

# **ENGINEERING & OPERATIONS REPORT**

Hamid Jaffari, Director of Engineering & Operations

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**RMLD Board of Commissioners Meeting**  
**August 20, 2020**

## CONSTRUCTION PROJECTS

### Currently Underway or Recently Completed

➤ **North Main Street/Lowell Street (Lynnfield) Area Upgrade/Step-down Conversion**

*Verizon has replaced 54 (of 54) poles as part of this upgrade. Status: ~15% complete.*

➤ **Marion Street (Wilmington) Line Extension – Phase II**

*Phase I of this project was completed in 2019. Phase II involves upgrade and extension of the primary cables to meet the new primary cables installed during Phase I. Approximately 2,100' feet of new underground, three-phase primary cable has been installed to meet and connect to ~3,000' feet of three-phase overhead pole line. Verizon has replaced 26 poles and necessary anchors. RMLD will replace five aged transformers for the overhead section and upgrade all necessary secondary mains and services. Status: RMLD is in the process of doing prep work to pull in the new primary conductor.*

## ➤ Parkview Road (Reading) Area Upgrade

Area upgrade is currently underway. RMLD has replaced seven poles and all open wire secondary with 4/0 triplex along the entire street. RMLD is also replacing/upgrading two transformers for service load optimization. Crews are currently working to replace/upgrade primary conductors and electrical facilities transfers to the new poles. **Status:** *Anticipated to be completed the third week in August.*



## ➤ Kenwood Road (Wilmington) – Area Upgrade

Area upgrade of poles, primary cable, secondary cable, transformers, and services, is currently underway. Per RMLD request, Verizon has replaced 22 poles (mostly set in the mid 60s). RMLD will re-conductor 2,250' of bare primary with 1/0 AAAC primary and 2,750' of open wire secondary with 4/0-3/C secondary cable, and replace/upgrade six pole-mount transformers. Services will be replaced as needed (36 customers in total).

**Status:** ~ 33% complete



➤ **Westover Drive – Underground Facilities Upgrade**

Six of seven pad-mount transformers have been replaced and approximately 3,000' (of 6,200') of primary conductor has been replaced. **Status:** 2-3 weeks to completion



BEFORE



AFTER



➤ **Greenbriar Drive (North Reading) - Underground Facilities Upgrade**

*RMLD has completed all necessary upgrades to the Greenbriar Drive apartments. All underground cable and five of the seven transformers were replaced. The remaining two transformers are in good working condition and have not met the cut-off for the Aged Transformer Replacement Program; they will be monitored for replacement over the next few years. **Status: Complete***



## OTHER PROJECTS

- **Power Factor Optimization Software Implementation**  
*Implementation delayed due to Covid-19 Travel Restrictions*
- **Solar Capacity Study**  
*Study complete; Operating Procedure for solar installations in progress.*
- **Meter Replacement Project**  
*Consultant to be hired to evaluate meter purchase options and integration of Meter Data Management*
- **Pad-mount Switchgear Upgrades at Industrial Parks – Next Location**  
*Haven Street, Reading – Engineering design completed; Staff is in the process of scheduling an outage for September to replace cable and install new switchgear. Project will improve reliability in the area.*

# Maintenance Programs

- ❖ Tree Trimming– May: 33 spans June: 3 spans YTD: 213 spans
- ❖ Inspection of Feeders –  
*All Feeder Inspections Have Been Completed for 2020 as of March 19, 2020*
- ❖ Pole Inspection/Replacement Program  
282 of 518 failed poles have been set 263 of 282 transfers completed
- ❖ Infrared Scans – Completed through July - No Hot Spots Found
- ❖ Primary Metering Testing – delayed due to COVID-19 travel restrictions
- ❖ Manhole Inspection – on-going
- ❖ Porcelain Cutout Replacement – on-going



# Aged Transformer Replacement Program (Maintenance Program)

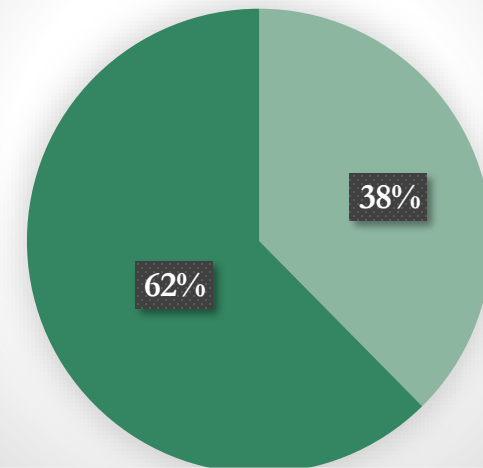
## Aged Transformers Replaced YTD

	Underground (Pad-mount)		Overhead (Pole-mount)	
	single-phase	three-phase	single-phase	three-phase
JANUARY	0	0	2	1
FEBRUARY	0	0	7	2
MARCH	2	0	10	0
APRIL	1	0	1	0
MAY	0	2	4	0
JUNE	1	0	8	1
JULY	3	0	16	0
<b>TOTAL:</b>	<b>7</b>	<b>2</b>	<b>48</b>	<b>4</b>

<b>TOTAL:</b>	<b>61</b>
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## Transformers System Wide

As of August 13, 2020



- Transformers 25 Years or Older
- Transformers Less than 25 Years Old

## 2020 CAPITAL SPENDING By Division YTD through June

DIVISION	YTD	BUDGET	REMAINING BALANCE
Engineering and Operations	3,017,367	9,645,381	6,628,014
Facilities	423,919	1,260,000	836,081
Integrated Resources Division	42,346	199,101	156,755
Information Technology	<u>140,331</u>	<u>409,000</u>	<u>268,669</u>
<b>TOTAL</b>	<b>\$3,623,963</b>	<b>\$11,513,482</b>	<b>\$7,889,519</b>

# DOUBLE POLES

Per NJUNS

(as of 8/10/2020)

## LYNNFIELD

"Next to Go"	# of Tickets
<b>RMLD</b>	<b>64</b>
Transfer	64
Pull Pole	
<b>VZNESEA - Verizon</b>	<b>0</b>
Transfer	
Pull Pole	
<b>CMCTNR - Comcast</b>	<b>2</b>
Transfer	2
<b>LFLDFD - Lynnfield Fire Dept.</b>	<b>1</b>
Transfer	1
<b>GRAND TOTAL</b>	<b>67</b>

## NORTH READING

"Next to Go"	# of Tickets
<b>VZNEDR - Verizon</b>	<b>2</b>
Transfer	2
<b>RMLD</b>	<b>16</b>
Transfer	
Pull Pole	14
Dispute	2
<b>CMCTNR - Comcast</b>	<b>0</b>
Transfer	
<b>NRDGFDF - North Reading Fire Dept.</b>	<b>2</b>
Transfer	2
<b>LTFMA - Lighttower Fiber</b>	<b>0</b>
Transfer	
<b>GRAND TOTAL</b>	<b>20</b>

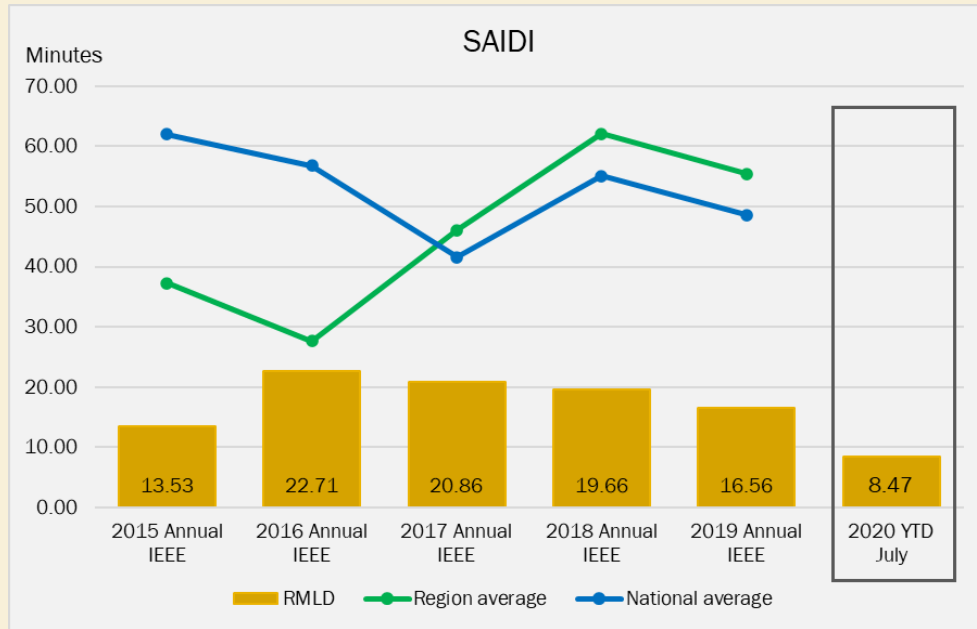
## READING

"Next to Go"	# of Tickets
<b>VZNESEA - Verizon</b>	<b>0</b>
Transfer	
Pull Pole	
<b>RMLD</b>	<b>25</b>
Transfer	23
Pull Pole	2
Dispute	
<b>CMCTNR - Comcast</b>	<b>1</b>
Transfer	1
<b>RDNGFD - Reading Fire Dept.</b>	<b>13</b>
Transfer	13
<b>LTFMA - Lighttower Fiber</b>	<b>0</b>
Transfer	
<b>NP3PMA - Non-Participating 3rd Party Attachee</b>	<b>4</b>
Transfer	4
<b>GRAND TOTAL</b>	<b>43</b>

## WILMINGTON

"Next to Go"	# of Tickets
<b>VZNEDR - Verizon</b>	<b>12</b>
Transfer	9
Pull Pole	1
Dispute	2
<b>RMLD</b>	<b>87</b>
Transfer	86
Pull Pole	1
<b>CMCTNR - Comcast</b>	<b>2</b>
Transfer	2
<b>WMGNFD - Wilmington Fire Dept.</b>	<b>35</b>
Transfer	35
<b>WLMFIG - Wilmington Fiber</b>	<b>1</b>
Transfer	1
<b>NP3PMA - Non-Participating 3rd Party Attachee</b>	<b>5</b>
Transfer	5
<b>LTFMA - Lighttower Fiber</b>	<b>0</b>
Transfer	
<b>VZBMA - Verizon Business</b>	<b>0</b>
Transfer	
<b>GRAND TOTAL</b>	<b>142</b>

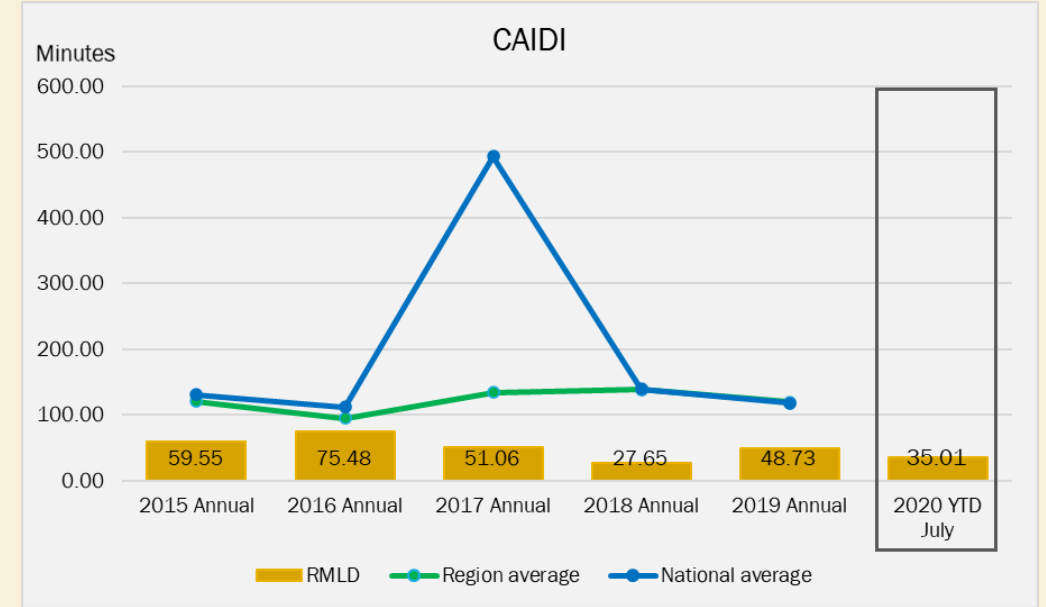
# RMLD Reliability Indices



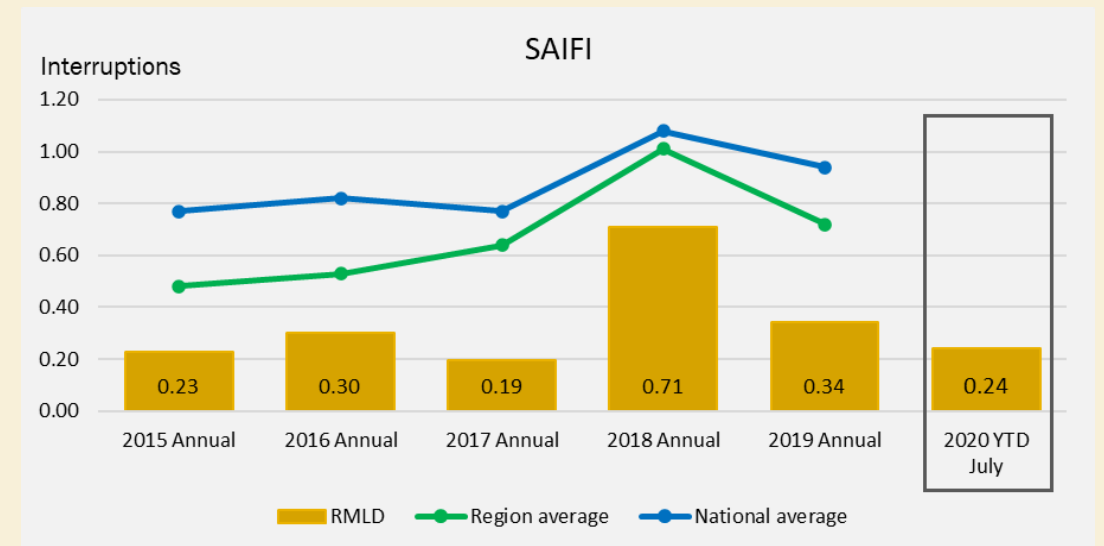
$$SAIDI \text{ (Minutes)} = \frac{\text{Total Duration of Customer Interruptions}}{\text{Total Number of Customers Served}}$$

**Note:** APPA eReliability Tracker using IEEE beta threshold method for outages.

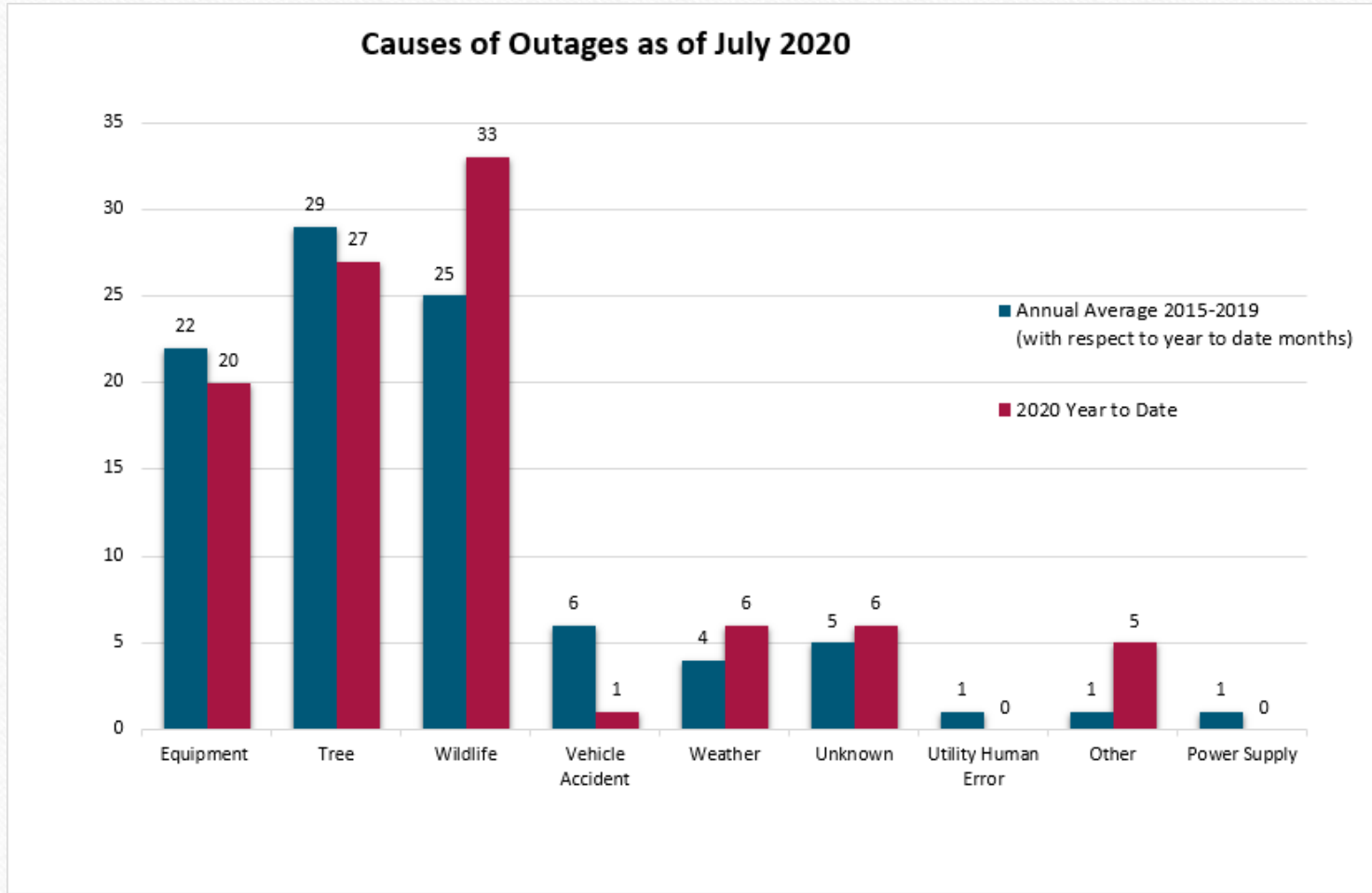
$$SAIFI = \frac{\text{Total Number of Customer Interruptions}}{\text{Total Number of Customers Served}}$$



$$CAIDI \text{ (Minutes)} = \frac{\text{Total Duration of Customer Interruptions}}{\text{Total Number of Customer Interruptions}}$$



### Causes of Outages as of July 2020



**Through July 2020:**

**Other:** (1) corroded connect; (2-3) fire (4) house fire; (5) power cut due to gas leak

**Unknown:** (1) burnt fuse; (2) two blown cutouts; (3) blown cutout; (4) inside problem; (5) blown cutout; (6) 4W4 operation

# FACILITIES PROJECTS

230 Ash Street



**DECK - COMPLETE**





Thank  
you