

## Con Edison's total electric system line loss for 2007 was

6.64% of net generation and purchases. The exact annual line loss percentage for every year from 2008 to the present is not readily available in public summaries, as these figures are typically part of detailed annual reports and reliability filings with the New York State Public Service Commission (NYS PSC).

### 2007 Line Loss Breakdown

For the calendar year ending December 31, 2007, the total system losses were 4,156,218 MWh.

The losses were categorized as follows:

- **Technical Losses (5.81%):**
  - Transmission Cable: 0.68%
  - Substation Equipment: 1.07%
  - Distribution Cable: 2.89%
  - Distribution Equipment: 1.17%
- **Non-Technical Losses (0.83%):**
  - Customer Metering: 0.18%

=====

## TEMPERATURE COEFFICIENT OF RESISTANCE

$$R = R_{ref} [1 + \alpha(T - T_{ref})]$$

*Where,*

R = Conductor resistance at temperature "T"

$R_{ref}$  = Conductor resistance at reference temperature  $T_{ref}$ , usually 20° C, but sometimes 0° C.

$\alpha$  = Temperature coefficient of resistance for the conductor material.

T = Conductor temperature in degrees Celcius.

$T_{ref}$  = Reference temperature that  $\alpha$  is specified at for the conductor material.

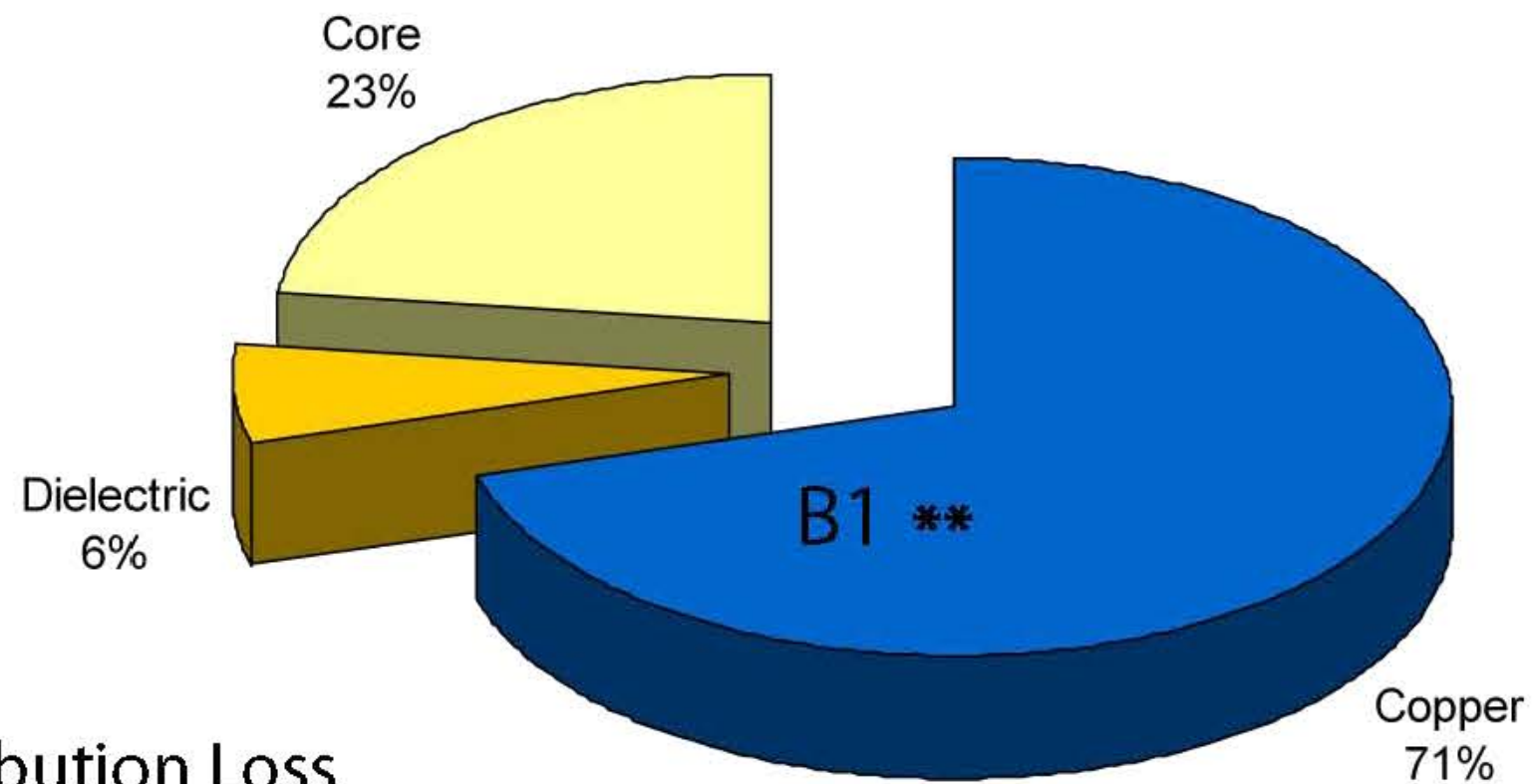
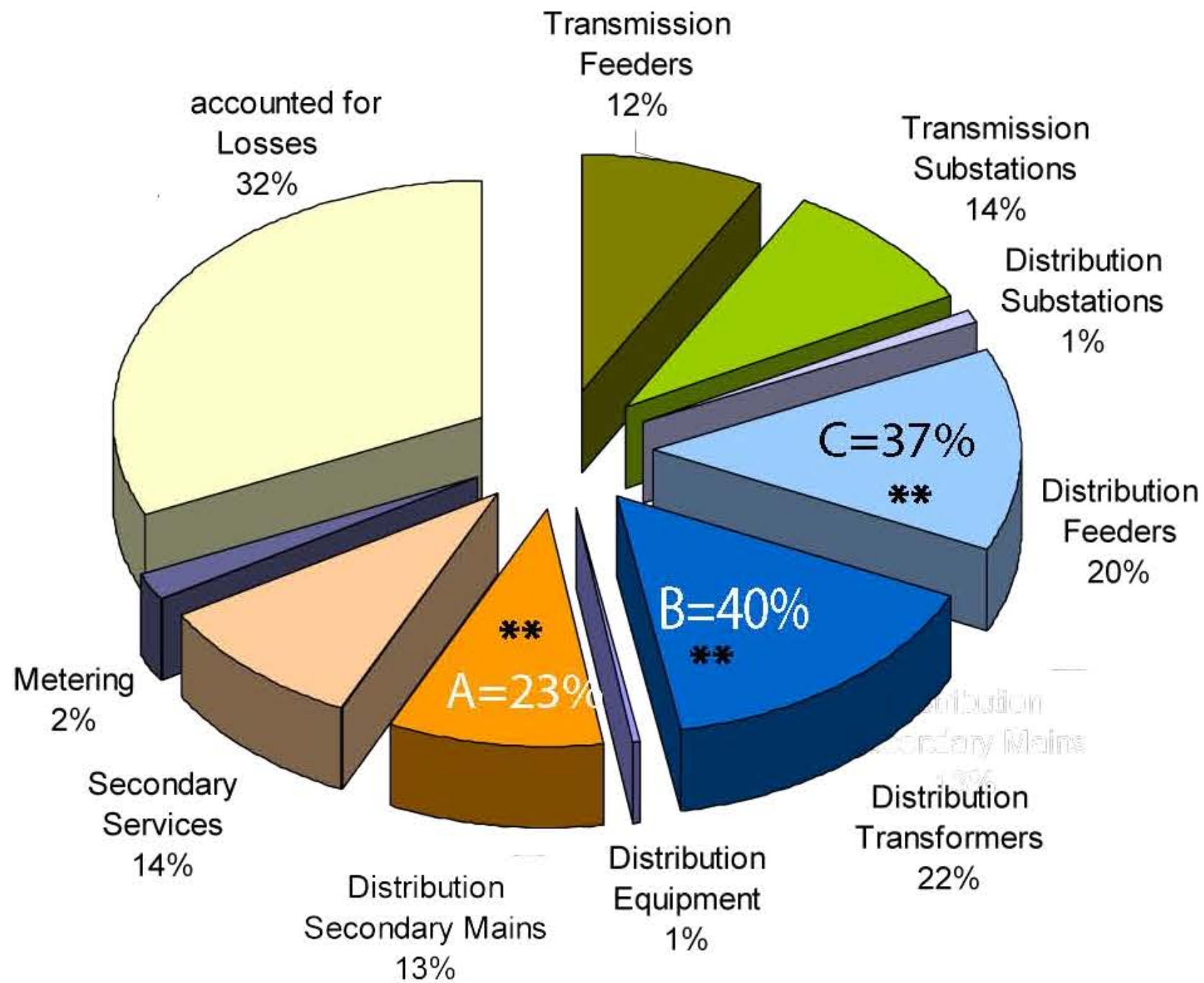
$\alpha$  For Copper and Aluminum is 0.004

For every 10 degree increase in temperature (deg-C), 18 degree-F, wire resistance increases by 4% and line losses increase by 4%.

# Transmission & Distribution Losses

## Con Edison

- 1.2% Transmission Losses
- 3.6% Distribution Losses
- 2.2% Other Losses



\*\* A+B+C=100% of Distribution Loss  
 B1=Transformer Copper Loss  
 Copper Loss={(.71 x .4) + .23 + .37} x .Distribution Loss  
 =.88 x Distribution Loss