



# Annual Report to LIPA Board of Trustees

## T&D System Reliability

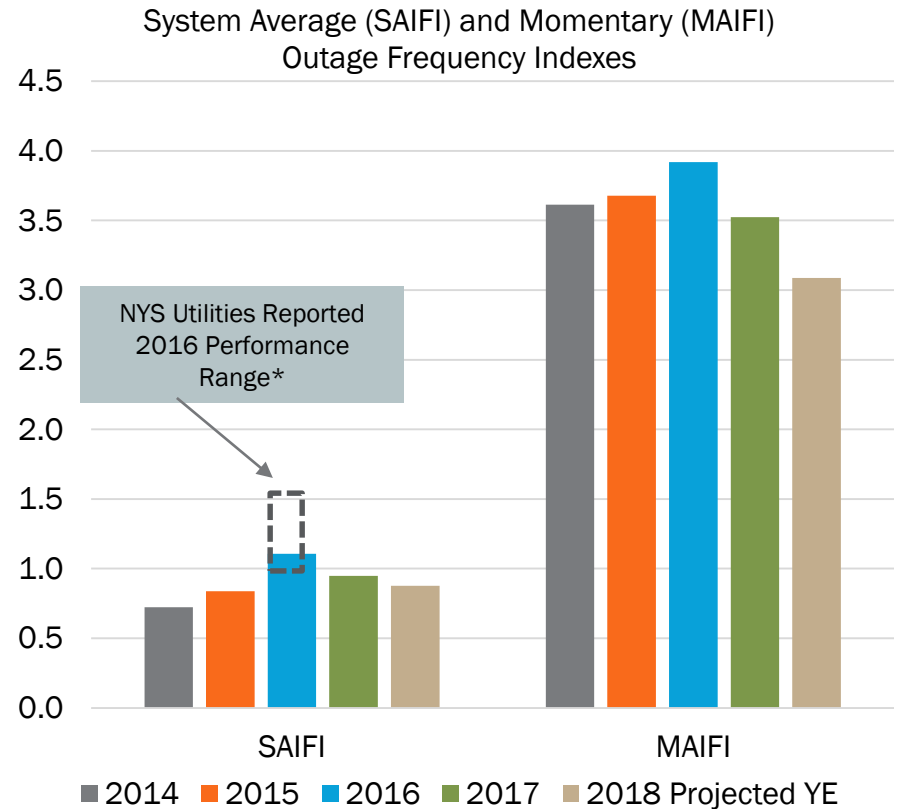
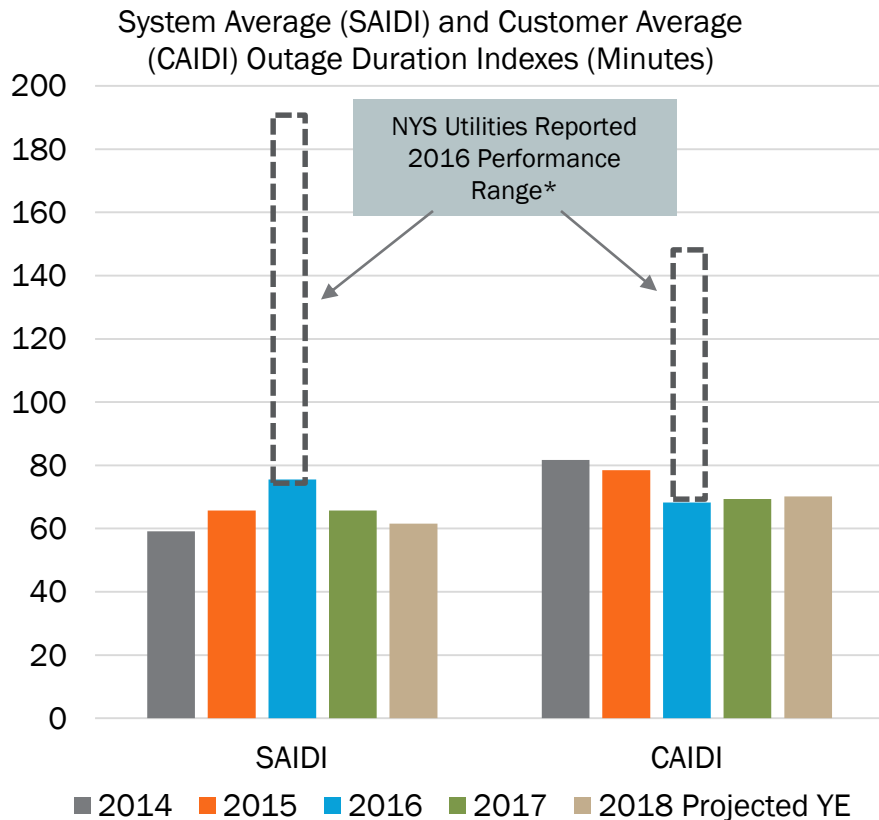
May 2018



# Agenda – T&D System Reliability

- Metrics
- Storm Restoration
- Compliance
- Smart Grid Progress
- Initiatives

# T&D Reliability Metrics

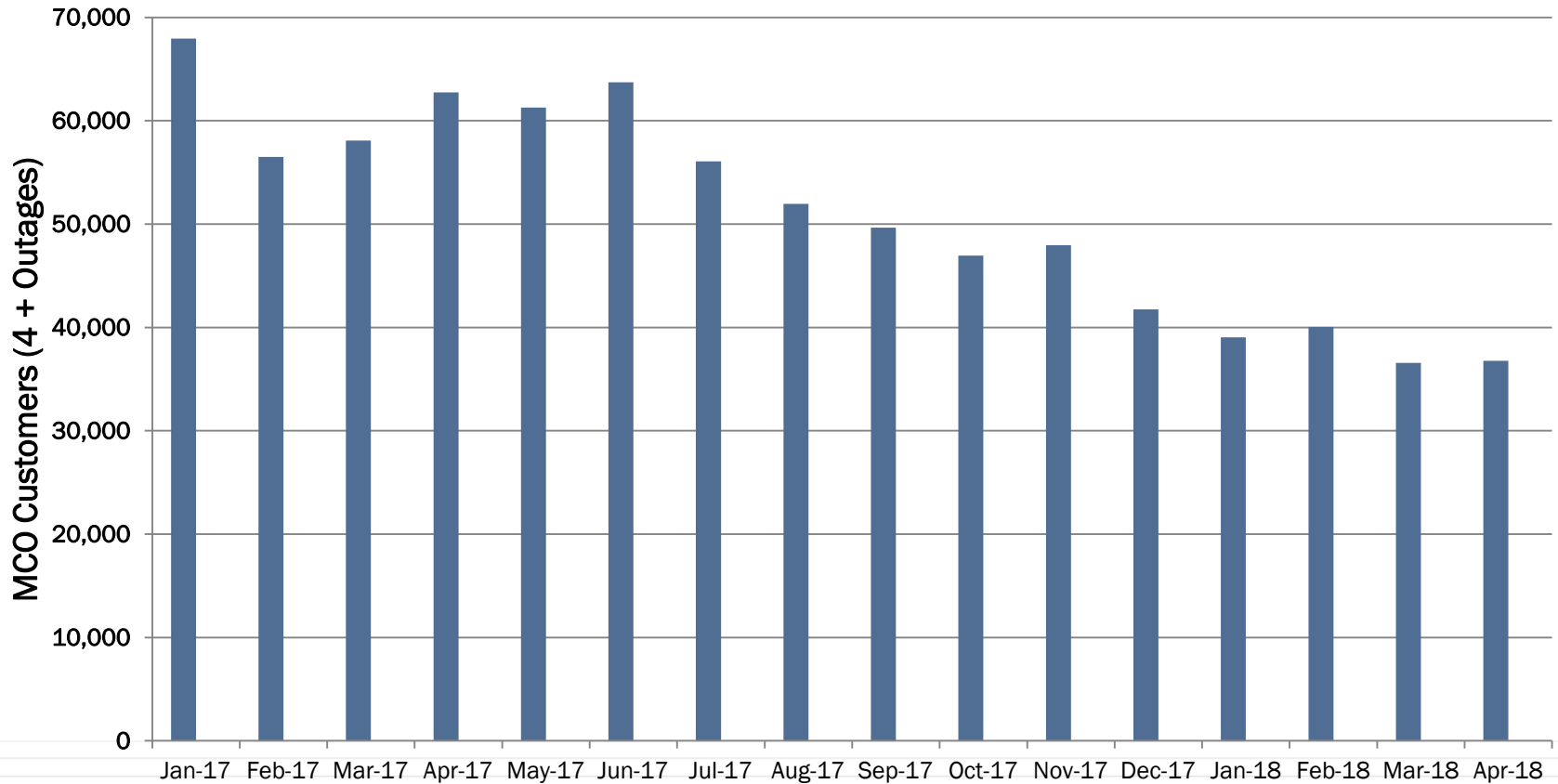


- Excludes Con Edison; 2017 Performance Range not yet available
- 2017 PSEG LI performance per most recent National Benchmarking Study: SAIDI and CAIDI (1<sup>st</sup> Quartile), SAIFI (2<sup>nd</sup> Quartile)

.....SAIDI, SAIFI and MAIFI forecasted to improve from 2017

# Customers with Multiple Outages (Sustained MCO)

## Sustained MCO Metric by Month



...Comparable measurement is being developed for momentary customer outages

# Storm Restoration

Year	No. of Storms	Total Outage Jobs	Total Customer Outages	Cust. Restored Within 4 hrs	Average Outage Duration (minutes)
2015	20	5,225	382,254	79%	204
2016	21	6,980	532,729	86%	131
2017	13	4,960	328,705	79%	203
2018 (YTD)	8	5,779	304,771	71%	311

## T&D System Reliability - Compliance

- NERC Compliance
  - Developed and implemented a Systematic Approach to Training (SAT) Program for all its Control Room Operators to meet the requirements as a newly registered Transmission Operator (TOP).
  - Prepping for upcoming (September 2018) NERC Critical Infrastructure Protection (CIP) Audit
  - Responded to NERC Alerts
- Conducted Annual Operating Studies (NERC, NYISO)
- Environmental
  - No major incidents recorded

## Smart Grid Progress

- Automatic and remote switching
  - 898 switches (“ASUVs”) as part of FEMA Storm Hardening
  - 360 Installed and Commissioned to Date
  - 234 Additional Installed Awaiting Commissioning
- Advanced Metering (AMI)
  - Installed to date – 61,750 meters
  - Year end - 99,090 meters

# Initiatives to Improve Reliability

- Non-Reclosure Assurance (“NRA”) Automation to be completed in 2018
- Targeted Programs to Improve Reliability:
  - Circuit Improvement Program (161 Circuits vs 102 in 2017)
  - Reliability programs have reduced outages on the 25 worst performing circuits by about 30% when comparing 2016 to 2017 performance.
  - FEMA (323 planned mitigation miles 2018 vs 289 in 2017. 273 planned ASUV’s commissioned 2018 vs 321 in 2017)
  - Vegetation Management (3,266 Miles Combined Distribution and Transmission)
  - Infrared T&D (3,500 miles, 50% higher than historical)
- Customer Centric Reliability Programs
  - Multiple Customer Outages/Repeat Fuse Program (974 Locations)
  - Residential Underground Distribution
- Storm Response Improvement
  - Storm Impact Analysis
  - Mobile and Damage Assessment



# Interconnection Metrics

## For Smaller Projects < 50 kW in Size

- Introduced in 2016 as a Tier 1 OSA metric
- Higher volume of activity in the thousands annually, less complicated and shorter study processes

## For Larger Projects > 50 kW in Size

- Introduced in 2017 as a Tier 2 metric, and promoted to a Tier 1 OSA metric in 2018
- Lower volume of activity in the hundreds annually, more complicated and lengthy study processes

