

# **Con Edison SF<sub>6</sub> Emissions Reduction Program**

**2017 USEPA SF<sub>6</sub> Emission Reduction Strategies  
Workshop January 24<sup>th</sup> - 25<sup>th</sup> 2017**

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# Agenda

- Con Edison Territory
- Historical Background
- Nameplate Capacity Accuracy
- SF<sub>6</sub> “Fix-it-Now” Team
- Emission Reduction Video
- Questions?

# Con Edison Territory



- 3.2 million electric customers
- 660 square miles
- 13,775 MW peak load
- 94,000 miles of underground cable
- 36,000 miles of overhead cable
- 101 Substations
  - 39 transmission
  - 62 distribution
- ~210,000 lbs of SF<sub>6</sub>

# Historical Background

- Starting in 1999, in accordance with the USEPA MOU, Con Edison agreed to reduce SF<sub>6</sub> emissions annually by 5% from a 1996 baseline
- During 2014 Con Edison released about 95% less SF<sub>6</sub> than was released in 1996
- Con Ed has surpassed its goal to reduce its emissions below 25,000 lbs of SF<sub>6</sub> by 2020
- While historically our reduction trend looks good, our trend over the past two years is even better
- 2016 emissions of less than 10,400 lbs. and an emissions rate of 4.88%

# Nameplate Capacity Accuracy

- Discrepancy between nameplate and actual on Westinghouse SFA breakers found during decommissioning
- Established procedure to determine correct volume of SF<sub>6</sub> gas which included removing and refilling equipment using a mass flow meter
- Modified our nameplate information based on the actual amount of SF<sub>6</sub> in the circuit breaker
- Suggested new requirements for manufacturer mandating that they measure the precise mass of gas for each specific circuit breaker supplied
- The quantity shall be recorded on the production test report as mass at rated pressure referenced to 20<sup>0</sup>C

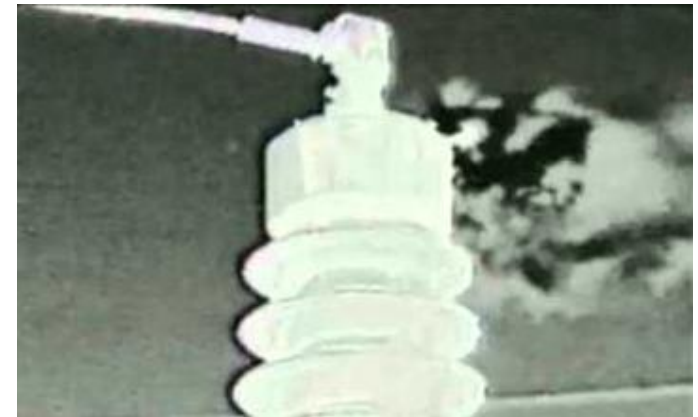
# SF<sub>6</sub> Fix-It-Now (FIN) Team



- Cross-organizational effort
  - Substation Operations, Engineering, System Operations & EH&S
- Improved the timeliness & effectiveness of SF<sub>6</sub> repairs
  - Prioritize and plan of action for top leakers
  - Ensure quality of work and documentation
- Centrally instituted best practices
  - Repair tools, practices and ePLAN Templates
  - More extensive gas evacuation procedures and training
  - SF<sub>6</sub> inventory control and tracking

# SF<sub>6</sub> Fix-It-Now (FIN) Team

- Minimize number of samples
- Zero Purge SF<sub>6</sub> Analysis
  - Previously released 2 lbs per sample
  - 200 lbs released per year
- Work Management Data
  - Transparent Maximo Reports
  - Daily e-mail reports
- Use of technology
  - Improved tool for leak detection
  - State-of-the-art SF<sub>6</sub> camera



# **Emissions Reduction Video**



# Questions?

