MLGW ELECTRIC RELIABILITY

Ben Barnett, Energy Engineer
Outages/year – 1.38
Average duration/outage – 114.8 Minutes
Average time off/year – 2.38 hours
Power availability (distribution) – 99.968%
Power availability (transmission) – 99.999%
OUTAGE CAUSES

- TREES (21.30%)
- UG CABLE (14.30%)
- OH EQUIPMENT (11.20%)
- VEHICLE (8.10%)
- LIGHTNING (8.80%)
- STORM (8.40%)
- TRANSFORMER (7.70%)
- UNKNOWN (4.80%)
- PLANNED (4.70%)
- ANIMAL (4.40%)
- WIND (3.40%)
- OTHER (2.90%)
Transformer Failures on Electric Distribution Systems

Number of Failures


Overhead

Padmount
OUTAGE FREQUENCY

SYSTEM AVERAGE INTERRUPTION FREQUENCY INDEX
Excluding Major Event Days

NUMBER OF OUTAGES

R² = 0.8277
OUTAGE PREVENTION PROGRAM

- Analyze causes and develop mitigation strategies
- Recapitalization of system
  - Replacing outdated equipment with new, more reliable equipment
  - $3M/year replacing underground cable proactively
- New substations
- Line inspections
OUTAGE PREVENTION PROGRAM

- Storm-hardening
  - Critical customers
  - Construction standards
  - Seismic prevention
  - Vegetation management program

- Outage duration improvements
  - Smart meters – automatic reporting
  - Smart switches - $1.5M/year
Reliability and power quality are equally important

Goals

- Identify problem areas
- Continually improve grid system

Outages do happen

Contact your Key Account Representative if you have reliability or power quality issues

Key Account Rep and Reliability can help determine strategies to help customer

- Alternate circuit, redundant transformers, backup generation, UPS, ride-through devices, etc.
QUESTIONS?