

## Attachment 2

# Niagara Mohawk d/b/a National Grid

## SC2 Rate Development for PSC 214 – Company Owned/Company Maintained – Light Emitting Diode (“LED”)

Methodology – A rate design study was performed to determine the annual cost of providing service over the assumed life of the installed Light Emitting Diode (“LED”) light. The costs that these installations impose on the electric system include depreciation, installation (including labor and overheads), cost of capital, and state income taxes. These costs are levelized into an annual carrying charge over the book life of the installed equipment. Estimated annual maintenance costs are added to this annual carrying charge to become the targeted rate to be charged directly to the end use customer in the form of the annual facility charge. However, the annual facility charge was further adjusted downward to ensure an economic benefit to customers installing LEDs. The Company intends to recover the difference in this downward adjustment in the next rate case and will track these revenue differences in a deferral account.

Overhead Cobra style Roadway LEDs will be offered in four different wattages listed as A, B, C and D. There are no offerings that would be categorized as ornamental at this time.

The rate design was done on a service territory wide basis and not for a specific municipality.

Assumptions – In the development of the proposed SC2 LED rates the following assumptions were made:

- Material costs for the four LED options were developed using an average of recently acquired quotes from four vendors commonly considered by National Grid when purchasing street lighting materials. Material costs include LED luminaire costs, photocontrol materials, material cost adders for overhead brackets and underground service, stores handling adders and capital overheads.
- Labor costs include field crew labor, design and supervision, vehicle costs and associated labor and capital overheads.
- Book depreciation/cost of removal is based on a twenty-five (25) year life assuming a total burn time of 100,000 hours and 4,000 burn hours per year. Also included is an adder for cost of removal of -30%, which is consistent with the most recent rate case depreciation values. This equates

to a 5.2% depreciation expense for LED luminaires. For existing non LED luminaires, the depreciation expense is 2.6% and was based on a fifty (50) year average service life for overhead street lights in accordance with Case No. 10-E-0050.

- Capital Structure and cost of capital reflects a common equity capitalization ratio of 48% and the current, authorized ROE of 9.79%, long and short term debt, customer deposits and preferred stock rates.
- Property tax rate of 3.2828% was derived from the Company's 2014 property tax data.
- State income tax rate set at 8.1%.
- Annual maintenance costs are included in the development of the annual facility charge of the LEDs.