



HANOVER, NEW HAMPSHIRE 03755
P.O. BOX 483 603/643-4123

February 10, 2011

NH Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03302

Testimony Regarding Proposed Tariff DE 10-326

Dear Commissioners:

The Town of Hanover supports the availability of "part night" technology for street lighting as one important element of a sustainable approach to outdoor lighting. However, we object to two components of the proposal which we would argue make the option far less viable to implement -- the proposal to fully charge communities for conversion of fixtures to a "part night" option in one billing cycle, and the lack of availability of LED and other more sustainable lighting options for National Grid community customers.

High Cost in One Lump Sum Payment: The proposed tariff calls for a \$150 charge per streetlight, plus an unknown reimbursable amount for related costs of permitting, traffic details, etc, for part night implementation. This amount is to be paid in a lump sum during the billing cycle immediately following installation. Currently the least expensive lighting option offered by National Grid (high pressure sodium 50 W) has an annual distribution cost charge of \$50.58. Hanover pays approximately \$74,000 annually for 534 National Grid streetlights, including distribution charges and electricity. The Town of Hanover would consider implementation of "part night" technology on all side streets, involving 450 of the National Grid-owned lights., however the potential annual energy savings, although significant at \$9,000, is not adequate to offset the implementation cost in a single budget year. The cost to convert 450 lights would be \$67,500 plus an unknown reimbursement amount. At the proposed rate and based on the proposed immediately repayment schedule, there is a significant disincentive to modify any streetlights regardless of the savings as a result of the high up-front costs. The tariff would have to be spread over eight (8) years at current electricity rates to provide any financial incentive to Hanover.

Rate for Implementation in Combination with Other Work: The proposed tariff does not include a rate for changing the "part night" controls while performing other work such as replacing a blowout light or relamping. Ratepayers would be double-charged for travel and overhead in

these instances. There should be the ability to provide a pre-authorized standing order on identified lights so that when they need to be repaired or when relamping is requested, the part night controls could be installed at a lesser rate, representing solely the added time required to install the timer control.

According to the PSNH tariff schedule, the utility charges \$163 per streetlight (apparently not adding any other costs such as travel) if the purpose is purely to install the timer photocell on a streetlight. However, if what it calls "Midnight Service" is to be implemented as part of a "relamping" project -- a general change-out of existing streetlights for more energy-efficient models -- PSNH will charge only \$20 additional per streetlight, to cover the cost of the new photocell unit with timer.

Lighting Options: Hanover objects to the limited lighting technologies offered by National Grid. Currently National Grid offers only mercury vapor (being phased out) and high pressure sodium lighting options. More efficient, better spreading and directable lighting options exist such as LED and inductive lighting. The Town of Hanover, through a NH Office of Energy and Planning ARRA energy efficiency grant, is currently modifying all Town-owned streetlights from high pressure sodium to LED. By changing to LED fixtures, Hanover will reduce energy consumption by 45,625 kwh annually. The annual savings alone for just 50 Main Street ornamental fixtures is \$0.15/kwh or \$5,475. The wattage will be reduced from 250 down to 50 watts because LED provides more lumens per watt and the light can be directed where it is needed rather than into the night sky.

The tariff as proposed, which fails to include newer technology such as LED and to spread the cost over a reasonable pay-back period, will not achieve the goal of energy reduction and will not reduce light pollution. We have heard from National Grid representatives that they are waiting for LED technology to improve before considering offering LED fixtures to customers. Many utilities throughout the country offer LED technology in their street lighting options due to the significant energy savings. National Grid offers such lighting in Massachusetts. Green Mountain Power offers LED for new lights and replacement lights at a set rate of \$17.70 per month for a 50 Watt LED, which is equivalent to a 70 Watt high pressure sodium (\$13.70 per month in light output). The energy savings makes up for the increased monthly utility fee. A copy of the Green Mountain Power Outdoor Lighting Rate is attached for your reference.

In summary, the Town of Hanover respectfully requests: 1) that the Commission carefully review the appropriateness of the \$150 rate plus reimbursable cost per fixture; 2) require that National Grid enable customers to allocate the costs over a minimum of eight (8) years; 3) develop a rate when partial night installation is done as part of repair work on a fixture or relamping; and 4) require that National Grid offer LED technology as an alternative to the already outdated high pressure sodium technology the utility currently offers.

Sincerely,

Julia N. Griffin
Town Manager

cc: Meredith Hatfield, OCA
Board of Selectmen
Peter Kulbacki, Director of Public Works

GREEN MOUNTAIN POWER CORPORATION
ALL DIVISIONS
OUTDOOR LIGHTING RATE 18

SECTION 1

A. AVAILABILITY:

Street, area and flood lighting, traffic signal and specialty lighting equipment, energy and maintenance service is available within Green Mountain Power Corporation's ("GMP") service territory under this rate for GMP-owned or Customer-owned equipment to any city, village, town, fire district, political subdivision, Customer association or individual Customer in accordance with the specifications hereinafter set forth.

SECTION 2

A. TERMS AND CONDITIONS TARIFF:

GMP's other Terms and Conditions tariff in effect from time to time, where not inconsistent with any specific provisions hereof, are a part of this Rate 18.

B. DURATION:

For traffic signal, street lighting and flood lighting, the term of service is one year from the date of installation and thereafter until cancelled by the Customer on 60 days written notice. GMP may allow earlier termination at its sole discretion upon a showing of extraordinary circumstances. For temporary, decorative holiday lighting, the term of service is the duration of the holiday season.

C. SUSPENSION OF SERVICE:

Where service has been suspended at the Customer's request, the minimum charge shall not be applicable during such suspension, but in lieu thereof, an initial service fee of \$35.00 plus

a reconnection fee of \$35.00 during working hours or \$150.00 during other than normal working hours shall be made when service is re-established at the request of the Customer. For each connection required, service may not be suspended for a period of less than four months.

Move Ins-Move-Outs: GMP shall provide a credit of \$35.00 to any customer whose Move In or Move Out order is not completed within three business days of the date promised to the customer on the Service Order. See Terms and Conditions tariff for additional credit instructions.

D. LATE PAYMENT CHARGE:

Payment for service under this rate is due on presentation of the monthly bill. If GMP on or before the next monthly billing date does not receive payment, a late payment charge of 1% shall be imposed upon the unpaid balance, including any prior unpaid late payment charges. The late payment charge shall be assessed on such unpaid balances once each month after it is initially imposed on an unpaid balance, so long as a balance remains unpaid. The Late Payment charge is not applicable to residential accounts.

E. STREETLIGHT INSTALLATION:

GMP will furnish to the Customer, installation standards upon request for the type of lighting system proposed. GMP will complete new installation of less than three streetlights within seven business days of the Lighting Application being submitted to GMP. This completion standard shall apply to orders of less than three streetlights and where the poles and electric service for the light fixtures already exist.

F. INCOME TAX SURCHARGE:

All charges billed to the Customer for installation costs under this tariff will be increased by the current tax liability to cover the cost to GMP of federal and state income taxes payable on contributions-in-aid-of-construction. Customers who build their own lighting systems and then

transfer ownership to GMP will be charged the income tax surcharge based upon the Customer's actual costs of building the system. The Customer will be responsible for providing GMP with documentation of their actual costs. If the Customer fails to provide actual cost data, GMP will assess the surcharge based upon GMP's estimated value of the lighting system.

G. ALTERNATIVE REGULATION PLAN

This tariff is subject to the GMP's Alternative Regulation Plan Rider ("ARP Rider"), which includes a quarterly Power Adjustor and an annual Earnings Sharing Adjustor; except that the Power Adjustor does not apply to service under this tariff. These Earnings Sharing Adjustor appears as a separate line item on the Customer's monthly bill. For a complete description of these adjustors, see the ARP Rider.

SECTION 3

A. GMP-OWNED EQUIPMENT ON GMP POLES:

In the case of lights owned by GMP and installed on GMP owned poles, GMP shall furnish, and maintain all poles, wires, lamps and other associated equipment and furnish energy at the rates set forth below. Reference to GMP-owned poles in this Rate 18 shall include poles solely and jointly owned.

STREET AND AREA LIGHTS

<u>Mercury Vapor*</u>			<u>Sodium Vapor</u>		
<u>Watts</u>	<u>Lumens</u>	<u>Price/Month</u>	<u>Watts</u>	<u>Lumens</u>	<u>Price/Month</u>
100	3,200	\$13.45	70	5,200	\$13.70
175	7,200	\$16.55	100	8,500	\$15.12
250	9,800	\$23.94	150	14,400	\$17.34
400	17,500	\$30.98	200	19,800	\$20.09
			250	24,700	\$22.13

*Not available for new installation. Applicable to Mercury Vapor installed after April 30, 1992; prior mercury vapor installations are subject to Rate 16. Failed/inoperative mercury vapor street and area lights will be replaced by GMP with light emitting diode ("LED") lights and billed to the Customer at the charges for LED lights set forth below.

LED

20 LED	2070 Lumens	42 System Watts	\$12.99
30 LED	3105 Lumens	60 System Watts	\$14.35
40 LED	4140 Lumens	84 System Watts	\$16.44
50 LED	5175 Lumens	99 System Watts	\$17.70

FLOODLIGHTS

Sodium Vapor

<u>Watts</u>	<u>Lumens</u>	<u>Price/Month</u>
250	24,700	\$24.50
400	45,000	\$30.74

B. ORNAMENTAL LIGHTING AND POLES:

GMP shall own, supply and maintain all ornamental lighting and poles, with energy supplied by underground facilities at the rates set forth below. Installation of ornamental poles, luminaries and wires will be paid for by the Customer as a line extension under GMP's line extension tariff and Public Service Board ("PSB") Rule 5.600. The Customer will be required to purchase and install 2" Sch. 40 electrical grade EPVC conduit and install pre-cast concrete bases for mounting the light poles. Customers should contact GMP's engineering department for details and assistance.

Sodium Vapor

Type	<u>Watts</u>	<u>Lumens</u>	<u>Price/Month</u>
Road Cut-Off	70	5,200	\$13.70
Road Cut-Off	150	14,400	\$17.34

LED

20 LED	2070 Lumens	42 System Watts	\$12.99
30 LED	3105 Lumens	60 System Watts	\$14.35
40 LED	4140 Lumens	84 System Watts	\$16.44
50 LED	5175 Lumens	99 System Watts	\$17.70

C. CUSTOMER-OWNED LIGHTS ON GMP-OWNED POLES:

Customers may purchase from outside vendors and own all lighting equipment necessary for a lighting system, including luminaries, arms, brackets, photo cells, bulbs and other associated equipment necessary to provide street and area lighting in compliance with GMP's standards with specifications subject to GMP's prior approval. GMP or its approved contractors shall install customer owned lighting systems on GMP owned poles at the Customer's expense.

GMP shall maintain all streetlight systems on all GMP owned poles as set forth in Section 4 below. The charge for the rental of poles for Customer owned lights on GMP's poles is \$4.00 per quarter per pole or such other rate from time to time in effect for Other Attachees under GMP's tariff, Rules and Regulations for Pole Attachment Service and PSB Rule 3.700. GMP shall own and maintain all poles, wires and other equipment and apparatus necessary for supplying secondary voltage to Customer owned lighting systems on GMP owned poles.

D. CUSTOMER OWNED LIGHTS ON CUSTOMER OWNED POLES:

On Customer owned poles, 1) the Customer may furnish and install all poles and associated equipment either overhead or underground, if in compliance with GMP standards with specifications subject to GMP's prior approval or 2) at the Customer's request, GMP will install, in compliance with GMP standards, all poles and associated equipment based on a time and material bid price. The Customer shall have the choice of maintaining the streetlight system or having GMP provide maintenance as set forth in Section 4 of this tariff. The Customer will be required to own and maintain all equipment on the Customer's side of the meter.

E. SYSTEM CONVERSIONS FROM AN EXISTING LIGHTING SYSTEM TO AN ALTERNATIVE LIGHTING SYSTEM:

GMP will have the right to require those Customers wishing to modify an existing lighting system to reimburse GMP for the undepreciated cost of the existing lights plus all costs, including make-ready costs, of making the conversion not recovered in the monthly charge for alternative lights.

SECTION 4

A. MAINTENANCE SERVICE TO CUSTOMER-OWNED LIGHTING SYSTEMS:

GMP will provide maintenance service described below for Customer-owned lighting systems on GMP poles and for Customer owned lighting systems on Customer owned poles where so chosen by the Customer as provided in paragraph D above 1) for a fixed monthly fee of \$3.34 per month per lamp, regardless of size or 2) on an actual time and materials basis, at the Customer's option. Maintenance service for limited access highway lighting and the associated access and exit ramps is subject to the regular monthly maintenance charge of \$3.34 plus a monthly maintenance surcharge of \$2.73 per light per month to cover GMP's additional costs of performing routine maintenance on limited access highways.

Maintenance of the luminaire shall include replacement, as necessary, of the lamp, and photoelectric control. GMP will supply the materials as part of the monthly maintenance fee as long as they are GMP stock items. For non-standard GMP fixtures, the Customer must provide and maintain a spare parts inventory. Maintenance services will not include painting or other maintenance services for customer-owned ornamental poles.

If the luminaire, poles or other equipment must be replaced as a result of vandalism, accident or any other cause, the Customer shall pay to GMP the cost of removal of the existing equipment and the cost of the new equipment including installation costs. The Customer shall also pay for actual costs of any materials and labor necessary for maintenance and repairs above and beyond lamp and photo cell maintenance described in the preceding paragraphs including repairs and/or for the replacement of any physically damaged lighting equipment, regardless of the cause, nature or extent of physical damage.

GMP will perform maintenance and lamp replacement during normal working hours and will complete the repair within seven business days of being notified.

SECTION 5

A. HOURS OF OPERATION:

Street, area and floodlights, which are photo-cell controlled, shall be operated each and every night from one-half hour after sunset until one-half hour before sunrise, a total of approximately 4,380 hours each year.

B. ENERGY SERVICE TO CUSTOMER-OWNED LIGHTING SYSTEMS:

GMP will supply unmetered electric energy for Customer-owned outdoor photovoltaic cell controlled lighting equipment totaling approximately 4380 hours of operation per year for traffic control lighting, for temporary decorative holiday lighting, and for limited access highway lighting at the rates set forth below. The annual kWh consumption shall be determined by GMP based upon the total nominal wattage of the equipment, multiplied by the average number of

hours of operation each month. The rates specified below for photo-cell controlled lighting equipment are based on average daily operation of approximately 12 hours. For installations greater than 1,000 watts, a multiple of the 1,000-watt rate will be utilized based on the total installed usage.

No billing adjustments will be made for individual service outages. For lighting systems maintained by the Customer it is the Customer's responsibility to provide proper and timely maintenance to equipment to minimize outage time. If GMP is providing maintenance, it is the Customer's responsibility to notify GMP immediately of any failure of lights to operate.

ANNUAL, MONTHLY AND DAILY RATES

PRICE PER LAMP OR HOLIDAY INSTALLATION

Lamp or Holiday Installation Nominal Power Rating (Watts)	Annual Rate	Monthly Rate	Daily Rate
60	\$ 38.33	\$ 3.19	\$0.105
70	\$ 46.36	\$ 3.86	\$0.127
100	\$ 59.50	\$ 4.96	\$0.163
150	\$ 82.13	\$ 6.84	\$0.225
175	\$ 94.17	\$ 7.84	\$0.258
200	\$ 105.12	\$ 8.76	\$0.288
250	\$ 128.12	\$ 10.67	\$0.351
400	\$ 195.28	\$ 16.26	\$0.535
1000	\$ 467.20	\$ 38.91	\$1.280

Monthly LED Energy Only Rates to Customer Owned Lighting Systems

20 LEDs	42 System Watts	\$1.60
30 LEDs	60 System Watts	\$2.15
40 LEDs	84 System Watts	\$2.90
50 LEDs	99 System Watts	\$3.36

Pole Rental fee for Customer Owned Lights on GMP poles:

\$4 per quarter per light; Billed quarterly based on GMP's \$16 annual rate under its Tariff, Rules and Regulations for Pole Attachment Service and PSB Rule 3.700 to reflect each light in service at the end of the quarter. The charge will be adjusted as required to reflect the rate from time to time in effect for Other Attachees under said Tariff.

EFFECTIVE:

Effective on a bills rendered basis on or after October 1, 2010.

Issued: August 25, 2010.

By: 

Title: VP, Power Supply & Risk Management

San Francisco sees the light along with 64% in energy savings

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245 WATTS HPS (200W BULB)

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88 WATTS SATELLITE™ 96 LED (280MA) – 64% ENERGY SAVINGS