



**\$35 Billion in Assets**

**Worldwide Generation Over 38,400 Megawatts**

**4.8 Million Customers in US**

**4.0 Million Customers Outside US**

**38,000 Miles of Transmission Lines**

**186,000 Miles of Distribution Lines**



## **Service Territory**

**US: Arkansas-Indiana-Kentucky-Louisiana  
Michigan-Oklahoma-Ohio-Tennessee  
Texas-Virginia-West Virginia**

**Outside US: Australia-Brazil-China-Mexico-UK**

**14,275 CIRCUIT BREAKERS**

**4,810 TRANSMISSION BREAKERS**

**1,270 SF<sub>6</sub> GAS BREAKERS**

**3 GAS INSULATED SUBSTATIONS**

# **SF<sub>6</sub> Gas Breaker Types**

**46 kV thru 765 kV**

**Dead and Live Tanks**

# Methods Used to Locate Leaks

Soap Bath

Ultrasonic

Halogen Detectors

Laser Imaging

# CASE STUDY

145 kV GCB

80 lbs SF<sub>6</sub> at 87 psig

8 psig Loss Monthly = 2 lbs

Yearly Loss = 24 lbs

**\$8.00 per Pound X 24 lbs = \$192.00/yr**

**Hourly Mechanic's Total Cost = \$50.00**

**2 Man Crew Requiring 2 hrs to Complete Task**

**4 Man Hours X \$50.00 = \$200.00 X 12 = \$2400.00/yr**

**Total Yearly Cost = \$2592.00**

## **Average Cost of Laser Imaging Services**

**\$1500.00/day + Expenses (\$1000.00)**

**Cost of Leak = \$2592.00**

**Cost of Finding the Leak = \$2500.00**

AEP Is a Charter Member of the EPA's MOU  
Through Record Keeping to Comply We Have  
Determined That 10% to 15% of Our SF<sub>6</sub> Breakers  
Leak at Any Given Time

**1270 X 10% = 127 Leaking Breakers**

**127 X \$2592 = \$329,184**



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