C&I 2019 Energy Efficiency Program Guidelines

Elevator Modernization/Upgrades

Following is the minimum information required for energy conservation measures (ECM's) related to elevator modernization or elevator upgrades. Projects applying for incentives related to elevator upgrades must comply with all applicable requirements listed below.

Required Project Documentation

All projects must provide the following documentation.

A. A detailed scope of work that contains all equipment in the proposed measure and includes existing system operation.
B. Type of modernization (partial, full, or full replacement)
C. A cost proposal as provided to the customer, including labor and materials
D. An engineering analysis of the estimated energy savings based on implementation of the proposed measure.
E. The engineering analysis must include both summer peak kW savings and annual kWh savings.
F. Use the existing system operation as the baseline. However, NEMA premium efficiency motors must be used in the baseline if the project involves motor replacement. The analysis must be provided in a datasheet format such as Excel with savings calculations and algorithms. The engineering analysis must show elevator system energy consumption before the upgrades and elevator system energy consumption after the upgrades.

Required Technical Data

All incentive applications must include the following technical data:

Existing System

1. Quantity of existing elevator drives
2. Existing elevator drive types (geared M-G, SCR-DC, regenerative, non-regenerative, etc.) and drive efficiency
3. Existing drive size (horsepower), make and model number
4. Existing induction motor make and model number, horsepower and efficiency (if applicable)
5. Existing generator make and model number, kW rating, and efficiency (if applicable)
6. Technical specifications or data sheets of the existing drives, the hoist motors, the induction motors, and the generators (if applicable)
7. Existing hoist motor load factor based on occupancy
8. Rated payload (lbs)
9. Rated speed (fpm)
10. Total travel height (ft) or distance traveled or number of floors
11. Counterweight over-balance (% of payload)
12. Acceleration (ft/sec^2)
13. Hoist/Roping type (1/1 or 2/1)
14. Total idling energy consumption of the existing system
15. Is the existing motor-generator equipped with an ON/OFF timer? If so, provide the timer sequence of operation.

New System

1. Quantity of new elevator drives
2. New elevator drive types (geared, gearless, SCR-DC, regenerative, non-regenerative, VVVF, Induction AC, etc.) and drive efficiency
3. New drive size (horsepower), make and model number
4. Technical specifications or data sheets of the new drives
5. Technical specifications or data sheets of the new elevator hoist motor
6. New motor load factor based on occupancy
7. Rated payload (lbs)
8. Rated speed (fpm)
9. Total travel height (ft) or distance traveled or number of floors
10. Counterweight over-balance (% of payload)
11. Acceleration (ft/sec^2)
12. Hoist/Roping type (1/1 or 2/1)
13. Total idling energy consumption of the new system
14. New regenerative inverter size (HP), make and model number

Operating Conditions

1. Average number of runs per day
2. Operating days/year, annual idling hours, and annual running hours
3. Motor load factor based on occupancy
4. Facility Type (office, hospital, etc)
5. Specify any energy saving features (car HVAC fan shut-off, car light shut-off, speed control, destination dispatch, etc.)