

**DISTRIBUTION RELIABILITY
QUARTERLY REPORT**



FIRST QUARTER - CALENDAR YEAR 2015

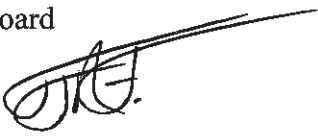
**Presented to Municipal Light Board
April 14, 2015**

MERRIMAC MUNICIPAL LIGHT DEPARTMENT



MEMO

To: Municipal Light Board

From: Francisco A. Frias 

Date: April 7, 2015

Re: 1st Quarter Reliability Report

The Municipal Light Department (“MLD”) is committed to providing the best electric service to the Town of Merrimac residents. The MLD strives to provide safe and reliable power by continuing capital improvements of the system, in turn, reducing the major industry accepted indexes used to track the reliability of electric systems.

The second page of this report contains the breakdown of equipment and non-equipment related outages. During the quarter 80% of the outages were non-equipment related mainly caused by the different weather events during the winter. Additionally, this page shows that during the 1st quarter of 2015, the system experienced a total of 5 outages compared 3 outages during the same period last year.

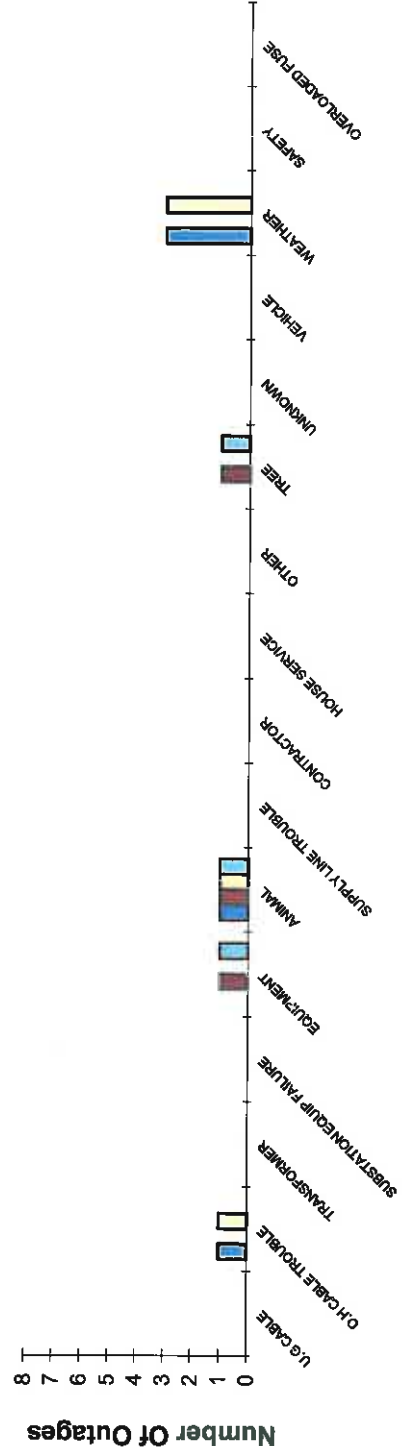
The third page details the number of customers interrupted for specific time periods and the overall number of customers affected during the 2014 and 2015 quarters. This table shows that only 92 customers were interrupted this quarter compared to 1,140 customers during the same period in 2014. Very inclement weather, in some cases, extended typical restoration time.

The System Average Interruption Duration Index (SAIDI) measures the number of minutes, on average, a Merrimac customer is without power. The System Average Frequency Index (SAIFI) measures the average frequency of interruptions for a Merrimac customer. The Customer Average Interruption Duration Index (CAIDI) identifies the average length of time, in minutes, that a customer who is interrupted can expect that interruption to last. All the indexes results, for both the combination of equipment and non-equipment related outages are found in Page 4.

Performance and involvement of each distribution feeder and supply line along with individual CAIDI minutes are detailed in Page 5. The last page of this report provides a summary of all the outages sustained during the first quarter of 2015.

**COMPARISON BY QUARTER OF EQUIPMENT AND NON-EQUIPMENT RELATED OUTAGES
FIRST QUARTER - CALENDAR YEAR 2015
(JAN 2015 - MAR 2015)**

CAUSE	1ST QTR. 2015 (JAN - MAR)	1ST QTR. 2014 (JAN - MAR)	YEAR TO DATE 2015 (JAN - DEC)	YEAR TO DATE 2014 (JAN - DEC)
EQUIPMENT RELATED				
U.G CABLE FAILURE				
O.H CABLE TROUBLE	1		1	
TRANSFORMER FAILURE				
SUBSTATION EQUIP FAILURE				
EQUIPMENT FAILURE		1		1
SUPPLY LINE TROUBLE				
OVERLOADED FUSE				
NON-EQUIPMENT RELATED				
ANIMAL	1		1	
CONTRACTOR				
HOMEOWNER				
HOUSE SERVICE				
OTHER				
TREE		1		1
UNKNOWN				
VEHICLE				
WEATHER	3		3	
WORKER SAFETY				
TOTALS	5	3	5	3



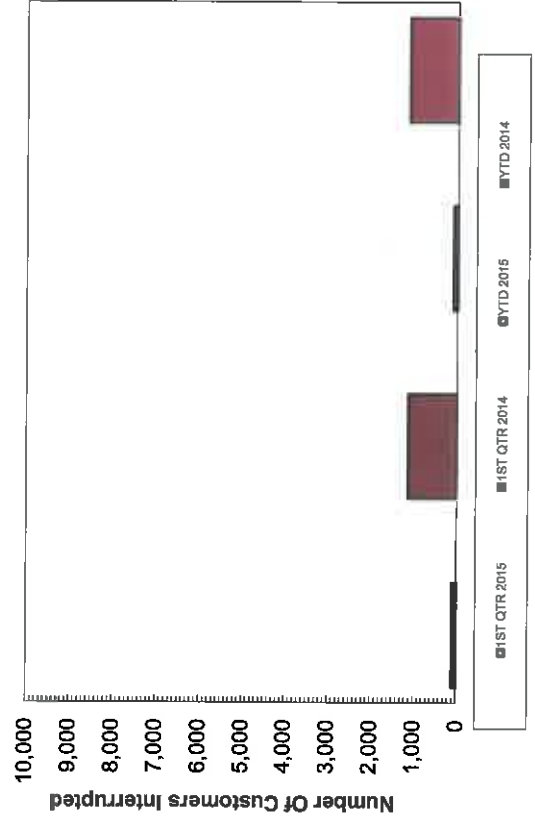
CAUSE OF OUTAGE

1ST QTR 2015
 1ST QTR 2014
 YTD 2015
 YTD 2014

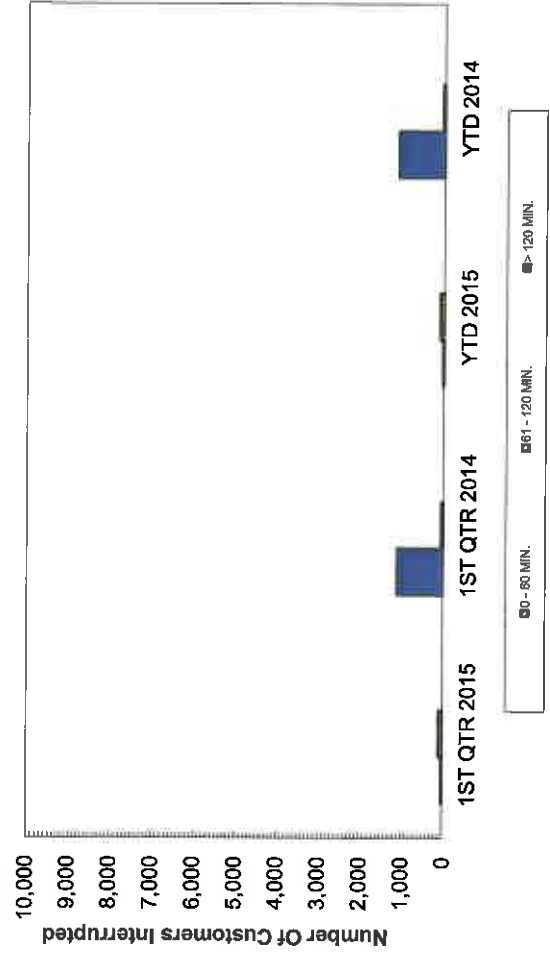
COMPARISON BY INTERRUPTION INTERVAL OF NUMBER OF CUSTOMERS INTERRUPTED
FIRST QUARTER - CALENDAR YEAR 2015
(JAN 2015 - MAR 2015)

	NUMBER OF CUSTOMERS INTERRUPTED				PERCENTAGE OF TOTAL CUST. INTERRUPTED			
	0 - 60 MIN.	61 - 120 MIN.	> 120 MIN.	TOTAL	0 - 60 MIN.	61 - 120 MIN.	> 120 MIN.	TOTAL
1ST QTR 2015 (JAN - MAR)	12	80	0	92	13%	87%	0%	100%
1ST QTR 2014 (JAN - MAR)	1,105	35	0	1,140	97%	3%	0%	100%
YTD 2015 (JAN - DEC)	12	80	0	92	13%	87%	0%	100%
YTD 2014 (JAN - DEC)	1,105	35	0	1,140	97%	3%	0%	100%

COMPARISON OF NUMBER OF CUSTOMERS INTERRUPTED

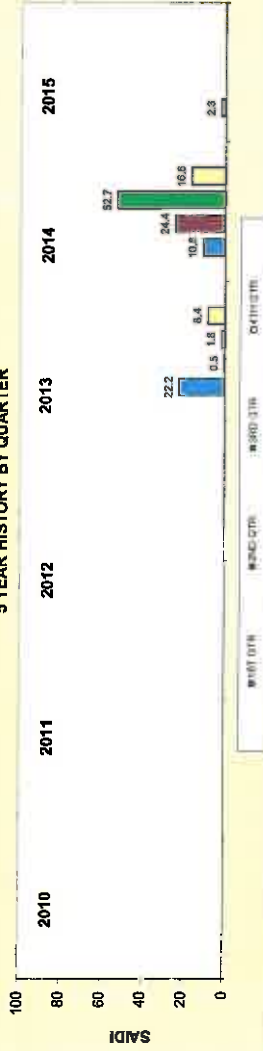


COMPARISON OF CUSTOMERS INTERRUPTED PER INTERVAL

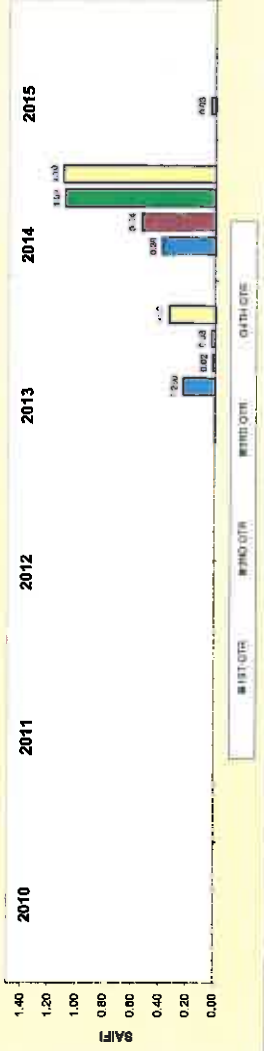


ALL OUTAGES

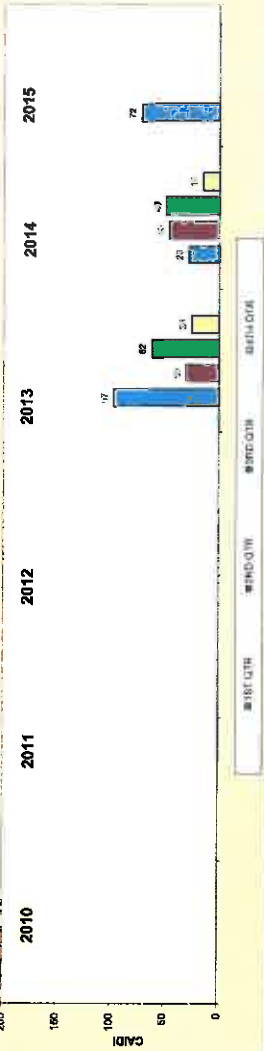
SAIDI
5 YEAR HISTORY BY QUARTER



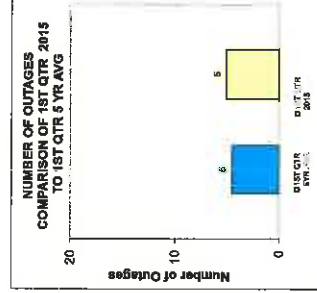
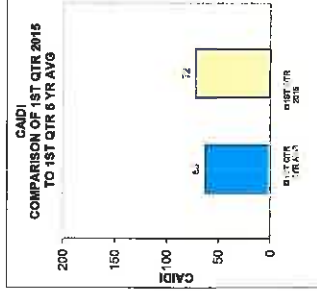
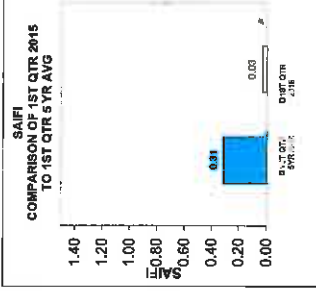
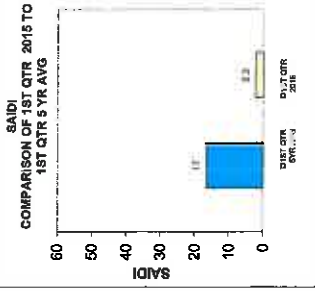
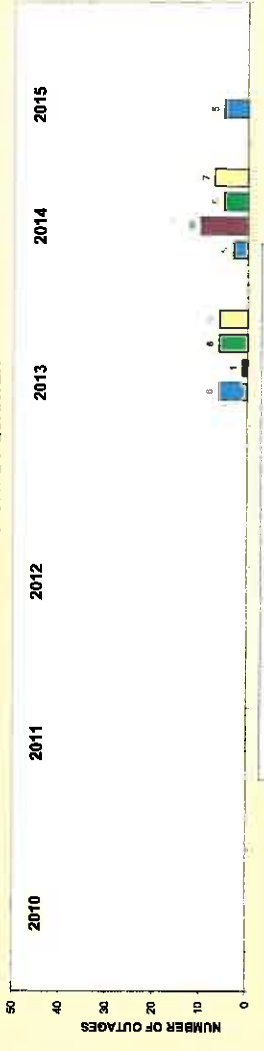
SAIFI
5 YEAR HISTORY BY QUARTER



CAIDI
5 YEAR HISTORY BY QUARTER



NUMBER OF OUTAGES
5 YEAR HISTORY BY QUARTER



SAIDI = Total Customer Outage Minutes/Total No. of Customers
 SAIFI = Total No. of Customers Out/Total No. of Customers
 CAIDI = Total Customer Outage Minutes/Total No. of Customers Out

**COMPARISON OF NUMBER OF OUTAGES AND AVERAGE CUSTOMER INTERRUPTION DURATION
FIRST QUARTER - CALENDAR YEAR 2015
(JAN 2015 - MAR 2015)**

CIRCUIT NUMBER	NUMBER OF OUTAGES				CAIDI (MINUTES)			
	1ST QTR. 2015 (JAN - MAR)	1ST QTR. 2014 (JAN - MAR)	YEAR TO DATE 2015 (JAN - DEC)	YEAR TO DATE 2014 (JAN - DEC)	1ST QTR. 2015 (JAN - MAR)	1ST QTR. 2014 (JAN - MAR)	YEAR TO DATE 2015 (JAN - DEC)	YEAR TO DATE 2014 (JAN - DEC)
1		1	1	1	85	85	85	85
2	2	1	2	1	78	60	78	60
3	2		2		58		58	
4	1	1	1	1	75	26	75	26
Ngrid 2377N								
Ngrid 2396S								
Burnside Substation								
Mill Substation								
TOTAL	5	3	5	3	AVERAGE 72 MINUTES	AVERAGE 28 MINUTES	AVERAGE 72 MINUTES	AVERAGE 28 MINUTES

MERRIMAC MUNICIPAL LIGHT DEPARTMENT
Summary of 1st Quarter Outages

Circuit Line	Date	Time	Cause	Customers Affected
2	February 15, 2015	6:56 PM to 7:54 PM	Broken primary tap caused by blizzard conditions.	10
3	February 15, 2015	7:42 PM to 9:08 PM	Broken primary tap caused by blizzard conditions.	10
3	March 2, 2015	8:42 PM to 9:37 PM	Broken primary tap.	12
4	March 11, 2015	6:45 PM to 8:00 PM	Animal contact on the Nichols Street area.	50
2	March 17, 2015	5:40 PM to 6:45 PM	High winds caused tree to come down breaking primary and secondary wires.	10

Note: Some outages were divided into sections with power restored at different times.