



Cleveland Public Power

Count On It

CPP **OP**eration**S**

Count on OPS

- ▶ CPP delivers electricity to over 74K customer every day.
- ▶ CPP **OP**eration**S** which accounts for 76% of the CPP staff, provides maintenance to all of our customers as well as maintains over 60K streetlights.
- ▶ Including:
 - Construct new facilities needed to provide service new customers including those that switch to CPP from CEI
 - Maintain existing facilities needed to keep existing customer in power
 - Manage Trouble Calls

OperationS Composition

► Four Locations:

- Tom L. Johnson Building
- East Side Service Center (ESSC)
- West Side Service Center (WSSC)
- Meter Service Center (MSC)

► Resources:

- **Construction** - provides the construction required to connect to new facilities/customers and existing expanding service. Construction includes - underground and overhead
- **Maintenance** - performs scheduled maintenance 13.8 KV, 11.5 KV and 2.4 KV on systems that include: Substations, ATOs, switches, circuit breakers, and cable lines to name a few
- **Trouble** - provides outage maintenance and support around the clock, 365 days a year
- **Streetlight** - supports streetlight maintenance for nearly 61K fixtures
- **Meter Installers** - includes new meter installation, investigation, repair or replacement
- **Cable Splicers** - supports all crews with repair, replacement or maintenance of cable work
- **Dispatchers** - Power, Trouble and Meter

Tom L Johnson Building 1300 Lakeside Avenue

- ✓ *Trouble Dispatch* - supported 24/7, 365 days/yr
 - ▶ Receives outage notifications and sends alerts to trouble crews to restore service
- ✓ *Power Dispatch* - NERC & PJM licensed operators on staff 24/7, 365 days/yr
 - ▶ Monitors and operates CPPs 138,000-volt transmission system and controls CPPs 33 distribution substation equipment

East Side Service Center (ESSC) 743 East 140th Street

- Two (2) *line crews* provides maintenance and support to the east and northeast section of Cleveland
- Two(2) *Streetlight crews* provides construction and repair to streetlights perform work citywide
- Three (3) *Underground construction and repair crews*
- One (1) *tree trimming crew*
- Three (3) *Heavy Duty Mechanics* responsible for maintaining out vehicles
- *Storeroom* - responsible for maintaining materials and supplies for all ESSC crews

West Side Service Center (WSSC) 2490 West 41st Street

- Four (4) *line crews* responsible for maintenance and new construction activities and work orders west and southwest section of Cleveland
- Four (4) *cable splicing crews* who perform work citywide
- *Electricians* - who maintain and test the 33 substation equipment city wide
- One (1) *tree trimming crew*
- Three (3) *Heavy Duty Mechanics and Mechanic Foremen* responsible for maintaining vehicles out of the WSSC
- *Transformer Shop* - responsible for maintaining and repairing transformers and ATO switches

Meter Service Center (MSC) 1735 St. Clair Avenue

- Daily activity includes service disconnect or reconnect as a result of move-in/move-out and reading meters required to generate customer bills
- Meter construction crews install residential and commercial meters for new construction, customers transferring from CEI and replacing damaged meters, pipes and cases required to restore service to customer after a storm or similar event
- MSC is responsible for installing, maintaining, and testing electric revenue meters
- Storeroom is on premise and warehouses meters and related materials required for MSC crews to perform work city wide



CPP Distribution Overview

- ▶ Responsible for maintaining all of its transmission and distribution facilities
- ▶ Operates four (4) 138,000 volt interconnections with First Energy
 - Lake Road - 5251 North Marginal Road
 - Ridge road - 3727 Ridge Road
 - Nottingham - 1302 Chardon Road
 - Pofok - 9010 Holton Avenue

CPP Distribution Overview cont.

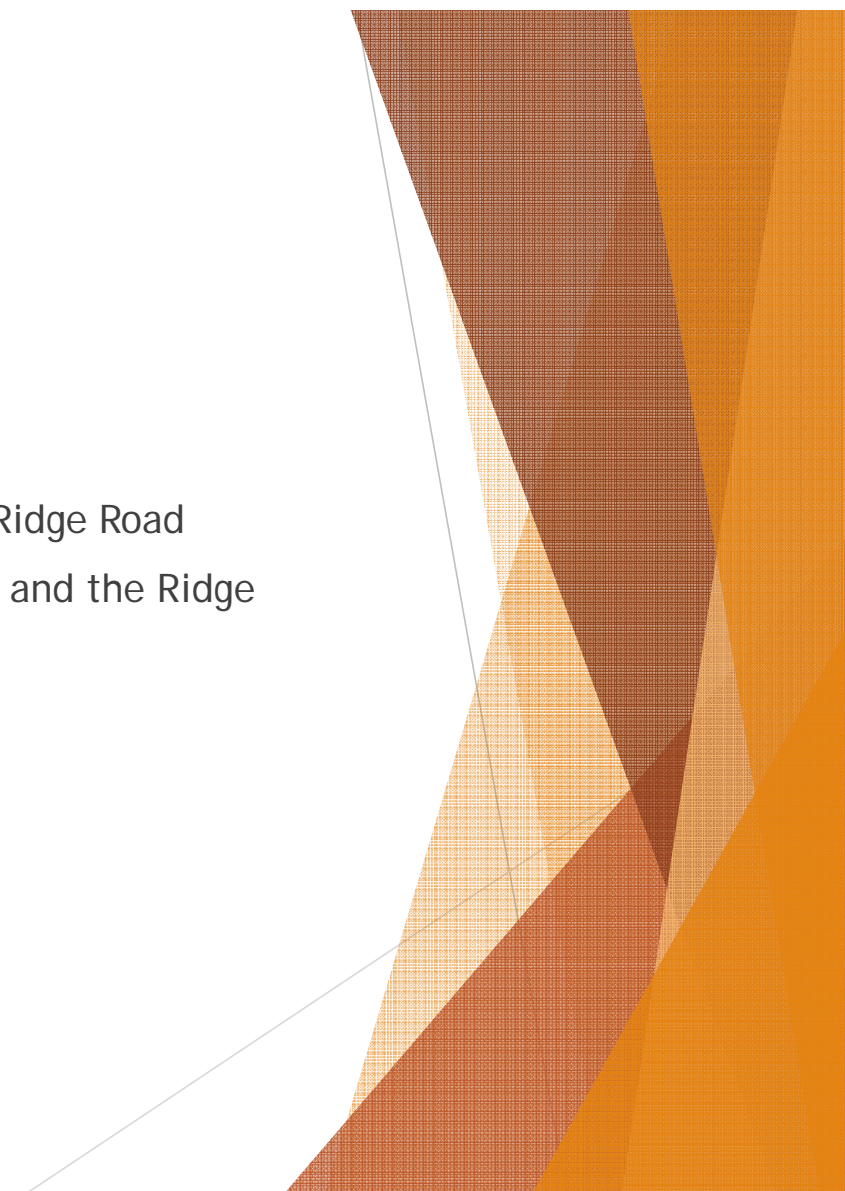
- ▶ Offers redundancy and reliability using internal 138,000- volt facilities
 - One 13.8KV facility runs underground through oil-filled pipe-type cable that connect the Lake Road and West 41st Street substations via the Division Avenue substation
 - Another 138,000-volt connection runs overhead section that connects the West 41st and Ridge Road substations
- ▶ The two circuits provide complete redundancy from Ridge Road to Lake Road
- ▶ An overhead transmission line also provides redundancy between Nottingham, Pofok and Lake Road



CPP Expansion Area Plans

► Southern Transmission Line

- Overhead runs parallel to the railroad right of way
- Underground from Denison Avenue to Harvard to nearly Ridge Road
- Provides redundancy between the Pofok Interconnection and the Ridge Road Interconnection



CPP Substation Listing

<u>Substation</u>	<u>Location</u>
Ansel Road	10003 Hough Avenue
Artic Court	6620 Artic Court
Broadview	2109 Broadview Road
Clinton	1455 West 65 th Street
Collinwood 11Kv	13715 Aspinwall Avenue
Collinwood 2300	13935 Aspinwall Avenue
Denison	3323 West 73 rd Street
Division 11Kv	4601 Crescent
East 11 th Street	1060 Lakeside Avenue
East 53 rd Street	East 53 rd & Shoreway
East 79 th Street	7614 Woodland Avenue
East 13.8Kv	2306 Woodhill Avenue
East Industrial 13.8Kv	4369 East 158 th Street
Eglindale	3483 Scranton Road
Five Points	910 East 153 rd Street
Hayden	13620 St. Clair Avenue
Henniger	3310 Henniger Road
London Road	16108 Holmes Avenue
Memphis	5702 Memphis Avenue
Neff Road	957 East 185 th Street
Nine Mile	12660 Coit Road
Northeast 13.8 Kv	1383 Lakeview Road
Nottingham 13.8Kv	1302 Chardon Road
Parkgrove	290 East 156 th Street
Pofok	9010 Holton Avenue
Scranton Road	1508 University Road
Southeast 13.8Kv	3860 East 91 st Street
Tampa	4459 West 35 th Street
Waterloo	17200 South Marginal

CPP Distribution System - as built

► *33 Neighborhood Substations connecting...*

- 39 miles of 138,000 volt transmission lines
- 260 miles of 13,800-volt distribution lines
- 150 miles of 11,500-volt distribution lines
- 440 miles of 2,400-volt distribution lines



OperationS – Managing Trouble Calls

Outages – loss of power to customers; loss of revenue to the utility

▶ *Causes* for disruption in service in Cleveland

- **Hit Poles** – vehicles hitting poles causes damage to pole and often causes wires to slap together or fall down
- **Human error** – contractors digging/driving objects into the ground
- **Trees** – falling limbs on wires will cause line disruption or the wire disconnect and fall down
- **Cable fault** – underground cable fault are a result of water permeating the cable or the cable slice
- **Equipment overload** – hot summer day, business adding equipment,...etc
- **Foreign Objects** – mylar balloons – metallic surface cause short the line signaling circuit breaker to trip
- **Animals** – either on the wire or in the substation

Count on CPP Operations

We're small enough to
care and BIG enough to
compete!

