single family financing offering which shifted the previously committed loan loss reserve into our operating budget. MCE's 2015 expenses were higher than the original \$1.2 million budget but slightly lower than the revised operating budget of \$1.9 million.

Table 6. Expenditures

Summary of Portfolio Expenditures	2015 Operational Program Budget ⁷	Cumulative Annual Expenditures, 2015	Percent of Portfolio Budget	Percent of Total Annual Expenditures
Administrative Costs	\$93,685	\$67,796	3.53%	4.12%
Marketing/ Advertising/ Outreach Costs	\$160,333	\$130,344	6.79%	7.93%
Direct Implementation Costs	\$1,665,749	\$1,446,571	75.35%	87.95%
Total Portfolio Expenditures	\$1,919,767	\$1,644,711	85.67%	100.00%

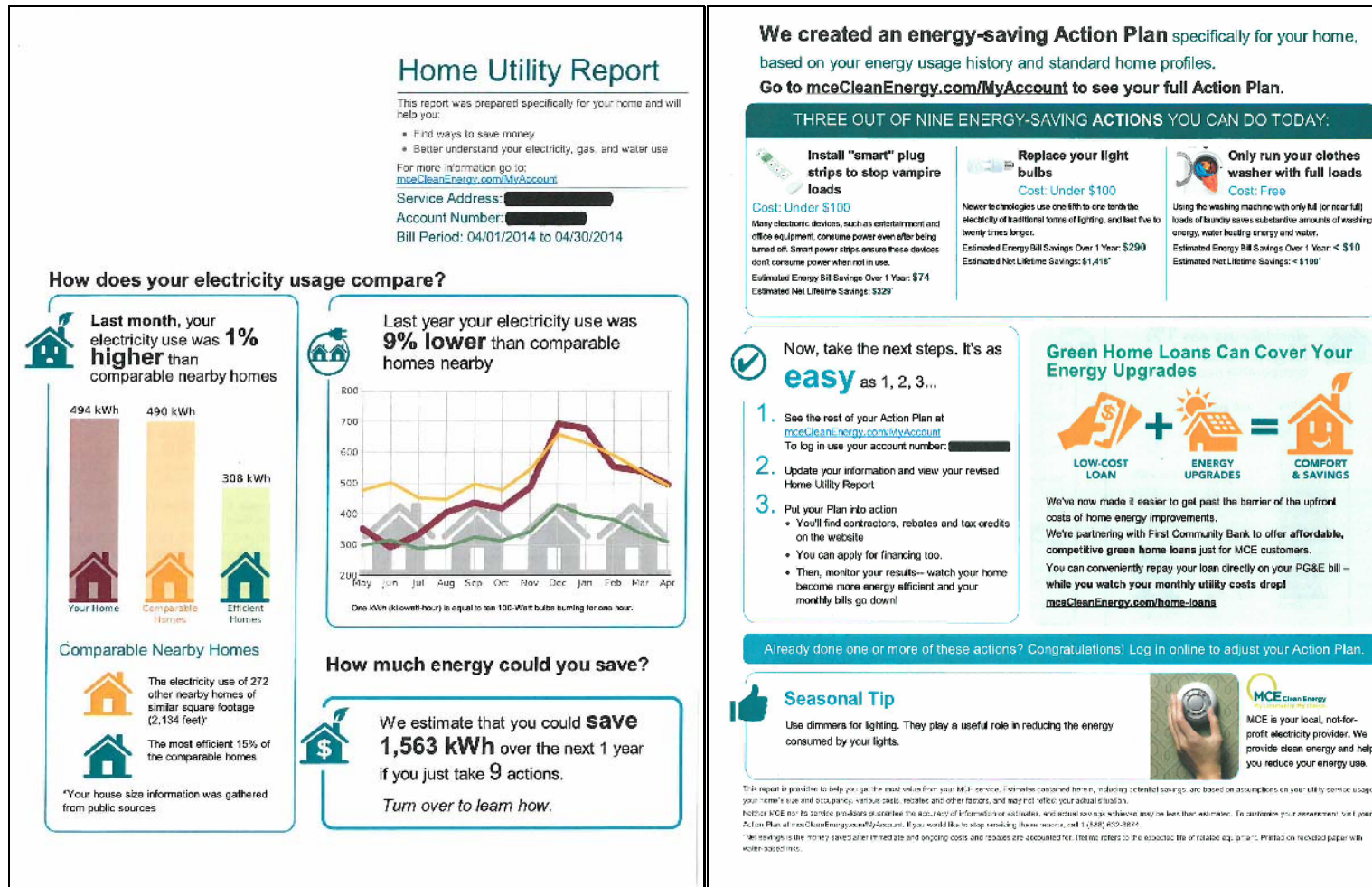
Cost Effectiveness

The cost effectiveness of MCE's programs is outlined in the table below. The Total Resource Cost (TRC) Test weighs the program's net benefits against the cost to the program administrator and its customers. The Program Administrator Cost (PAC) Test measures the benefits and costs to the Program Administrator.




Table 7. Cost Effectiveness

Annual Results	TRC Ratio	PAC Ratio
Multifamily	0.49	1.65
Commercial	2.11	2.79
2015 MCE Total	0.80	2.08

Attachment A: Sample Home Utility Report



Attachment B: Financing Reports

													
Customer On Bill Repayment Report													
<div style="text-align: center;">[Redacted Address]</div>													
Site Contact: [Redacted Name] [Redacted Title] [Redacted Phone] [Redacted Email]	Site Information Survey Date: 6/7/2013 Report Date: 6/18/2013												
Project Summary													
<table><tr><td>Total Estimated Cost:</td><td>\$62,438</td></tr><tr><td>Total Estimated Rebate:</td><td>\$6,964</td></tr><tr><td>Total Estimated Final Cost:</td><td>\$55,474</td></tr><tr><td>Estimated Savings:</td><td>\$3,885 per year</td></tr></table>		Total Estimated Cost:	\$62,438	Total Estimated Rebate:	\$6,964	Total Estimated Final Cost:	\$55,474	Estimated Savings:	\$3,885 per year	<p>The loan size, length and terms presented are estimates based on a typical On Bill Repayment Loan ("OBR Loan"). Project costs are estimates based on local pricing; savings are estimates and are not guaranteed. The specific terms of an OBR Loan for your project will vary. The OBR Loan program is available to MCE Account holders who are also the legal title holders for commercial and multi-family properties with 5 or more units. Please note that a \$250 non-refundable fee will be assessed by River City Bank to process your OBR Loan request. For more information, refer to http://mceCleanEnergy.com/ee</p>			
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Total Estimated Rebate:	\$6,964												
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<table><tr><td>Loan Principle:</td><td>\$55,474</td></tr><tr><td>Loan Term:</td><td>5 years</td></tr><tr><td>Loan Interest Rate*</td><td>5.00%</td></tr><tr><td>Estimated Monthly Payment:</td><td>\$1,048.76</td></tr><tr><td>Estimated Interest Paid Over Loan:</td><td>\$7,438.23</td></tr><tr><td>Estimated Total Cost Over Loan Period</td><td>\$62,912</td></tr></table>		Loan Principle:	\$55,474	Loan Term:	5 years	Loan Interest Rate*	5.00%	Estimated Monthly Payment:	\$1,048.76	Estimated Interest Paid Over Loan:	\$7,438.23	Estimated Total Cost Over Loan Period	\$62,912
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Loan Term:	5 years												
Loan Interest Rate*	5.00%												
Estimated Monthly Payment:	\$1,048.76												
Estimated Interest Paid Over Loan:	\$7,438.23												
Estimated Total Cost Over Loan Period	\$62,912												
*Rates may be subject to change													
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