

Norfolk Power Distribution Inc.
EB-2011-0049
MANAGER'S SUMMARY
March 21, 2011

Norfolk Power Distribution Inc ("NPDI") is a licensed electricity distributor (ED-2005-0521) that owns and operates electricity distribution systems that provide service to defined areas within Norfolk County. NPDI charges its customers distribution rates and other charges as authorized by the Ontario Energy Board ("Board"). In this application NPDI is applying for rates and other charges effective May 1, 2011.

NPDI requests that, in the event of this application not being approved prior to May 1, 2011, its existing rates be declared interim.

NPDI has adhered to the Board's directions in completing the Board approved IRM3 rate models and incorporated the necessary adjustments. This Manager's Summary will address the following items:

- Revenue to Cost Ratio Adjustment
- Shared Tax Savings
- Smart Meter Funding Adder
- Price Cap Adjustment
- Deferral and Variance Account Riders
- Retail Transmission Service Rates
- Current and Proposed Rates – Appendix A
- Customer Impacts – Appendix B
- LRAM / SSM Application – Exhibit 1
- LRAM / SSM Application: Third Party Review – Exhibit 1, App A

Revenue to Cost Ratio

With the approval of NPDI's 2010 rates the directive from the Board's Decision on NPDI's 2008 cost of service application in regards to revenue to cost ratios was fully implemented. As a result, no further adjustments to the Revenue to Cost ratios have been made in this application.

Shared Tax Savings

The completion of the 2011 IRM3 Shared Tax Savings Workform for NPDI indicates that 2011 tax sharing amount is a refund of \$136,652. This amount when unitized using NPDI's 2008 rebased volumetric billing determinants results in the following rate riders.

Table 1: Shared Tax Savings Rate Riders

Rate Class	Rate Rider (\$)
Residential (kWh)	(0.0006)
GS < 50 kW (kWh)	(0.0004)
GS > 50 kW (kW)	(0.0596)
Sentinel Lighting (kW)	(0.9417)
Street Lighting (kW)	(0.1390)
Unmetered Scattered Load (kWh)	(0.0006)

Smart Meter Funding Adder

In its Decision and Rate Order (EB-2009-0238) dated April 6, 2010, the Board approved a smart meter funding adder for NPDI of \$1.00 per month per metered customer until April 30, 2011. NPDI proposes to continue to use the same

funding adder for the 2011 rate year, and expects to bring forward a smart meter cost recovery application as part of its 2012 cost of service application.

Price Cap Adjustment

Under the 3rd Generation IRM plan, NPDI's electricity distribution rates for 2011 have been adjusted for three factors: a price escalator, a productivity factor and a stretch factor. For the purposes of preparing the 2011 application, the Board expects NPDI to use a proxy for the price cap adjustment. The proxy is 0.18%. NPDI understands that when the final price adjustment factor is determined the Board will adjust the price cap adjustment assumed in the 2011 final rates.

Deferral and Variance Account Riders

As part of its 2010 IRM application (EB-2009-0238) NPDI was approved for a Rate Rider for Deferral/Variance Account Disposition for account balances as of December 31, 2008. A two year disposition was approved with one rate rider effective from May 1, 2010 to April 30, 2011 and a second Rate Rider effective from May 1, 2011 to April 30, 2012. NPDI has included the second rate rider, as approved in its 2010 rate tariff, in the Rate Generator Model and customer impact analysis.

NPDI has completed the 2011 IRM Deferral and Variance Account Workform for amounts January 1, 2009 to December 31, 2010 and has determined that the threshold of \$0.001 per kWh, as described in The Report of the Board on Electricity Distributors' Deferral and Variance Account Review Report, has not been exceeded. Therefore no further disposition of accounts is requested at this time.

Retail Transmission Rates

On July 8, 2010, the Ontario Energy Board (the "Board") issued revision 2.0 of the Guideline G-2008-0001 Electricity Distribution Retail Transmission Service Rates (the "Guideline"). This Guideline outlines the information that the Board requires electricity distributors to file when proposing adjustments to their retail transmission service rates ("RTSRs") for 2011. The Board also indicated in the covering letter that in order to assist electricity distributors in the calculation of the distributor's specific RTSRs, Board staff would provide a filing module. NPDI has completed this module and the proposed 2011 RTSRs reflect the outcome of this module.

Previously NPDI has been embedded to Haldimand County Hydro (Haldimand) and as such was billed for transmission services from Haldimand, in addition to transmission services provided by the IESO and Hydro One. As a result of changes to NPDI's distribution system, effective August 2010, NPDI is no longer embedded to Haldimand. NPDI estimates that 65% of the load previously delivered via Haldimand will now be routed through NPDI's own transformer station, incurring Network and Line Connection charges from the IESO, but not Transformation Connection charges. The remaining 35% of previous Haldimand load will flow through a Hydro One transformer station, incurring Network, Line Connection and Transformation Connection charges. In order to complete the Board Staff model, NPDI has added 65% of the 2009 actual Haldimand volumes, to the IESO 2009 actual volumes (with the exception of Transformation) and has added the remaining 35% of Haldimand volumes to Hydro One 2009 actual data. The following tables illustrate the 2009 actual load data, followed by the redistributed data which was entered into the Board model.

Table 2: 2009 Actual Transmission Charges to NPDI

IESO						
Jan Rate	\$2.57		\$0.70		\$1.62	
July Rate	\$2.66		\$0.70		\$1.57	
	Network \$	Network Volume (kW)	Line Connection (\$)	Line Connection Volume (kW)	Transformation (\$)	Transformation Volume (kW)
Jan	88,061.05	34,265.00	25,535.30	36,479.00	18,144.00	11,200.00
Feb	87,040.76	33,868.00	25,121.60	35,888.00	17,870.22	11,031.00
Mar	123,953.67	48,231.00	38,228.40	54,612.00	48,729.60	30,080.00
Apr	108,297.23	42,139.00	33,564.30	47,949.00	43,584.48	26,904.00
May	110,093.66	42,838.00	33,222.70	47,461.00	44,989.02	27,771.00
Jun	92,175.62	35,866.00	27,035.40	38,622.00	24,946.38	15,399.00
Jul	86,894.22	32,667.00	23,529.10	33,613.00	21,637.74	13,782.00
Aug	140,019.74	52,639.00	40,506.90	57,867.00	54,232.51	34,543.00
Sep	76,650.56	28,816.00	22,866.20	32,666.00	20,632.94	13,142.00
Oct	75,014.66	28,201.00	21,128.80	30,184.00	18,464.77	11,761.00
Nov	125,270.04	47,094.00	34,990.90	49,987.00	48,197.43	30,699.00
Dec	80,611.30	30,305.00	23,548.70	33,641.00	52,816.37	33,641.00
	\$1,194,082.51	456,929.00	\$349,278.30	498,969.00	\$414,245.46	259,953.00
Hydro One						
Jan Rate	\$2.01		\$0.50		\$1.38	
May Rate	\$2.24		\$0.60		\$1.39	
	Network \$	Network Volume (kW)	Line \$	Line Volume (kW)	Transformation (\$)	Tran Volume (kW)
Jan	31,938.90	15,890.00	7,945.00	15,890.00	22,087.10	15,890.00
Feb	37,627.20	18,720.00	9,386.50	18,773.00	25,906.74	18,773.00
Mar	27,599.31	13,731.00	6,867.00	13,734.00	18,952.92	13,734.00
Apr	26,507.88	13,188.00	6,594.00	13,188.00	18,199.44	13,188.00
May	23,486.34	11,473.00	5,940.05	11,473.00	15,832.74	11,473.00
Jun	37,468.48	16,727.00	10,036.20	16,727.00	23,250.53	16,727.00
Jul	34,726.72	15,503.00	9,301.80	15,503.00	21,549.17	15,503.00
Aug	42,143.36	18,814.00	11,288.40	18,814.00	26,151.46	18,814.00
Sep	29,966.72	13,378.00	8,026.80	13,378.00	18,595.42	13,378.00
Oct	31,767.68	14,182.00	8,509.20	14,182.00	19,712.98	14,182.00
Nov	33,140.80	14,795.00	8,877.00	14,795.00	20,565.05	14,795.00
Dec	37,535.68	16,757.00	10,054.20	16,757.00	23,292.23	16,757.00
	\$393,909.07	183,158.00	\$102,826.15	183,214.00	\$254,095.78	183,214.00
Halidmand Hydro						
Jan Rate	\$2.41		\$2.40			
May Rate	\$2.69		\$2.53			
	Network \$	Network Volume (kW)	Connection \$	Connection Volume (kW)		
Jan	20,675.83	8,562.84	20,700.88	8,634.72		
Feb	18,843.54	7,804.00	18,709.41	7,804.04		
Mar	18,510.88	7,666.23	18,723.41	7,809.88		
Apr	16,742.09	6,933.69	16,622.83	6,933.69		
May	16,764.96	6,238.24	15,778.11	6,238.24		
Jun	23,323.28	8,678.59	21,950.38	8,678.59		
Jul	21,717.42	8,081.05	20,439.05	8,081.05		
Aug	28,811.61	10,720.80	27,115.66	10,720.80		
Sep	20,409.57	7,594.40	19,208.19	7,594.40		
Oct	17,903.71	6,661.97	17,495.12	6,917.10		
Nov	20,645.90	7,682.34	19,430.61	7,682.34		
Dec	22,828.36	8,494.43	21,484.60	8,494.43		
	\$247,177.15	95,118.58	\$237,658.25	95,589.28		
Total kW		735,206		777,772		

Table 3: 2009 Transmission Volumes Reallocated

IESO with 65% of Haldimand Allocated to Network and Line Connection Only	Network	Line Connection	Transformation
	Volume (kW)	Volume (kW)	Volume (kW)
Jan	39,831	42,092	11,200.00
Feb	38,941	40,961	11,031.00
Mar	53,214	59,688	30,080.00
Apr	46,646	52,456	26,904.00
May	46,893	51,516	27,771.00
Jun	41,507	44,263	15,399.00
Jul	37,920	38,866	13,782.00
Aug	59,608	64,836	34,543.00
Sep	33,752	37,602	13,142.00
Oct	32,531	34,680	11,761.00
Nov	52,088	54,981	30,699.00
Dec	35,826	39,162	33,641.00
Total	518,756	561,102	259,953

Hydro One with 35% of Haldimand Allocated to All Categories	Network	Line Connection	Transformation
	Volume (kW)	Volume (kW)	Volume (kW)
Jan	18,887	18,912	18,912
Feb	21,451	21,504	21,504
Mar	16,414	16,467	16,467
Apr	15,615	15,615	15,615
May	13,656	13,656	13,656
Jun	19,765	19,765	19,765
Jul	18,331	18,331	18,331
Aug	22,566	22,566	22,566
Sep	16,036	16,036	16,036
Oct	16,514	16,603	16,603
Nov	17,484	17,484	17,484
Dec	19,730	19,730	19,730
Total	216,450	216,670	216,670

Total kW after Reallocation	735,206	777,772	476,623
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LRAM/SSM Recovery

NPDI has applied for implementation of an LRAM/SSM rate rider to recover amounts totalling \$425,914, including carrying charges of \$15,556. NPDI requests to recover the amounts by a volumetric rate rider over the period of one year beginning May 1, 2011. The full LRAM/SSM application is submitted as Exhibit 1. The rate riders have been included in the Rate Generator Model and have been included in the proposed rates and customer impact analysis provided in Appendix A and Appendix B , respectively.

Conclusion

A copy of the current tariff sheet, the proposed tariff sheet and the customer impacts are provided in Appendix A. In summary, the bill impact for a Residential customer in with a monthly electricity consumption of 800 kWh, will be a decrease of 1.3% or \$1.68 per month after HST. The bill impact for a General Service Less Than 50 kW customer with a monthly electricity consumption of 2,000 kWh, will be a decrease of 2.2% or \$6.92 per month after HST.

Appendix A: Current and Proposed Rates

Appendix A
To Decision and Order
EB-2009-0238

Norfolk Power Distribution Inc.
TARIFF OF RATES AND CHARGES
Effective and Implementation Date May 1, 2010
except for the microFIT Generator Class effective date of September 21, 2009

**This schedule supersedes and replaces all previously
approved schedules of Rates, Charges and Loss Factors**

EB-2009-0238

RESIDENTIAL SERVICE CLASSIFICATION

This classification refers to an account taking electricity at 750 volts or less where the electricity is used exclusively in a separately metered living accommodation. Customers shall be residing in single-dwelling units that consist of a detached house or one unit of a semi-detached, duplex, triplex, or quadruplex house, with residential zoning. Separately metered dwellings within a town house complex or apartment building also qualify as residential customers. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges or assessments that are required by law to be charged by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, charges for Ministry of Energy and Infrastructure Conservation and Renewable Energy Program, the Provincial Benefit and any applicable taxes.

MONTHLY RATES AND CHARGES – Delivery Component

Service Charge	\$	20.73
Smart Meter Funding Adder	\$	1.00
Distribution Volumetric Rate	\$/kWh	0.0190
Low Voltage Service Rate	\$/kWh	0.0007
Rate Rider for Tax Change – effective until April 30, 2011	\$/kWh	(0.0003)
Rate Rider for Global Adjustment Sub-Account Disposition – effective until April 30, 2011 Applicable only for Non-RPP Customers	\$/kWh	0.0011
Rate Rider for Global Adjustment Sub-Account Disposition – effective from May 1, 2011 to April 30, 2012 Applicable only for Non-RPP Customers	\$/kWh	0.0034
Rate Rider for Storm Cost Recovery – effective until April 30, 2011	\$/kWh	0.0008
Rate Rider for Deferral/Variance Account Disposition (2010) – effective until April 30, 2011	\$/kWh	(0.0015)
Rate Rider for Deferral/Variance Account Disposition (2010) – effective from May 1, 2011 to April 30, 2012	\$/kWh	(0.0044)
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0057
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0052

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Revised April 13, 2010

Norfolk Power Distribution Inc.
TARIFF OF RATES AND CHARGES
Effective and Implementation Date May 1, 2010
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EB-2009-0238

GENERAL SERVICE LESS THAN 50 kW SERVICE CLASSIFICATION

This classification refers to a non residential account taking electricity at 750 volts or less whose monthly average peak demand is less than, or is forecast to be less than, 50 kW. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge	\$	49.65
Smart Meter Funding Adder	\$	1.00
Distribution Volumetric Rate	\$/kWh	0.0139
Low Voltage Service Rate	\$/kWh	0.0006
Rate Rider for Tax Change – effective until April 30, 2011	\$/kWh	(0.0002)
Rate Rider for Global Adjustment Sub-Account Disposition – effective until April 30, 2011		
Applicable only for Non-RPP Customers	\$/kWh	0.0011
Rate Rider for Global Adjustment Sub-Account Disposition – effective from May 1, 2011 to April 30, 2012		
Applicable only for Non-RPP Customers	\$/kWh	0.0034
Rate Rider for Storm Cost Recovery – effective until April 30, 2011	\$/kWh	0.0005
Rate Rider for Deferral/Variance Account Disposition (2010) – effective until April 30, 2011	\$/kWh	(0.0015)
Rate Rider for Deferral/Variance Account Disposition (2010) – effective from May 1, 2011 to April 30, 2012	\$/kWh	(0.0045)
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0052
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0045

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Norfolk Power Distribution Inc.
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EB-2009-0238

GENERAL SERVICE 50 to 4,999 kW SERVICE CLASSIFICATION

This classification refers to a non residential account taking electricity at 750 volts or less whose monthly average peak demand is less than, or is forecast to be less than, 50 kW. Further servicing details are available in the distributor's Conditions of Service.

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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge	\$	243.94
Smart Meter Funding Adder	\$	1.00
Distribution Volumetric Rate	\$/kW	3.6220
Low Voltage Service Rate	\$/kW	0.2622
Rate Rider for Tax Change – effective until April 30, 2011	\$/kW	(0.0320)
Rate Rider for Global Adjustment Sub-Account Disposition – effective until April 30, 2011		
Applicable only for Non-RPP Customers	\$/kW	0.5239
Rate Rider for Global Adjustment Sub-Account Disposition – effective from May 1, 2011 to April 30, 2012		
Applicable only for Non-RPP Customers	\$/kW	1.5716
Rate Rider for Storm Cost Recovery – effective until April 30, 2011	\$/kW	0.0893
Rate Rider for Deferral/Variance Account Disposition (2010) – effective until April 30, 2011	\$/kW	(0.7192)
Rate Rider for Deferral/Variance Account Disposition (2010) – effective from May 1, 2011 to April 30, 2012	\$/kW	(2.1576)
Retail Transmission Rate – Network Service Rate	\$/kW	2.1180
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.7999

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Revised April 13, 2010

Norfolk Power Distribution Inc.
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UNMETERED SCATTERED LOAD SERVICE CLASSIFICATION

This classification refers to an account taking electricity at 750 volts or less whose monthly average peak demand is less than, or forecast to be less than, 50 kW and the consumption is unmetered. Such connections include cable TV power packs, bus shelters, telephone booths, traffic lights, railway crossings, etc. The customer will provide detailed manufacturer information/ documentation with regard to electrical demand/consumption of the proposed unmetered load. Further servicing details are available in the distributor's Conditions of Service.

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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge (per connection)	\$	26.50
Distribution Volumetric Rate	\$/kWh	0.0149
Low Voltage Service Rate	\$/kWh	0.0006
Rate Rider for Tax Change – effective until April 30, 2011	\$/kWh	(0.0004)
Rate Rider for Storm Cost Recovery – effective until April 30, 2011	\$/kWh	0.0010
Rate Rider for Deferral/Variance Account Disposition (2010) – effective until April 30, 2011	\$/kWh	(0.0017)
Rate Rider for Deferral/Variance Account Disposition (2010) – effective from May 1, 2011 to April 30, 2012	\$/kWh	(0.0050)
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0052
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0045

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Norfolk Power Distribution Inc.
TARIFF OF RATES AND CHARGES
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EB-2009-0238

SENTINEL LIGHTING SERVICE CLASSIFICATION

This classification refers to accounts that are unmetered lighting load supplied to a sentinel light. Further servicing details are available in the distributor's Conditions of Service.

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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge (per connection)	\$	6.14
Distribution Volumetric Rate	\$/kW	18.2587
Low Voltage Service Rate	\$/kW	0.2024
Rate Rider for Tax Change – effective until April 30, 2011	\$/kW	(0.8050)
Rider for Global Adjustment Sub-Account Disposition – effective until April 30, 2011 Applicable only for Non-RPP Customers	\$/kW	0.4599
Rate Rider for Global Adjustment Sub-Account Disposition – effective from May 1, 2011 to April 30, 2012 Applicable only for Non-RPP Customers	\$/kW	1.3797
Rate Rider for Storm Cost Recovery – effective until April 30, 2011	\$/kW	0.8064
Rate Rider for Deferral/Variance Account Disposition (2010) – effective until April 30, 2011	\$/kW	(0.4162)
Rate Rider for Deferral/Variance Account Disposition (2010) – effective from May 1, 2011 to April 30, 2012	\$/kW	(1.2486)
Retail Transmission Rate – Network Service Rate	\$/kW	1.6055
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.4205

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

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EB-2009-0238

STREET LIGHTING SERVICE CLASSIFICATION

This classification refers to a account for roadway lighting with a Municipality, Regional Municipality, Ministry of Transportation and private roadway lighting operation, controlled by photo cells. The consumption for these customers will be based on the calculated connected load times the required lighting times established in the approved OEB street lighting load shape template. Further servicing details are available in the distributor's Conditions of Service.

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MONTHLY RATES AND CHARGES – Delivery Component

Service Charge (per connection)	\$	1.85
Distribution Volumetric Rate	\$/kW	6.9781
Low Voltage Service Rate	\$/kW	0.1999
Rate Rider for Tax Change – effective until April 30, 2011	\$/kW	(0.0999)
Rate Rider for Storm Cost Recovery – effective until April 30, 2011	\$/kW	0.2458
Rate Rider for Deferral/Variance Account Disposition (2010) – effective until April 30, 2011	\$/kW	(0.5092)
Rate Rider for Deferral/Variance Account Disposition (2010) – effective from May 1, 2011 to April 30, 2012	\$/kW	(1.5276)
Retail Transmission Rate – Network Service Rate	\$/kW	1.5975
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.3915

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Norfolk Power Distribution Inc.
TARIFF OF RATES AND CHARGES
Effective and Implementation Date May 1, 2010
except for the microFIT Generator Class effective date of September 21, 2009

**This schedule supersedes and replaces all previously
approved schedules of Rates, Charges and Loss Factors**

EB-2009-0238

microFIT GENERATOR SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Ontario Power Authority's microFIT program and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges or assessments that are required by law to be charged by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, charges for Ministry of Energy and Infrastructure Conservation and Renewable Energy Program, the Provincial Benefit and any applicable taxes.

MONTHLY RATES AND CHARGES – Delivery Component – effective September 21, 2009

Service Charge	\$	5.25
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Norfolk Power Distribution Inc.
TARIFF OF RATES AND CHARGES
Effective and Implementation Date May 1, 2010
except for the microFIT Generator Class effective date of September 21, 2009

This schedule supersedes and replaces all previously
approved schedules of Rates, Charges and Loss Factors

EB-2009-0238

ALLOWANCES

Transformer Allowance for Ownership - per kW of billing demand/month	\$	(0.60)
Primary Metering Allowance for transformer losses – applied to measured demand and energy	%	(1.00)

SPECIFIC SERVICE CHARGES**APPLICATION**

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

It should be noted that this schedule does not list any charges or assessments that are required by law to be charged by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, charges for Ministry of Energy and Infrastructure Conservation and Renewable Energy Program, the Provincial Benefit and any applicable taxes.

Customer Administration		
Arrears certificate	\$	15.00
Statement of account	\$	15.00
Pulling post dated cheques	\$	15.00
Duplicate invoices for previous billing	\$	15.00
Request for other billing information	\$	15.00
Easement letter	\$	15.00
Income tax letter	\$	15.00
Notification Charge	\$	15.00
Account History	\$	15.00
Credit reference/credit check (plus credit agency costs)	\$	15.00
Returned cheque charge (plus bank charges)	\$	15.00
Charge to certify cheque	\$	15.00
Legal letter charge	\$	15.00
Account set up charge/change of occupancy charge (plus credit agency costs if applicable)	\$	30.00
Special meter reads	\$	30.00
Meter dispute charge plus Measurement Canada fees (if meter found correct)	\$	30.00
Non-Payment of Account		
Late Payment - per month	%	1.50
Late Payment - per annum	%	19.56
Collection of account charge - no disconnection	\$	30.00
Collection of account charge - no disconnection - after regular hours	\$	165.00
Disconnect/Reconnect at meter - during regular hours	\$	65.00
Disconnect/Reconnect at meter - after regular hours	\$	185.00
Disconnect/Reconnect at pole - during regular hours	\$	185.00
Disconnect/Reconnect at pole - after regular hours	\$	415.00
Install/Remove load control device – during regular hours	\$	65.00
Install/Remove load control device – after regular hours	\$	185.00

Revised April 13, 2010

Norfolk Power Distribution Inc.
TARIFF OF RATES AND CHARGES
Effective and Implementation Date May 1, 2010
except for the microFIT Generator Class effective date of September 21, 2009

**This schedule supersedes and replaces all previously
approved schedules of Rates, Charges and Loss Factors**

Service call – customer-owned equipment	\$	30.00	EB-2009-0238
Service call – after regular hours	\$	165.00	
Specific Charge for Access to the Power Poles (\$/pole/year)	\$	22.35	

RETAIL SERVICE CHARGES (if applicable)

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges or assessments that are required by law to be charged by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, charges for Ministry of Energy and Infrastructure Conservation and Renewable Energy Program, the Provincial Benefit and any applicable taxes.

Retail Service Charges refer to services provided by a distributor to retailers or customers related to the supply of competitive electricity

One-time charge, per retailer, to establish the service agreement between the distributor and the retailer	\$	100.00	
Monthly Fixed Charge, per retailer	\$	20.00	
Monthly Variable Charge, per customer, per retailer	\$/cust.	0.50	
Distributor-consolidated billing charge, per customer, per retailer	\$/cust.	0.30	
Retailer-consolidated billing credit, per customer, per retailer	\$/cust.	(0.30)	
Service Transaction Requests (STR)			
Request fee, per request, applied to the requesting party	\$	0.25	
Processing fee, per request, applied to the requesting party	\$	0.50	
Request for customer information as outlined in Section 10.6.3 and Chapter 11 of the Retail Settlement Code directly to retailers and customers, if not delivered electronically through the Electronic Business Transaction (EBT) system, applied to the requesting party			
Up to twice a year			no charge
More than twice a year, per request (plus incremental delivery costs)	\$		2.00

LOSS FACTORS

If the distributor is not capable of prorating changed loss factors jointly with distribution rates, the revised loss factors will be implemented upon the first subsequent billing for each billing cycle.

Total Loss Factor – Secondary Metered Customer < 5,000 kW	1.0560
Total Loss Factor – Secondary Metered Customer > 5,000 kW	N/A
Total Loss Factor – Primary Metered Customer < 5,000 kW	1.0454
Total Loss Factor – Primary Metered Customer > 5,000 kW	N/A

Revised April 13, 2010

Norfolk Power Distribution Inc.
TARIFF OF RATES AND CHARGES
Effective May 1, 2011

EB-2011-0049

MONTHLY RATES AND CHARGES

Applied For Monthly Rates and Charges

Residential Regular

Monthly Rates and Charges - Delivery Component

Service Charge	\$	20.77
Service Charge Smart Meters	\$	1.00
Distribution Volumetric Rate	\$/kWh	0.0190
Rate Rider for Global Adjustment Sub-Account Disposition (2010) - Effective until April 30, 2012 Applicable only for Non-RPP Customers	\$/kWh	0.00340
Low Voltage Volumetric Rate	\$/kWh	0.0007
Distribution Volumetric Def Var Disp 2010 – effective until April 30, 2012	\$/kWh	(0.0044)
Distribution Volumetric Lost Revenue Adjustment Mechanism (LRAM) Recovery/Shared Savings Mechanism (SSM) Recovery – effective until April 30, 2012	\$/kWh	0.0023
Distribution Volumetric Tax Change – effective until April 30, 2012	\$/kWh	(0.0006)
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0066
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0041

Monthly Rates and Charges - Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

General Service Less Than 50 kW

Monthly Rates and Charges - Delivery Component

Service Charge	\$	49.74
Service Charge Smart Meters	\$	1.00
Distribution Volumetric Rate	\$/kWh	0.0139
Rate Rider for Global Adjustment Sub-Account Disposition (2010) - Effective until April 30, 2012 Applicable only for Non-RPP Customers	\$/kWh	0.00340
Low Voltage Volumetric Rate	\$/kWh	0.0006
Distribution Volumetric Def Var Disp 2010 – effective until April 30, 2012	\$/kWh	(0.0045)
Distribution Volumetric Lost Revenue Adjustment Mechanism (LRAM) Recovery/Shared Savings Mechanism (SSM) Recovery – effective until April 30, 2012	\$/kWh	0.0007
Distribution Volumetric Tax Change – effective until April 30, 2012	\$/kWh	(0.0004)
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0060
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0036

Monthly Rates and Charges - Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

General Service 50 to 4,999 kW

Monthly Rates and Charges - Delivery Component

Service Charge	\$	244.38
Service Charge Smart Meters	\$	1.00
Distribution Volumetric Rate	\$/kW	3.6285
Rate Rider for Global Adjustment Sub-Account Disposition (2010) - Effective until April 30, 2012 Applicable only for Non-RPP Customers	\$/kW	1.57160
Low Voltage Volumetric Rate	\$/kW	0.2622
Distribution Volumetric Def Var Disp 2010 – effective until April 30, 2012	\$/kW	(2.1576)
Distribution Volumetric Lost Revenue Adjustment Mechanism (LRAM) Recovery/Shared Savings Mechanism (SSM) Recovery – effective until April 30, 2012	\$/kW	0.1090
Distribution Volumetric Tax Change – effective until April 30, 2012	\$/kW	(0.0607)
Retail Transmission Rate – Network Service Rate	\$/kW	2.4432
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.4256

Monthly Rates and Charges - Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Norfolk Power Distribution Inc.
TARIFF OF RATES AND CHARGES
Effective May 1, 2011

EB-2011-0049

MONTHLY RATES AND CHARGES

Applied For Monthly Rates and Charges

Unmetered Scattered Load

Monthly Rates and Charges - Delivery Component

Service Charge (per Customer)	\$	26.55
Distribution Volumetric Rate	\$/kWh	0.0149
Low Voltage Volumetric Rate	\$/kWh	0.0006
Distribution Volumetric Def Var Disp 2010 – effective until April 30, 2012	\$/kWh	(0.0050)
Distribution Volumetric Tax Change – effective until April 30, 2012	\$/kWh	(0.0007)
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0060
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0036

Monthly Rates and Charges - Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Sentinel Lighting

Monthly Rates and Charges - Delivery Component

Service Charge (per connection)	\$	6.15
Distribution Volumetric Rate	\$/kW	18.2916
Rate Rider for Global Adjustment Sub-Account Disposition (2010) - Effective until April 30, 2012 Applicable only for Non-RPP Customers	\$/kW	1.37970
Low Voltage Volumetric Rate	\$/kW	0.2024
Distribution Volumetric Def Var Disp 2010 – effective until April 30, 2012	\$/kW	(1.2486)
Distribution Volumetric Tax Change – effective until April 30, 2012	\$/kW	(0.9603)
Retail Transmission Rate – Network Service Rate	\$/kW	1.8520
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.1251

Monthly Rates and Charges - Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

Street Lighting

Monthly Rates and Charges - Delivery Component

Service Charge (per connection)	\$	1.85
Distribution Volumetric Rate	\$/kW	6.9907
Low Voltage Volumetric Rate	\$/kW	0.1999
Distribution Volumetric Def Var Disp 2010 – effective until April 30, 2012	\$/kW	(1.5276)
Distribution Volumetric Tax Change – effective until April 30, 2012	\$/kW	(0.1418)
Retail Transmission Rate – Network Service Rate	\$/kW	1.8427
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.1021

Monthly Rates and Charges - Regulatory Component

Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

microFIT Generator

Service Charge	\$	5.25
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Norfolk Power Distribution Inc.
TARIFF OF RATES AND CHARGES
Effective May 1, 2011

EB-2011-0049

MONTHLY RATES AND CHARGES

Applied For Monthly Rates and Charges

Specific Service Charges

Customer Administration

Arrears certificate	\$	15.00
Statement of account	\$	15.00
Pulling post dated cheques	\$	15.00
Duplicate invoices for previous billing	\$	15.00
Request for other billing information	\$	15.00
Easement letter	\$	15.00
Income tax letter	\$	15.00
Notification charge	\$	15.00
Account history	\$	15.00
Credit reference/credit check (plus credit agency costs)	\$	15.00
Returned cheque charge (plus bank charges)	\$	15.00
Charge to certify cheque	\$	15.00
Legal letter charge	\$	15.00
Account set up charge/change of occupancy charge (plus credit agency costs if applicable)	\$	30.00
Special meter reads	\$	30.00
Meter dispute charge plus Measurement Canada fees (if meter found correct)	\$	30.00

Non-Payment of Account

Late Payment - per month	%	1.50
Late Payment - per annum	%	19.56
Collection of account charge - no disconnection	\$	30.00
Collection of account charge - no disconnection - after regular hours	\$	165.00
Disconnect/Reconnect at meter - during regular hours	\$	65.00
Disconnect/Reconnect at meter - after regular hours	\$	185.00
Disconnect/Reconnect at pole - during regular hours	\$	185.00
Disconnect/Reconnect at pole - after regular hours	\$	415.00

Other

Install/Remove load control device - during regular hours	\$	65.00
Install/Remove load control device - after regular hours	\$	185.00
Service call - customer-owned equipment	\$	30.00
Service call - after regular hours	\$	165.00
Specific Charge for Access to the Power Poles \$/pole/year	\$	22.35

Allowances

Transformer Allowance for Ownership - per kW of billing demand/month	\$/kW	(0.60)
Primary Metering Allowance for transformer losses - applied to measured demand and energy	%	(1.00)

Retail Service Charges (if applicable)

Retail Service Charges (if applicable)

Retail Service Charges refer to services provided by a distributor to retailers or customers related to the supply of competitive electricity

One-time charge, per retailer, to establish the service agreement between the distributor and the retailer	\$	100.00
Monthly Fixed Charge, per retailer	\$	20.00
Monthly Variable Charge, per customer, per retailer	\$/cust.	0.50
Distributor-consolidated billing charge, per customer, per retailer	\$/cust.	0.30
Retailer-consolidated billing credit, per customer, per retailer	\$/cust.	(0.30)

Service Transaction Requests (STR)

Request fee, per request, applied to the requesting party	\$	0.25
Processing fee, per request, applied to the requesting party	\$	0.50
Request for customer information as outlined in Section 10.6.3 and Chapter 11 of the Retail Settlement Code directly to retailers and customers, if not delivered electronically through the Electronic Business Transaction (EBT) system, applied to the requesting party		
Up to twice a year		no charge
More than twice a year, per request (plus incremental delivery costs)	\$	2.00

LOSS FACTORS

Total Loss Factor - Secondary Metered Customer < 5,000 kW	1.0560
Total Loss Factor - Secondary Metered Customer > 5,000 kW	
Total Loss Factor - Primary Metered Customer < 5,000 kW	1.0454
Total Loss Factor - Primary Metered Customer > 5,000 kW	

Appendix B: Customer Impacts

Name of LDC: Norfolk Power Distribution Inc.
 File Number: EB-2011-0049
 Effective Date: May 1, 2011
 Version : 2.0

Residential Regular

Monthly Rates and Charges	Metric	Current Rate	Applied For Rate
Service Charge	\$	20.73	20.77
Service Charge Rate Adder(s)	\$	1.00	1.00
Service Charge Rate Rider(s)	\$	-	-
Distribution Volumetric Rate	\$/kWh	0.0190	0.0190
Distribution Volumetric Rate Adder(s)	\$/kWh	-	-
Low Voltage Volumetric Rate	\$/kWh	0.0007	0.0007
Distribution Volumetric Rate Rider(s)	\$/kWh	- 0.0010	- 0.0027
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0057	0.0066
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0052	0.0041
Wholesale Market Service Rate	\$/kWh	0.0052	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013	0.0013
Special Purpose Charge	\$/kWh	0.0004	0.0004
Standard Supply Service – Administration Charge (if applicable)	\$/kWh	0.25	0.25

Consumption	800 kWh	- kW
RPP Tier One	600 kWh	Load Factor

Loss Factor 1.0560

Residential Regular	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Energy First Tier (kWh)	600	0.0650	39.00	600	0.0650	39.00	0.00	0.0%	30.42%
Energy Second Tier (kWh)	245	0.0750	18.38	245	0.0750	18.38	0.00	0.0%	14.33%
Sub-Total: Energy			57.38			57.38	0.00	0.0%	44.75%
Service Charge	1	20.73	20.73	1	20.77	20.77	0.04	0.2%	16.20%
Service Charge Rate Adder(s)	1	1.00	1.00	1	1.00	1.00	0.00	0.0%	0.78%
Service Charge Rate Rider(s)	1	0.00	0.00	1	0.00	0.00	0.00	0.0%	0.00%
Distribution Volumetric Rate	800	0.0190	15.20	800	0.0190	15.20	0.00	0.0%	11.85%
Distribution Volumetric Rate Adder(s)	800	0.0000	0.00	800	0.0000	0.00	0.00	0.0%	0.00%
Low Voltage Volumetric Rate	800	0.0007	0.56	800	0.0007	0.56	0.00	0.0%	0.44%
Distribution Volumetric Rate Rider(s)	800	-0.0010	-0.80	800	-0.0027	-2.16	-1.36	170.0%	-1.68%
Total: Distribution			36.69			35.37	-1.32	(3.6)%	27.59%
Retail Transmission Rate – Network Service Rate	845	0.0057	4.82	845	0.0066	5.58	0.76	15.8%	4.35%
Retail Transmission Rate – Line and Transformation Connection Service Rate	845	0.0052	4.39	845	0.0041	3.46	-0.93	(21.2)%	2.70%
Total: Retail Transmission			9.21			9.04	-0.17	(1.8)%	7.05%
Sub-Total: Delivery (Distribution and Retail Transmission)			45.90			44.41	-1.49	(3.2)%	34.64%
Wholesale Market Service Rate	845	0.0052	4.39	845	0.0052	4.39	0.00	0.0%	3.42%
Rural Rate Protection Charge	845	0.0013	1.10	845	0.0013	1.10	0.00	0.0%	0.86%
Special Purpose Charge	845	0.0004	0.34	845	0.0004	0.34	0.00	0.0%	0.27%
Standard Supply Service – Administration Charge (if applicable)	1	0.25	0.25	1	0.25	0.25	0.00	0.0%	0.19%
Sub-Total: Regulatory			6.08			6.08	0.00	0.0%	4.74%
Debt Retirement Charge (DRC)	800	0.00700	5.60	800	0.00700	5.60	0.00	0.0%	4.37%
Total Bill before Taxes			114.96			113.47	-1.49	(1.3)%	88.50%
HST	114.96	13%	14.94	113.47	13%	14.75	-0.19	(1.3)%	11.50%
Total Bill			129.90			128.22	-1.68	(1.3)%	100.00%

Rate Class Threshold Test

Residential Regular

	kWh	250	600	800	1,400	2,250
Loss Factor Adjusted kWh		264	634	845	1,479	2,376

Load Factor

Energy

Applied For Bill	\$ 17.16	\$ 41.55	\$ 57.38	\$ 104.93	\$ 172.20
Current Bill	\$ 17.16	\$ 41.55	\$ 57.38	\$ 104.93	\$ 172.20
\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
% of Total Bill	30.5%	41.3%	44.8%	49.8%	52.5%

Distribution

Applied For Bill	\$ 26.01	\$ 31.96	\$ 35.36	\$ 45.55	\$ 59.98
Current Bill	\$ 26.40	\$ 32.95	\$ 36.69	\$ 47.91	\$ 63.80
\$ Impact	-\$ 0.39	-\$ 0.99	-\$ 1.33	-\$ 2.36	-\$ 3.82
% Impact	-1.5%	-3.0%	-3.6%	-4.9%	-6.0%
% of Total Bill	46.2%	31.7%	27.6%	21.6%	18.3%

Retail Transmission

Applied For Bill	\$ 2.82	\$ 6.78	\$ 9.04	\$ 15.82	\$ 25.42
Current Bill	\$ 2.87	\$ 6.91	\$ 9.21	\$ 16.12	\$ 25.90
\$ Impact	-\$ 0.05	-\$ 0.13	-\$ 0.17	-\$ 0.30	-\$ 0.48
% Impact	-1.7%	-1.9%	-1.8%	-1.9%	-1.9%
% of Total Bill	5.0%	6.7%	7.1%	7.5%	7.8%

Delivery (Distribution and Retail Transmission)

Applied For Bill	\$ 28.83	\$ 38.74	\$ 44.40	\$ 61.37	\$ 85.40
Current Bill	\$ 29.27	\$ 39.86	\$ 45.90	\$ 64.03	\$ 89.70
\$ Impact	-\$ 0.44	-\$ 1.12	-\$ 1.50	-\$ 2.66	-\$ 4.30
% Impact	-1.5%	-2.8%	-3.3%	-4.2%	-4.8%
% of Total Bill	51.2%	38.5%	34.6%	29.1%	26.1%

Regulatory

Applied For Bill	\$ 2.07	\$ 4.62	\$ 6.08	\$ 10.45	\$ 16.65
Current Bill	\$ 2.07	\$ 4.62	\$ 6.08	\$ 10.45	\$ 16.65
\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
% of Total Bill	3.7%	4.6%	4.7%	5.0%	5.1%

Debt Retirement Charge

Applied For Bill	\$ 1.75	\$ 4.20	\$ 5.60	\$ 9.80	\$ 15.75
Current Bill	\$ 1.75	\$ 4.20	\$ 5.60	\$ 9.80	\$ 15.75
\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
% of Total Bill	3.1%	4.2%	4.4%	4.6%	4.8%

GST

Applied For Bill	\$ 6.48	\$ 11.58	\$ 14.75	\$ 24.25	\$ 37.70
Current Bill	\$ 6.53	\$ 11.73	\$ 14.94	\$ 24.60	\$ 38.26
\$ Impact	-\$ 0.05	-\$ 0.15	-\$ 0.19	-\$ 0.35	-\$ 0.56
% Impact	-0.8%	-1.3%	-1.3%	-1.4%	-1.5%
% of Total Bill	11.5%	11.5%	11.5%	11.5%	11.5%

Total Bill

Applied For Bill	\$ 56.29	\$ 100.69	\$ 128.21	\$ 210.80	\$ 327.70
Current Bill	\$ 56.78	\$ 101.96	\$ 129.90	\$ 213.81	\$ 332.56
\$ Impact	-\$ 0.49	-\$ 1.27	-\$ 1.69	-\$ 3.01	-\$ 4.86
% Impact	-0.9%	-1.2%	-1.3%	-1.4%	-1.5%

Name of LDC: Norfolk Power Distribution Inc.
 File Number: EB-2011-0049
 Effective Date: May 1, 2011
 Version : 2.0

General Service Less Than 50 kW

Monthly Rates and Charges	Metric	Current Rate	Applied For Rate
Service Charge	\$	49.65	49.74
Service Charge Rate Adder(s)	\$	1.00	1.00
Service Charge Rate Rider(s)	\$	-	-
Distribution Volumetric Rate	\$/kWh	0.0139	0.0139
Distribution Volumetric Rate Adder(s)	\$/kWh	-	-
Low Voltage Volumetric Rate	\$/kWh	0.0006	0.0006
Distribution Volumetric Rate Rider(s)	\$/kWh	- 0.0012	- 0.0042
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0052	0.0060
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0045	0.0036
Wholesale Market Service Rate	\$/kWh	0.0052	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013	0.0013
Special Purpose Charge	\$/kWh	0.0004	0.0004
Standard Supply Service – Administration Charge (if applicable)	\$/kWh	0.25	0.25

Consumption	2,000	kWh	-	kW
RPP Tier One	750	kWh	Load Factor	

Loss Factor 1.0560

General Service Less Than 50 kW	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Energy First Tier (kWh)	750	0.0650	48.75	750	0.0650	48.75	0.00	0.0%	15.90%
Energy Second Tier (kWh)	1,362	0.0750	102.15	1,362	0.0750	102.15	0.00	0.0%	33.32%
Sub-Total: Energy			150.90			150.90	0.00	0.0%	49.22%
Service Charge	1	49.65	49.65	1	49.74	49.74	0.09	0.2%	16.22%
Service Charge Rate Adder(s)	1	1.00	1.00	1	1.00	1.00	0.00	0.0%	0.33%
Service Charge Rate Rider(s)	1	0.00	0.00	1	0.00	0.00	0.00	0.0%	0.00%
Distribution Volumetric Rate	2,000	0.0139	27.80	2,000	0.0139	27.80	0.00	0.0%	9.07%
Distribution Volumetric Rate Adder(s)	2,000	0.0000	0.00	2,000	0.0000	0.00	0.00	0.0%	0.00%
Low Voltage Volumetric Rate	2,000	0.0006	1.20	2,000	0.0006	1.20	0.00	0.0%	0.39%
Distribution Volumetric Rate Rider(s)	2,000	-0.0012	-2.40	2,000	-0.0042	-8.40	-6.00	250.0%	-2.74%
Total: Distribution			77.25			71.34	-5.91	(7.7)%	23.27%
Retail Transmission Rate – Network Service Rate	2,112	0.0052	10.98	2,112	0.0060	12.67	1.69	15.4%	4.13%
Retail Transmission Rate – Line and Transformation Connection Service Rate	2,112	0.0045	9.50	2,112	0.0036	7.60	-1.90	(20.0)%	2.48%
Total: Retail Transmission			20.48			20.27	-0.21	(1.0)%	6.61%
Sub-Total: Delivery (Distribution and Retail Transmission)			97.73			91.61	-6.12	(6.3)%	29.88%
Wholesale Market Service Rate	2,112	0.0052	10.98	2,112	0.0052	10.98	0.00	0.0%	3.58%
Rural Rate Protection Charge	2,112	0.0013	2.75	2,112	0.0013	2.75	0.00	0.0%	0.90%
Special Purpose Charge	2,112	0.0004	0.84	2,112	0.0004	0.84	0.00	0.0%	0.27%
Standard Supply Service – Administration Charge (if applicable)	1	0.25	0.25	1	0.25	0.25	0.00	0.0%	0.08%
Sub-Total: Regulatory			14.82			14.82	0.00	0.0%	4.83%
Debt Retirement Charge (DRC)	2,000	0.00700	14.00	2,000	0.00700	14.00	0.00	0.0%	4.57%
Total Bill before Taxes			277.45			271.33	-6.12	(2.2)%	88.50%
HST	277.45	13%	36.07	271.33	13%	35.27	-0.80	(2.2)%	11.50%
Total Bill			313.52			306.60	-6.92	(2.2)%	100.00%

Rate Class Threshold Test

General Service Less Than 50 kW

	kWh	1,000	2,000	7,500	15,000	20,000
Loss Factor Adjusted kWh		1,056	2,112	7,920	15,840	21,120
	kW					
	Load Factor					
Energy	Applied For Bill	\$ 71.70	\$ 150.90	\$ 586.50	\$ 1,180.50	\$ 1,576.50
	Current Bill	\$ 71.70	\$ 150.90	\$ 586.50	\$ 1,180.50	\$ 1,576.50
	\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
	% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
	% of Total Bill	40.3%	49.2%	57.8%	59.6%	60.1%
Distribution	Applied For Bill	\$ 61.04	\$ 71.35	\$ 128.01	\$ 205.28	\$ 256.80
	Current Bill	\$ 63.95	\$ 77.25	\$ 150.40	\$ 250.15	\$ 316.65
	\$ Impact	-\$ 2.91	-\$ 5.90	-\$ 22.39	-\$ 44.87	-\$ 59.85
	% Impact	-4.6%	-7.6%	-14.9%	-17.9%	-18.9%
	% of Total Bill	34.3%	23.3%	12.6%	10.4%	9.8%
Retail Transmission	Applied For Bill	\$ 10.14	\$ 20.27	\$ 76.03	\$ 152.06	\$ 202.75
	Current Bill	\$ 10.24	\$ 20.48	\$ 76.82	\$ 153.65	\$ 204.86
	\$ Impact	-\$ 0.10	-\$ 0.21	-\$ 0.79	-\$ 1.59	-\$ 2.11
	% Impact	-1.0%	-1.0%	-1.0%	-1.0%	-1.0%
	% of Total Bill	5.7%	6.6%	7.5%	7.7%	7.7%
Delivery (Distribution and Retail Transmission)	Applied For Bill	\$ 71.18	\$ 91.62	\$ 204.04	\$ 357.34	\$ 459.55
	Current Bill	\$ 74.19	\$ 97.73	\$ 227.22	\$ 403.80	\$ 521.51
	\$ Impact	-\$ 3.01	-\$ 6.11	-\$ 23.18	-\$ 46.46	-\$ 61.96
	% Impact	-4.1%	-6.3%	-10.2%	-11.5%	-11.9%
	% of Total Bill	40.0%	29.9%	20.1%	18.0%	17.5%
Regulatory	Applied For Bill	\$ 7.53	\$ 14.82	\$ 54.90	\$ 109.55	\$ 145.98
	Current Bill	\$ 7.53	\$ 14.82	\$ 54.90	\$ 109.55	\$ 145.98
	\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
	% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
	% of Total Bill	4.2%	4.8%	5.4%	5.5%	5.6%
Debt Retirement Charge	Applied For Bill	\$ 7.00	\$ 14.00	\$ 52.50	\$ 105.00	\$ 140.00
	Current Bill	\$ 7.00	\$ 14.00	\$ 52.50	\$ 105.00	\$ 140.00
	\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
	% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
	% of Total Bill	3.9%	4.6%	5.2%	5.3%	5.3%
GST	Applied For Bill	\$ 20.46	\$ 35.27	\$ 116.73	\$ 227.81	\$ 301.86
	Current Bill	\$ 20.85	\$ 36.07	\$ 119.75	\$ 233.85	\$ 309.92
	\$ Impact	-\$ 0.39	-\$ 0.80	-\$ 3.02	-\$ 6.04	-\$ 8.06
	% Impact	-1.9%	-2.2%	-2.5%	-2.6%	-2.6%
	% of Total Bill	11.5%	11.5%	11.5%	11.5%	11.5%
Total Bill	Applied For Bill	\$ 177.87	\$ 306.61	\$ 1,014.67	\$ 1,980.20	\$ 2,623.89
	Current Bill	\$ 181.27	\$ 313.52	\$ 1,040.87	\$ 2,032.70	\$ 2,693.91
	\$ Impact	-\$ 3.40	-\$ 6.91	-\$ 26.20	-\$ 52.50	-\$ 70.02
	% Impact	-1.9%	-2.2%	-2.5%	-2.6%	-2.6%

Name of LDC: Norfolk Power Distribution Inc.
 File Number: EB-2011-0049
 Effective Date: May 1, 2011
 Version : 2.0

General Service 50 to 4,999 kW

Monthly Rates and Charges	Metric	Current Rate	Applied For Rate
Service Charge	\$	243.94	244.38
Service Charge Rate Adder(s)	\$	1.00	1.00
Service Charge Rate Rider(s)	\$	-	-
Distribution Volumetric Rate	\$/kW	3.6220	3.6285
Distribution Volumetric Rate Adder(s)	\$/kW	-	-
Low Voltage Volumetric Rate	\$/kW	0.2622	0.2622
Distribution Volumetric Rate Rider(s)	\$/kW	- 0.6622	- 2.1093
Retail Transmission Rate – Network Service Rate	\$/kW	2.1180	2.4432
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.7999	1.4256
Wholesale Market Service Rate	\$/kWh	0.0052	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013	0.0013
Special Purpose Charge	\$/kWh	0.0004	0.0004
Standard Supply Service – Administration Charge (if applicable)	\$/kWh	0.25	0.25

Consumption	995,000	kWh	2,480	kW
RPP Tier One	750	kWh	Load Factor	55.0%

Loss Factor 1.0560

General Service 50 to 4,999 kW	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Energy First Tier (kWh)	750	0.0650	48.75	750	0.0650	48.75	0.00	0.0%	0.04%
Energy Second Tier (kWh)	1,049,970	0.0750	78,747.75	1,049,970	0.0750	78,747.75	0.00	0.0%	64.97%
Sub-Total: Energy			78,796.50			78,796.50	0.00	0.0%	65.01%
Service Charge	1	243.94	243.94	1	244.38	244.38	0.44	0.2%	0.20%
Service Charge Rate Adder(s)	1	1.00	1.00	1	1.00	1.00	0.00	0.0%	0.00%
Service Charge Rate Rider(s)	1	0.00	0.00	1	0.00	0.00	0.00	0.0%	0.00%
Distribution Volumetric Rate	2,480	3.6220	8,982.56	2,480	3.6285	8,998.68	16.12	0.2%	7.42%
Distribution Volumetric Rate Adder(s)	2,480	0.0000	0.00	2,480	0.0000	0.00	0.00	0.0%	0.00%
Low Voltage Volumetric Rate	2,480	0.2622	650.26	2,480	0.2622	650.26	0.00	0.0%	0.54%
Distribution Volumetric Rate Rider(s)	2,480	-0.6622	-1,642.26	2,480	-2.1093	-5,231.06	-3,588.80	218.5%	-4.32%
Total: Distribution			8,235.50			4,663.26	-3,572.24	(43.4)%	3.85%
Retail Transmission Rate – Network Service Rate	2,480	2.1180	5,252.64	2,480	2.4432	6,059.14	806.50	15.4%	5.00%
Retail Transmission Rate – Line and Transformation Connection Service Rate	2,480	1.7999	4,463.75	2,480	1.4256	3,535.49	-928.26	(20.8)%	2.92%
Total: Retail Transmission			9,716.39			9,594.63	-121.76	(1.3)%	7.92%
Sub-Total: Delivery (Distribution and Retail Transmission)			17,951.89			14,257.89	-3,694.00	(20.6)%	11.76%
Wholesale Market Service Rate	1,050,720	0.0052	5,463.74	1,050,720	0.0052	5,463.74	0.00	0.0%	4.51%
Rural Rate Protection Charge	1,050,720	0.0013	1,365.94	1,050,720	0.0013	1,365.94	0.00	0.0%	1.13%
Special Purpose Charge	1,050,720	0.0004	420.29	1,050,720	0.0004	420.29	0.00	0.0%	0.35%
Standard Supply Service – Administration Charge (if applicable)	1	0.25	0.25	1	0.25	0.25	0.00	0.0%	0.00%
Sub-Total: Regulatory			7,250.22			7,250.22	0.00	0.0%	5.98%
Debt Retirement Charge (DRC)	995,000	0.00700	6,965.00	995,000	0.00700	6,965.00	0.00	0.0%	5.75%
Total Bill before Taxes			110,963.61			107,269.61	-3,694.00	(3.3)%	88.50%
HST	110,963.61	13%	14,425.27	107,269.61	13%	13,945.05	-480.22	(3.3)%	11.50%
Total Bill			125,388.88			121,214.66	-4,174.22	(3.3)%	100.00%

Rate Class Threshold Test

General Service 50 to 4,999 kW

	kWh	20,000	510,000	995,000	1,501,000	2,006,000
Loss Factor Adjusted kWh		21,120	538,560	1,050,720	1,585,056	2,118,336
	kW	50	1,270	2,480	3,740	5,000
Load Factor		54.8%	55.0%	55.0%	55.0%	55.0%
Energy	Applied For Bill	\$ 1,576.50	\$ 40,384.50	\$ 78,796.50	\$ 118,871.70	\$ 158,867.71
	Current Bill	\$ 1,576.50	\$ 40,384.50	\$ 78,796.50	\$ 118,871.70	\$ 158,867.71
	\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
	% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
	% of Total Bill	58.4%	64.9%	65.0%	65.1%	65.1%
Distribution	Applied For Bill	\$ 334.44	\$ 2,507.69	\$ 4,663.14	\$ 6,907.64	\$ 9,152.14
	Current Bill	\$ 406.04	\$ 4,336.85	\$ 8,235.45	\$ 12,295.15	\$ 16,354.84
	\$ Impact	-\$ 71.60	-\$ 1,829.16	-\$ 3,572.31	-\$ 5,387.51	-\$ 7,202.70
	% Impact	-17.6%	-42.2%	-43.4%	-43.8%	-44.0%
	% of Total Bill	12.4%	4.0%	3.8%	3.8%	3.7%
Retail Transmission	Applied For Bill	\$ 193.44	\$ 4,913.37	\$ 9,594.63	\$ 14,469.31	\$ 19,344.00
	Current Bill	\$ 195.90	\$ 4,975.73	\$ 9,716.39	\$ 14,652.95	\$ 19,589.50
	\$ Impact	-\$ 2.46	-\$ 62.36	-\$ 121.76	-\$ 183.64	-\$ 245.50
	% Impact	-1.3%	-1.3%	-1.3%	-1.3%	-1.3%
	% of Total Bill	7.2%	7.9%	7.9%	7.9%	7.9%
Delivery (Distribution and Retail Transmission)	Applied For Bill	\$ 527.88	\$ 7,421.06	\$ 14,257.77	\$ 21,376.95	\$ 28,496.14
	Current Bill	\$ 601.94	\$ 9,312.58	\$ 17,951.84	\$ 26,948.10	\$ 35,944.34
	\$ Impact	-\$ 74.06	-\$ 1,891.52	-\$ 3,694.07	-\$ 5,571.15	-\$ 7,448.20
	% Impact	-12.3%	-20.3%	-20.6%	-20.7%	-20.7%
	% of Total Bill	19.5%	11.9%	11.8%	11.7%	11.7%
Regulatory	Applied For Bill	\$ 145.98	\$ 3,716.31	\$ 7,250.22	\$ 10,937.13	\$ 14,616.77
	Current Bill	\$ 145.98	\$ 3,716.31	\$ 7,250.22	\$ 10,937.13	\$ 14,616.77
	\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
	% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
	% of Total Bill	5.4%	6.0%	6.0%	6.0%	6.0%
Debt Retirement Charge	Applied For Bill	\$ 140.00	\$ 3,570.00	\$ 6,965.00	\$ 10,507.00	\$ 14,042.00
	Current Bill	\$ 140.00	\$ 3,570.00	\$ 6,965.00	\$ 10,507.00	\$ 14,042.00
	\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
	% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
	% of Total Bill	5.2%	5.7%	5.7%	5.8%	5.8%
GST	Applied For Bill	\$ 310.75	\$ 7,161.94	\$ 13,945.03	\$ 21,020.06	\$ 28,082.94
	Current Bill	\$ 320.37	\$ 7,407.84	\$ 14,425.26	\$ 21,744.31	\$ 29,051.21
	\$ Impact	-\$ 9.62	-\$ 245.90	-\$ 480.23	-\$ 724.25	-\$ 968.27
	% Impact	-3.0%	-3.3%	-3.3%	-3.3%	-3.3%
	% of Total Bill	11.5%	11.5%	11.5%	11.5%	11.5%
Total Bill	Applied For Bill	\$ 2,701.11	\$ 62,253.81	\$ 121,214.52	\$ 182,712.84	\$ 244,105.56
	Current Bill	\$ 2,784.79	\$ 64,391.23	\$ 125,388.82	\$ 189,008.24	\$ 252,522.03
	\$ Impact	-\$ 83.68	-\$ 2,137.42	-\$ 4,174.30	-\$ 6,295.40	-\$ 8,416.47
	% Impact	-3.0%	-3.3%	-3.3%	-3.3%	-3.3%

Name of LDC: Norfolk Power Distribution Inc.
 File Number: EB-2011-0049
 Effective Date: May 1, 2011
 Version : 2.0

Unmetered Scattered Load

Monthly Rates and Charges	Metric	Current Rate	Applied For Rate
Service Charge	\$	26.50	26.55
Service Charge Rate Adder(s)	\$	-	-
Service Charge Rate Rider(s)	\$	-	-
Distribution Volumetric Rate	\$/kWh	0.0149	0.0149
Distribution Volumetric Rate Adder(s)	\$/kWh	-	-
Low Voltage Volumetric Rate	\$/kWh	0.0006	0.0006
Distribution Volumetric Rate Rider(s)	\$/kWh	- 0.0011	- 0.0057
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0052	0.0060
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0045	0.0036
Wholesale Market Service Rate	\$/kWh	0.0052	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013	0.0013
Special Purpose Charge	\$/kWh	0.0004	0.0004
Standard Supply Service – Administration Charge (if applicable)	\$/kWh	0.25	0.25

Consumption	2,000 kWh	0 kW
RPP Tier One	750 kWh	Load Factor

Loss Factor 1.0560

Unmetered Scattered Load	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Energy First Tier (kWh)	750	0.0650	48.75	750	0.0650	48.75	0.00	0.0%	17.53%
Energy Second Tier (kWh)	1,362	0.0750	102.15	1,362	0.0750	102.15	0.00	0.0%	36.73%
Sub-Total: Energy			150.90			150.90	0.00	0.0%	54.25%
Service Charge	1	26.50	26.50	1	26.55	26.55	0.05	0.2%	9.55%
Service Charge Rate Adder(s)	1	0.00	0.00	1	0.00	0.00	0.00	0.0%	0.00%
Service Charge Rate Rider(s)	1	0.00	0.00	1	0.00	0.00	0.00	0.0%	0.00%
Distribution Volumetric Rate	2,000	0.0149	29.80	2,000	0.0149	29.80	0.00	0.0%	10.71%
Distribution Volumetric Rate Adder(s)	2,000	0.0000	0.00	2,000	0.0000	0.00	0.00	0.0%	0.00%
Low Voltage Volumetric Rate	2,000	0.0006	1.20	2,000	0.0006	1.20	0.00	0.0%	0.43%
Distribution Volumetric Rate Rider(s)	2,000	-0.0011	-2.20	2,000	-0.0057	-11.40	-9.20	418.2%	-4.10%
Total: Distribution			55.30			46.15	-9.15	(16.5)%	16.59%
Retail Transmission Rate – Network Service Rate	2,112	0.0052	10.98	2,112	0.0060	12.67	1.69	15.4%	4.56%
Retail Transmission Rate – Line and Transformation Connection Service Rate	2,112	0.0045	9.50	2,112	0.0036	7.60	-1.90	(20.0)%	2.73%
Total: Retail Transmission			20.48			20.27	-0.21	(1.0)%	7.29%
Sub-Total: Delivery (Distribution and Retail Transmission)			75.78			66.42	-9.36	(12.4)%	23.88%
Wholesale Market Service Rate	2,112	0.0052	10.98	2,112	0.0052	10.98	0.00	0.0%	3.95%
Rural Rate Protection Charge	2,112	0.0013	2.75	2,112	0.0013	2.75	0.00	0.0%	0.99%
Special Purpose Charge	2,112	0.0004	0.84	2,112	0.0004	0.84	0.00	0.0%	0.30%
Standard Supply Service – Administration Charge (if applicable)	1	0.25	0.25	1	0.25	0.25	0.00	0.0%	0.09%
Sub-Total: Regulatory			14.82			14.82	0.00	0.0%	5.33%
Debt Retirement Charge (DRC)	2,000	0.00700	14.00	2,000	0.00700	14.00	0.00	0.0%	5.03%
Total Bill before Taxes			255.50			246.14	-9.36	(3.7)%	88.50%
HST	255.50	13%	33.22	246.14	13%	32.00	-1.22	(3.7)%	11.50%
Total Bill			288.72			278.14	-10.58	(3.7)%	100.00%

Rate Class Threshold Test

Unmetered Scattered Load

	kWh	500	2,000	7,500	15,000	20,000
Loss Factor Adjusted kWh		528	2,112	7,920	15,840	21,120
	kW					
	Load Factor					
Energy	Applied For Bill	\$ 34.32	\$ 150.90	\$ 586.50	\$ 1,180.50	\$ 1,576.50
	Current Bill	\$ 34.32	\$ 150.90	\$ 586.50	\$ 1,180.50	\$ 1,576.50
	\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
	% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
	% of Total Bill	38.8%	54.3%	59.7%	60.7%	61.0%
Distribution	Applied For Bill	\$ 31.45	\$ 46.15	\$ 100.05	\$ 173.55	\$ 222.55
	Current Bill	\$ 33.70	\$ 55.30	\$ 134.50	\$ 242.50	\$ 314.50
	\$ Impact	-\$ 2.25	-\$ 9.15	-\$ 34.45	-\$ 68.95	-\$ 91.95
	% Impact	-6.7%	-16.5%	-25.6%	-28.4%	-29.2%
	% of Total Bill	35.6%	16.6%	10.2%	8.9%	8.6%
Retail Transmission	Applied For Bill	\$ 5.07	\$ 20.27	\$ 76.03	\$ 152.06	\$ 202.75
	Current Bill	\$ 5.13	\$ 20.48	\$ 76.82	\$ 153.65	\$ 204.86
	\$ Impact	-\$ 0.06	-\$ 0.21	-\$ 0.79	-\$ 1.59	-\$ 2.11
	% Impact	-1.2%	-1.0%	-1.0%	-1.0%	-1.0%
	% of Total Bill	5.7%	7.3%	7.7%	7.8%	7.8%
Delivery (Distribution and Retail Transmission)	Applied For Bill	\$ 36.52	\$ 66.42	\$ 176.08	\$ 325.61	\$ 425.30
	Current Bill	\$ 38.83	\$ 75.78	\$ 211.32	\$ 396.15	\$ 519.36
	\$ Impact	-\$ 2.31	-\$ 9.36	-\$ 35.24	-\$ 70.54	-\$ 94.06
	% Impact	-5.9%	-12.4%	-16.7%	-17.8%	-18.1%
	% of Total Bill	41.3%	23.9%	17.9%	16.7%	16.5%
Regulatory	Applied For Bill	\$ 3.90	\$ 14.82	\$ 54.90	\$ 109.55	\$ 145.98
	Current Bill	\$ 3.90	\$ 14.82	\$ 54.90	\$ 109.55	\$ 145.98
	\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
	% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
	% of Total Bill	4.4%	5.3%	5.6%	5.6%	5.6%
Debt Retirement Charge	Applied For Bill	\$ 3.50	\$ 14.00	\$ 52.50	\$ 105.00	\$ 140.00
	Current Bill	\$ 3.50	\$ 14.00	\$ 52.50	\$ 105.00	\$ 140.00
	\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
	% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
	% of Total Bill	4.0%	5.0%	5.3%	5.4%	5.4%
GST	Applied For Bill	\$ 10.17	\$ 32.00	\$ 113.10	\$ 223.69	\$ 297.41
	Current Bill	\$ 10.47	\$ 33.22	\$ 117.68	\$ 232.86	\$ 309.64
	\$ Impact	-\$ 0.30	-\$ 1.22	-\$ 4.58	-\$ 9.17	-\$ 12.23
	% Impact	-2.9%	-3.7%	-3.9%	-3.9%	-3.9%
	% of Total Bill	11.5%	11.5%	11.5%	11.5%	11.5%
Total Bill	Applied For Bill	\$ 88.41	\$ 278.14	\$ 983.08	\$ 1,944.35	\$ 2,585.19
	Current Bill	\$ 91.02	\$ 288.72	\$ 1,022.90	\$ 2,024.06	\$ 2,691.48
	\$ Impact	-\$ 2.61	-\$ 10.58	-\$ 39.82	-\$ 79.71	-\$ 106.29
	% Impact	-2.9%	-3.7%	-3.9%	-3.9%	-3.9%

Name of LDC: Norfolk Power Distribution Inc.
File Number: EB-2011-0049
Effective Date: May 1, 2011
Version : 2.0

Sentinel Lighting

Monthly Rates and Charges	Metric	Current Rate	Applied For Rate
Service Charge	\$	6.14	6.15
Service Charge Rate Adder(s)	\$	-	-
Service Charge Rate Rider(s)	\$	-	-
Distribution Volumetric Rate	\$/kW	18.2587	18.2916
Distribution Volumetric Rate Adder(s)	\$/kW	-	-
Low Voltage Volumetric Rate	\$/kW	0.2024	0.2024
Distribution Volumetric Rate Rider(s)	\$/kW	- 0.4148	- 2.2089
Retail Transmission Rate – Network Service Rate	\$/kW	1.6055	1.8520
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.4205	1.1251
Wholesale Market Service Rate	\$/kWh	0.0052	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013	0.0013
Special Purpose Charge	\$/kWh	0.0004	0.0004
Standard Supply Service – Administration Charge (if applicable)	\$/kWh	0.25	0.25

Consumption	180 kWh	0.50 kW
RPP Tier One	750 kWh	Load Factor 49.3%

Loss Factor 1.0560

Sentinel Lighting	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Energy First Tier (kWh)	191	0.0650	12.42	191	0.0650	12.42	0.00	0.0%	35.40%
Energy Second Tier (kWh)	0	0.0750	0.00	0	0.0750	0.00	0.00	0.0%	0.00%
Sub-Total: Energy			12.42			12.42	0.00	0.0%	35.40%
Service Charge	1	6.14	6.14	1	6.15	6.15	0.01	0.2%	17.53%
Service Charge Rate Adder(s)	1	0.00	0.00	1	0.00	0.00	0.00	0.0%	0.00%
Service Charge Rate Rider(s)	1	0.00	0.00	1	0.00	0.00	0.00	0.0%	0.00%
Distribution Volumetric Rate	0.50	18.2587	9.13	0.50	18.2916	9.15	0.02	0.2%	26.08%
Distribution Volumetric Rate Adder(s)	0.50	0.0000	0.00	0.50	0.0000	0.00	0.00	0.0%	0.00%
Low Voltage Volumetric Rate	0.50	0.2024	0.10	0.50	0.2024	0.10	0.00	0.0%	0.29%
Distribution Volumetric Rate Rider(s)	0.50	-0.4148	-0.21	0.50	-2.2089	-1.10	-0.89	423.8%	-3.14%
Total: Distribution			15.16			14.30	-0.86	(5.7)%	40.76%
Retail Transmission Rate – Network Service Rate	0.50	1.6055	0.80	0.50	1.8520	0.93	0.13	16.3%	2.65%
Retail Transmission Rate – Line and Transformation Connection Service Rate	0.50	1.4205	0.71	0.50	1.1251	0.56	-0.15	(21.1)%	1.60%
Total: Retail Transmission			1.51			1.49	-0.02	(1.3)%	4.25%
Sub-Total: Delivery (Distribution and Retail Transmission)			16.67			15.79	-0.88	(5.3)%	45.01%
Wholesale Market Service Rate	191	0.0052	0.99	191	0.0052	0.99	0.00	0.0%	2.82%
Rural Rate Protection Charge	191	0.0013	0.25	191	0.0013	0.25	0.00	0.0%	0.71%
Special Purpose Charge	191	0.0004	0.08	191	0.0004	0.08	0.00	0.0%	0.23%
Standard Supply Service – Administration Charge (if applicable)	1	0.25	0.25	1	0.25	0.25	0.00	0.0%	0.71%
Sub-Total: Regulatory			1.57			1.57	0.00	0.0%	4.48%
Debt Retirement Charge (DRC)	180	0.00700	1.26	180	0.00700	1.26	0.00	0.0%	3.59%
Total Bill before Taxes			31.92			31.04	-0.88	(2.8)%	88.48%
HST	31.92	13%	4.15	31.04	13%	4.04	-0.11	(2.7)%	11.52%
Total Bill			36.07			35.08	-0.99	(2.7)%	100.00%

Rate Class Threshold Test

Sentinel Lighting

	kWh	70	130	180	270	360
Loss Factor Adjusted kWh		74	138	191	286	381
	kW	0.20	0.35	0.50	0.75	1.00
Load Factor		48.0%	50.9%	49.3%	49.3%	49.3%

Energy

Applied For Bill	\$ 4.81	\$ 8.97	\$ 12.41	\$ 18.59	\$ 24.76
Current Bill	\$ 4.81	\$ 8.97	\$ 12.41	\$ 18.59	\$ 24.76
\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
% of Total Bill	26.5%	33.1%	35.4%	38.0%	39.4%

Distribution

Applied For Bill	\$ 9.41	\$ 11.85	\$ 14.30	\$ 18.36	\$ 22.43
Current Bill	\$ 9.75	\$ 12.45	\$ 15.16	\$ 19.67	\$ 24.19
\$ Impact	-\$ 0.34	-\$ 0.60	-\$ 0.86	-\$ 1.31	-\$ 1.76
% Impact	-3.5%	-4.8%	-5.7%	-6.7%	-7.3%
% of Total Bill	51.8%	43.7%	40.8%	37.5%	35.7%

Retail Transmission

Applied For Bill	\$ 0.60	\$ 1.04	\$ 1.49	\$ 2.23	\$ 2.98
Current Bill	\$ 0.60	\$ 1.06	\$ 1.51	\$ 2.27	\$ 3.03
\$ Impact	\$ -	-\$ 0.02	-\$ 0.02	-\$ 0.04	-\$ 0.05
% Impact	0.0%	-1.9%	-1.3%	-1.8%	-1.7%
% of Total Bill	3.3%	3.8%	4.2%	4.6%	4.7%

Delivery (Distribution and Retail Transmission)

Applied For Bill	\$ 10.01	\$ 12.89	\$ 15.79	\$ 20.59	\$ 25.41
Current Bill	\$ 10.35	\$ 13.51	\$ 16.67	\$ 21.94	\$ 27.22
\$ Impact	-\$ 0.34	-\$ 0.62	-\$ 0.88	-\$ 1.35	-\$ 1.81
% Impact	-3.3%	-4.6%	-5.3%	-6.2%	-6.6%
% of Total Bill	55.1%	47.6%	45.0%	42.1%	40.5%

Regulatory

Applied For Bill	\$ 0.76	\$ 1.21	\$ 1.57	\$ 2.22	\$ 2.88
Current Bill	\$ 0.76	\$ 1.21	\$ 1.57	\$ 2.22	\$ 2.88
\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
% of Total Bill	4.2%	4.5%	4.5%	4.5%	4.6%

Debt Retirement Charge

Applied For Bill	\$ 0.49	\$ 0.91	\$ 1.26	\$ 1.89	\$ 2.52
Current Bill	\$ 0.49	\$ 0.91	\$ 1.26	\$ 1.89	\$ 2.52
\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
% of Total Bill	2.7%	3.4%	3.6%	3.9%	4.0%

GST

Applied For Bill	\$ 2.09	\$ 3.12	\$ 4.03	\$ 5.63	\$ 7.22
Current Bill	\$ 2.13	\$ 3.20	\$ 4.15	\$ 5.80	\$ 7.46
\$ Impact	-\$ 0.04	-\$ 0.08	-\$ 0.12	-\$ 0.17	-\$ 0.24
% Impact	-1.9%	-2.5%	-2.9%	-2.9%	-3.2%
% of Total Bill	11.5%	11.5%	11.5%	11.5%	11.5%

Total Bill

Applied For Bill	\$ 18.16	\$ 27.10	\$ 35.06	\$ 48.92	\$ 62.79
Current Bill	\$ 18.54	\$ 27.80	\$ 36.06	\$ 50.44	\$ 64.84
\$ Impact	-\$ 0.38	-\$ 0.70	-\$ 1.00	-\$ 1.52	-\$ 2.05
% Impact	-2.0%	-2.5%	-2.8%	-3.0%	-3.2%

Name of LDC: Norfolk Power Distribution Inc.
 File Number: EB-2011-0049
 Effective Date: May 1, 2011
 Version : 2.0

Street Lighting

Monthly Rates and Charges	Metric	Current Rate	Applied For Rate
Service Charge	\$	1.85	1.85
Service Charge Rate Adder(s)	\$	-	-
Service Charge Rate Rider(s)	\$	-	-
Distribution Volumetric Rate	\$/kW	6.9781	6.9907
Distribution Volumetric Rate Adder(s)	\$/kW	-	-
Low Voltage Volumetric Rate	\$/kW	0.1999	0.1999
Distribution Volumetric Rate Rider(s)	\$/kW	- 0.3633	- 1.6694
Retail Transmission Rate – Network Service Rate	\$/kW	1.5975	1.8427
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.3915	1.1021
Wholesale Market Service Rate	\$/kWh	0.0052	0.0052
Rural Rate Protection Charge	\$/kWh	0.0013	0.0013
Special Purpose Charge	\$/kWh	0.0004	0.0004
Standard Supply Service – Administration Charge (if applicable)	\$/kWh	0.25	0.25

Consumption	37 kWh	0.10 kW
RPP Tier One	750 kWh	Load Factor 50.7%

Loss Factor 1.0560

Street Lighting	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Energy First Tier (kWh)	40	0.0650	2.60	40	0.0650	2.60	0.00	0.0%	37.85%
Energy Second Tier (kWh)	0	0.0750	0.00	0	0.0750	0.00	0.00	0.0%	0.00%
Sub-Total: Energy			2.60			2.60	0.00	0.0%	37.85%
Service Charge	1	1.85	1.85	1	1.85	1.85	0.00	0.0%	26.93%
Service Charge Rate Adder(s)	1	0.00	0.00	1	0.00	0.00	0.00	0.0%	0.00%
Service Charge Rate Rider(s)	1	0.00	0.00	1	0.00	0.00	0.00	0.0%	0.00%
Distribution Volumetric Rate	0.10	6.9781	0.70	0.10	6.9907	0.70	0.00	0.0%	10.19%
Distribution Volumetric Rate Adder(s)	0.10	0.0000	0.00	0.10	0.0000	0.00	0.00	0.0%	0.00%
Low Voltage Volumetric Rate	0.10	0.1999	0.02	0.10	0.1999	0.02	0.00	0.0%	0.29%
Distribution Volumetric Rate Rider(s)	0.10	-0.3633	-0.04	0.10	-1.6694	-0.17	-0.13	325.0%	-2.47%
Total: Distribution			2.53			2.40	-0.13	(5.1)%	34.93%
Retail Transmission Rate – Network Service Rate	0.10	1.5975	0.16	0.10	1.8427	0.18	0.02	12.5%	2.62%
Retail Transmission Rate – Line and Transformation Connection Service Rate	0.10	1.3915	0.14	0.10	1.1021	0.11	-0.03	(21.4)%	1.60%
Total: Retail Transmission			0.30			0.29	-0.01	(3.3)%	4.22%
Sub-Total: Delivery (Distribution and Retail Transmission)			2.83			2.69	-0.14	(4.9)%	39.16%
Wholesale Market Service Rate	40	0.0052	0.21	40	0.0052	0.21	0.00	0.0%	3.06%
Rural Rate Protection Charge	40	0.0013	0.05	40	0.0013	0.05	0.00	0.0%	0.73%
Special Purpose Charge	40	0.0004	0.02	40	0.0004	0.02	0.00	0.0%	0.29%
Standard Supply Service – Administration Charge (if applicable)	1	0.25	0.25	1	0.25	0.25	0.00	0.0%	3.64%
Sub-Total: Regulatory			0.53			0.53	0.00	0.0%	7.71%
Debt Retirement Charge (DRC)	37	0.00700	0.26	37	0.00700	0.26	0.00	0.0%	3.78%
Total Bill before Taxes			6.22			6.08	-0.14	(2.3)%	88.50%
HST	6.22	13%	0.81	6.08	13%	0.79	-0.02	(2.5)%	11.50%
Total Bill			7.03			6.87	-0.16	(2.3)%	100.00%

Rate Class Threshold Test

Street Lighting

	kWh	37	73	110	146	183
Loss Factor Adjusted kWh		40	78	117	155	194
	kW	0.10	0.20	0.30	0.40	0.50
Load Factor		50.7%	50.0%	50.3%	50.0%	50.2%

Energy

Applied For Bill	\$ 2.60	\$ 5.07	\$ 7.60	\$ 10.07	\$ 12.61
Current Bill	\$ 2.60	\$ 5.07	\$ 7.60	\$ 10.07	\$ 12.61
\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
% of Total Bill	37.8%	45.2%	48.7%	50.5%	51.7%

Distribution

Applied For Bill	\$ 2.40	\$ 2.96	\$ 3.51	\$ 4.06	\$ 4.62
Current Bill	\$ 2.53	\$ 3.22	\$ 3.89	\$ 4.57	\$ 5.26
\$ Impact	-\$ 0.13	-\$ 0.26	-\$ 0.38	-\$ 0.51	-\$ 0.64
% Impact	-5.1%	-8.1%	-9.8%	-11.2%	-12.2%
% of Total Bill	34.9%	26.4%	22.5%	20.4%	19.0%

Retail Transmission

Applied For Bill	\$ 0.29	\$ 0.59	\$ 0.88	\$ 1.18	\$ 1.47
Current Bill	\$ 0.30	\$ 0.60	\$ 0.90	\$ 1.20	\$ 1.50
\$ Impact	-\$ 0.01	-\$ 0.01	-\$ 0.02	-\$ 0.02	-\$ 0.03
% Impact	-3.3%	-1.7%	-2.2%	-1.7%	-2.0%
% of Total Bill	4.2%	5.3%	5.6%	5.9%	6.0%

Delivery (Distribution and Retail Transmission)

Applied For Bill	\$ 2.69	\$ 3.55	\$ 4.39	\$ 5.24	\$ 6.09
Current Bill	\$ 2.83	\$ 3.82	\$ 4.79	\$ 5.77	\$ 6.76
\$ Impact	-\$ 0.14	-\$ 0.27	-\$ 0.40	-\$ 0.53	-\$ 0.67
% Impact	-4.9%	-7.1%	-8.4%	-9.2%	-9.9%
% of Total Bill	39.2%	31.7%	28.1%	26.3%	25.0%

Regulatory

Applied For Bill	\$ 0.53	\$ 0.79	\$ 1.06	\$ 1.32	\$ 1.59
Current Bill	\$ 0.53	\$ 0.79	\$ 1.06	\$ 1.32	\$ 1.59
\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
% of Total Bill	7.7%	7.0%	6.8%	6.6%	6.5%

Debt Retirement Charge

Applied For Bill	\$ 0.26	\$ 0.51	\$ 0.77	\$ 1.02	\$ 1.28
Current Bill	\$ 0.26	\$ 0.51	\$ 0.77	\$ 1.02	\$ 1.28
\$ Impact	\$ -	\$ -	\$ -	\$ -	\$ -
% Impact	0.0%	0.0%	0.0%	0.0%	0.0%
% of Total Bill	3.8%	4.5%	4.9%	5.1%	5.3%

GST

Applied For Bill	\$ 0.79	\$ 1.29	\$ 1.80	\$ 2.29	\$ 2.80
Current Bill	\$ 0.81	\$ 1.32	\$ 1.85	\$ 2.36	\$ 2.89
\$ Impact	-\$ 0.02	-\$ 0.03	-\$ 0.05	-\$ 0.07	-\$ 0.09
% Impact	-2.5%	-2.3%	-2.7%	-3.0%	-3.1%
% of Total Bill	11.5%	11.5%	11.5%	11.5%	11.5%

Total Bill

Applied For Bill	\$ 6.87	\$ 11.21	\$ 15.62	\$ 19.94	\$ 24.37
Current Bill	\$ 7.03	\$ 11.51	\$ 16.07	\$ 20.54	\$ 25.13
\$ Impact	-\$ 0.16	-\$ 0.30	-\$ 0.45	-\$ 0.60	-\$ 0.76
% Impact	-2.3%	-2.6%	-2.8%	-2.9%	-3.0%

Exhibit 1 : LRAM and SSM Application

Summary

Norfolk Power Distribution Inc (NPDI) herewith submits an application to the Ontario Energy Board (OEB) for the approval and recovery of historical Lost Revenue Mechanism (LRAM) and Shared Savings Mechanism (SSM) amounts related to new and ongoing Conservation and Demand Management (CDM) activities in 2005, 2006, 2007, 2008 and 2009. It is requested that these amounts be recovered through a rate rider over a one year period beginning May 1 2011. Total amount for recovery is \$425,914, including carrying charges of \$15,556. Amounts for SSM and LRAM recovery are summarized in Table 1.

Table 1: Summary of Requested LRAM and SSM Amounts

Customer Class	LRAM	Carrying Charges	SSM	Total
Residential	\$284,509	\$13,846	\$38,573	\$336,929
GS < 50 kW	\$44,150	\$638	\$253	\$45,042
GS > 50 kW	\$29,362	\$1,072	\$13,510	\$43,944
Total	\$358,021	\$15,556	\$52,336	\$425,914

NOTE: Totals may differ from the sum of rows or columns due to rounding

SSM Amounts

All CDM programs for which SSM amounts are sought were undertaken in connection with NPDI's Third Tranche CDM spending obligations in 2005, 2006, 2007 and 2008.

The total SSM sought for recovery is \$52,336, which is based on the results of the Total Resource Cost test (TRC test) that NPDI used to evaluate the results of its programs. The stream of future net benefits is evaluating using net present value (NPV). In accordance with CDM guidelines, NPDI is requesting recovery of 5% of the NPV of the CDM programs.

Table 2 on the following page provides the SSM amounts by program and customer class.

Table 2: SSM Amounts by Program and Rate Class

Program	Net TRC				SSM
	Residential	GS < 50 kW	GS < 50 kW	Total	
Appliance Rebate	\$8,126			\$8,126	\$406
CFL Giveaway/Environmental Action	\$251,147			\$251,147	\$12,557
Cold Water Wash	\$1,916			\$1,916	\$96
Energy Star Windows	\$6,848			\$6,848	\$342
Every Kilowatt Counts	\$568,074			\$568,074	\$28,404
LED Seasonal Light Exchange	\$61,856			\$61,856	\$3,093
Lighten Your Electricity Bill	\$76,808			\$76,808	\$3,840
Load Control Pilot	-\$15,417			-\$15,417	-\$771
Water Heater Replacement	-\$26,262			-\$26,262	-\$1,313
Wind Power Study	-\$11,968			-\$11,968	-\$598
Norfolk Power Facility		\$13,963		\$13,963	\$698
Energy Audits for Major Customers			\$275,220	\$275,220	\$13,761
Education	-\$104,249			-\$104,249	-\$5,212
Training & Administration	-\$45,417	-\$8,901	-\$5,023	-\$59,341	-\$2,967
Total	\$771,462	\$5,062	\$270,197	\$1,046,721	\$52,336

NOTES:

1. Totals may differ from the sum of rows or columns due to rounding
2. Similar programs have been grouped for simplicity
3. Details by year and program are presented in Table 3 of the IndEco report in Appendix 1

LRAM Amounts

The LRAM adjusts for volumetric variances between actual CDM results and the corresponding quantities used in rate setting. The requested LRAM amounts is derived from savings composed of:

Third Tranche CDM programs implemented in 2005, 2006, 2007 and 2008
Ontario Power Authority (OPA) programs implemented in 2006, 2007, 2008 and 2009.

The results for OPA programs in 2009 are preliminary, and will be updated once OPA provided final results. The lost revenues are calculated from the year of introduction through to December 31 2010.

None of the load reductions estimated were factored in to the load forecast underpinning 2006, 2007, 2008 or 2009 rates. Therefore, NPDI proposed recovery of LRAM amounts related to the entire load reductions, net of free rider quantities. The calculation of the load reduction is based on the energy and demand savings and the lifespan of the technology by rate class. The reduction in demand related to these programs has been incorporated into the rate forecast for May 1 2011 onward. However, energy savings related to OPA programs delivered in 2010 or later have not been captured. Reductions in load for the period through December 31 2010, net of free riders, are shown on Table 3.

The total LRAM amount sought for recovery is \$373,578 of which \$197,038 is related to Third Tranche programs and \$176,541 is a result of OPA programs. These values include \$15,556 in carrying charges. Carrying charges were calculated using OEB approved rates. Resulting lost revenues are summarized on Table 4.

Verification and Evaluation of Results

NPDI engaged IndEco Strategic Consulting Inc. to review its CDM program results and TRC calculations and aid in the calculation of recovery amounts using OEB guidelines. IndEco reported that the values provided in this application are considered valid. The full report prepared by IndEco is available as Appendix 1.

Recovery

NPDI requests recovery of the LRAM and SSM amounts by way of volumetric rate riders over a one year period, effective May 1 2011, with the foregone revenue from each customer class allocated to that class for recovery. Table 5

sets the corresponding amounts by class, as well as the corresponding rate rider based on 2008 approved billing determinants.

Impact on customer bills has been included in the Rate Generator Model and summarized in the applicant's Manager's Summary.

Table 3: Cumulative Net Energy and Demand Savings By Rate Class Through 2010

Funding Stream	Program	Net savings		
		Residential (kWh)	GS < 50 kW (kWh)	GS < 50 kW (kW-mo)
Third-tranche	Appliance Rebate	52,738		
	CFL Giveaway/Environmental Action	1,239,659		
	Cold Water Wash	40,121		
	Energy Star Windows	19,167		
	Every Kilowatt Counts (2006-2007)	6,959,187		
	LED Seasonal Light Exchange	189,001		
	Lighten Your Electricity Bill	489,541		
	Load Control Pilot			
	Water Heater Replacement	231,387		
	Wind Power Study			
	Norfolk Power Facility		102,435	
	Energy Audits for Major Customers			4,028
	Education Training & Administration			
	Sub-total	9,220,798	102,435	4,028
OPA	Cool Savings Rebate	1,009,071		
	ERIP		544,866	3,889
	Every Kilowatt Counts/ PSE (2008-9)	1,575,765		
	Great Refrigerator Roundup/ Fridge Pilot	1,188,792		
	High Performance New Construction		52,736	
	peaksaver	7,852	1,109	219
	Power Saving Blitz		2,401,325	
	Social Housing Pilot	165,092		
Summer Savings/Summer Sweepstakes	1,975,044			
	Sub-total	5,921,614	3,000,034	4,109
Total		15,021,764	3,801,240	6,216

NOTES:

1. Totals may differ from the sum of rows or columns due to rounding
2. Similar programs have been grouped for simplicity
3. Details by year and program are presented in Table 4 of the IndEco report in Appendix 1

Table 4: Summary of LRAM Claim by Program and Rate Class

Funding Stream	Program	Net LRAM			
		Residential (kWh)	GS < 50 kW (kWh)	GS < 50 kW (kW-mo)	Total
Third-tranche	Appliance Rebate	\$1,049			\$1,049
	CFL Giveaway/Environmental Action	\$24,542			\$24,542
	Cold Water Wash	\$706			\$706
	Energy Star Windows	\$368			\$368
	Every Kilowatt Counts (2006-2007)	\$136,507			\$136,507
	LED Seasonal Light Exchange	\$3,719			\$3,719
	Lighten Your Electricity Bill	\$9,406			\$9,406
	Load Control Pilot				\$0
	Water Heater Replacement	\$4,492			\$4,492
	Wind Power Study				\$0
	Norfolk Power Facility Energy Audits for Major Customers		\$1,475		\$1,475
	Education			\$14,775	\$14,775
	Training & Administration				\$0
		Sub-total	\$180,788	\$1,475	\$14,775
OPA	Cool Savings Rebate	\$19,913			\$19,913
	ERIP		\$7,853	\$14,811	\$22,665
	Every Kilowatt Counts/ PSE (2008-9)	\$31,480			\$31,480
	Great Refrigerator Roundup/ Fridge Pilot	\$23,570			\$23,570
	High Performance New Construction		\$762		\$762
	peaksaver	\$157	\$17	\$849	\$1,022
	Power Saving Blitz		\$34,682		\$34,682
	Social Housing Pilot	\$3,245			\$3,245
	Summer Savings/Summer Sweepstakes	\$39,203			\$39,203
	Sub-total	\$117,568	\$43,313	\$15,660	\$176,541
Total		\$295,974	\$54,888	\$23,090	\$373,953

NOTES:

1. Totals may differ from the sum of rows or columns due to rounding
2. Similar programs have been grouped for simplicity
3. Details by year and program are presented in Table 7 of the IndEco report in Appendix 1

Table 5: LRAM/SSM Amounts and Rate Riders by Class

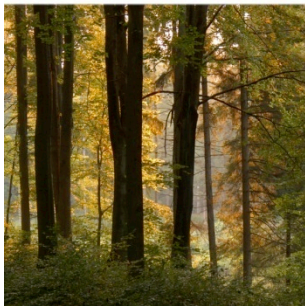
Customer Class	LRAM	Carrying Charges	SSM	Total	Unit	2008 Approved kWh/kW	Rate Rider \$/unit
Residential	\$284,509	\$13,846	\$38,573	\$336,929	kWh	147,447,515	\$0.002285
GS < 50 kW	\$44,150	\$638	\$253	\$45,042	kWh	64,081,972	\$0.000703
GS > 50 kW	\$29,362	\$1,072	\$13,510	\$43,944	kW	403,334	\$0.108952
Total	\$358,021	\$15,556	\$52,336	\$425,914			

NOTE: Totals differ from the sum of rows or columns due to rounding

Exhibit 1

Appendix A: Third Party Review: NPDI LRAM and SSM Claims

Norfolk Power Distribution Inc. LRAM/SSM



Third party review:

Norfolk Power Distribution Inc.
LRAM and SSM claims



This document was prepared for Norfolk Power Distribution Inc. by IndEco Strategic Consulting Inc.

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This document updates an earlier version of this report to incorporate OPA's final 2009 evaluation results rather than the preliminary results previously used.

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Executive summary

A third party review of the Conservation and Demand Management (CDM) programs run by Norfolk Power Distribution Inc. (NPDI) was required as part of its application to the Ontario Energy Board (OEB) for collection of Lost Revenue Adjustment Mechanism (LRAM) and Shared Savings Mechanism (SSM) claims.

IndEco Strategic Consulting Inc. (IndEco) acted as third party reviewer by examining the participant rates, program costs, equipment specifications, and calculations that enter into the energy savings and Total Resource Costs (TRC) submitted by NPDI to the OEB. The review was completed as detailed in the OEB *Guidelines for Electricity Distributor Conservation and Demand Management*.

The third party review included NPDI's CDM activities in 2005, 2006, 2007, 2008 and 2009 supported through Third Tranche of Market Adjustment Revenue Requirement (MARR) funding, and Ontario Power Authority (OPA) funding.

Net benefits, calculated using the TRC test, used OEB recommended inputs. For prescriptive measures, inputs were taken primarily from the OEB *Total Resource Cost Guide*, or program evaluations provided by the OPA. Where these were incomplete, values were taken from the OPA's *2010 Prescriptive Measures and Assumptions*, and *2010 Quasi-prescriptive Measure and Assumptions*. TRC inputs for custom programs also relied upon manufacturer specifications and NPDI's evaluations. Net TRC benefits totalled over \$1 million dollars.

Lost revenues are calculated using estimated energy savings or monthly peak demand savings using the best available and most current input assumptions. Energy savings originally reported in NPDI's annual filings have been updated to reflect new assumptions available since then, including more recent input assumptions from the OPA, and the results of OPA's program evaluations. In the span of six years, these savings totalled over 15 GWh in the residential rate class and 3 GWh in the GS < 50 kW rate class. Savings in the GS > 50 kW class totalled approximately 8,100 kW-months.

IndEco concludes that NPDI's electricity rates should be adjusted to reflect LRAM and SSM claims of \$373,578 and \$52,336 respectively.

Introduction

Lost Revenue Adjustment Mechanism and Shared Savings Mechanism claims can benefit a local distribution company (LDC) by removing the disincentive for energy conservation, and by providing it with a portion of net economic benefits from conservation and demand management activities, respectively.

LRAM is designed to ensure that the LDC does not have a disincentive to promote energy efficiency and energy conservation by compensating the LDC for revenues lost as a result of its conservation initiatives. It requires the calculation of electricity savings over the period for which the LRAM is being claimed. In turn, this calculation requires information on what the electricity use would have been in the absence of the LDC initiatives, and what it was with the LDC initiative. Current Ontario practice is to do this using a bottom-up approach, looking at what equipment or procedures were put in place as a result of CDM programs, and what they replace. Some of the inputs to the calculation include: hours the equipment is used, wattage rating of the old and new equipment, and lifetime of the equipment if it is less than the period over which the LRAM is being claimed. Also required are the number of participants, or pieces of equipment installed, and an estimate of the free-rider rate, which is the fraction of the savings that would have occurred anyway, in the absence of the program. These savings are estimated by rate class, and revenue losses are determined by multiplying those losses by the cost of distribution per unit for each rate class. Carrying charges are calculated using deferral and variance account interest rates prescribed by the OEB.¹

The SSM rewards the LDC for its CDM initiatives by sharing a percentage of the net lifetime economic benefits that result from the initiatives. For CDM activities by Ontario electricity distributors, that percentage has been set at five percent by the Ontario Energy Board (OEB). Key inputs to the calculation of SSM include all of the LRAM inputs, and in addition, the total lifetime of each technology installed, equipment costs, program costs, projected electricity costs (and water and natural gas if relevant) over that lifetime, and the discount rate used to convert future dollar savings into present dollars.

Although these input data requirements are sometimes measured, they sometimes use values from published sources, or assumptions provided by the Ontario Energy Board, or other reputable agencies. Collectively all these data are sometimes referred to as “TRC inputs” after the Total Resource Cost test that is used to calculate total economic costs and benefits to society. For some types of programs, such as large scale distribution of compact fluorescent bulbs, it would be impractical to

¹ For prescribed interest rates, see <http://www.oeb.gov.on.ca/OEB/Industry/Rules+and+Requirements/Rules+Codes+Guidelines+and+Forms/Prescribed+Interest+Rates>

measure the hours each bulb is used, and therefore these published sources provide an average value that is typical for this equipment type.

In some cases, estimated values for a particular component of the calculation are available from multiple sources. In these cases, information is taken from the sources highest in the information hierarchy. The information hierarchy (from greatest to least confidence) for LRAM calculations is:

- 1 Information or results from an OPA conducted or sponsored evaluation of the specific program (e.g. OPA 2009a)
- 2 Information or results from a third-party evaluation of the specific program
- 3 Information or results from a site-specific assessment of the application of the technology, including on-site measurement or survey of the specific customer
- 4 Manufacturer specifications for energy use/demand of a technology
- 5 Information from the OPA's most current measures and assumptions lists (OPA 2010a, OPA 2010b)
- 6 Information from earlier OPA measures and assumptions lists
- 7 Information from the OEB's TRC guide list of measures and assumptions.

In principal, we might have consulted values from the literature and adopted these if they could be shown to be more current, specific or otherwise suitable than the values from sources 4 through 7. However, this was not necessary in this case.

The CDM programs undertaken by NPDI between 2005 and 2009 included:

- Providing energy efficiency audits to NPDI's large customers;
- An incentive program in collaboration with Centennial Windows and Stevens Aluminum for the installation of Energy Star® windows in residential homes;
- A water heater replacement program for rented heaters older than 10 years old;
- A study on the benefits of wind power and the development of a business case model that assists customers with decisions concerning the viability of small wind generation projects;
- A pilot program for the use of load control devices on electric water heaters rentals;
- Residential coupon programs for various prescriptive measures, such as CFLs, LED Christmas lights, programmable thermostats (PStats), cold water detergent, etc;
- CFL awareness and giveaway programs;
- A lighting retrofit of the NPDI facility;
- An Energy Star® appliance rebate program;
- Public and general service education and outreach programs, including the 'Conserver Joe Family Education Package', which

has included handbooks, bill inserts, newsletters, print ads and a website;

- Partnership with or delivery of OPA-funded programs, including Every Kilowatt Counts (EKC), *peaksaver*®, the Great Refrigerator Roundup, Demand Response, the Renewable Energy Standard Offer Program, the Summer Savings Program, Power Savings Blitz and the Electricity Retrofit Incentive Program (ERIP).

The NPDI application considers SSM entitlements for third-tranche programs, and given that a new incentive mechanism has been put in place for programs offered beginning January 1, 2011, this is the final SSM claim under the regime established for the third-tranche programs.

The NPDI application considers LRAM entitlements for third-tranche programs and OPA programs delivered in 2009 through calendar year 2010. Lost revenues from these programs after 2010 are captured in the load forecast. Lost revenues associated with programs delivered after December 31, 2009 are not captured in the load forecast, and are not included in this LRAM claim.

Between 2005 and 2010 (inclusive), these programs led to lost revenue for more than 15 GWh in the residential rate class and 3 GWh in the GS < 50 kW rate class. In the GS > 50 kW rate class, where distribution charges are based on monthly peak kilowatt use, the lost revenues over the six years are approximately 8,100 kW-months.

Net TRC benefits totalled over \$1 million dollars.

Scope

This review examines the measures, energy savings, program costs and net TRC benefits for the seventeen programs in NPDI's third tranche CDM portfolio. These programs ran from 2005 until completion as of December 31, 2008. It also includes programs run under contract to the Ontario Power Authority (OPA) in 2006, 2007, 2008 and 2009. Lost revenues from these programs through 2010 are considered.

Two programs omitted from this review are:

- A smart meter pilot program; and
- A distribution loss reduction program (SCADA Development and Load Flow Studies/Improvements).

The smart meter program was omitted from CDM cost recovery assessment since cost recovery of smart meter programs is done under a separate OEB variance account.²

The SCADA Development and Load Flow Studies/Improvements program was excluded in accordance with the OEB instruction that distribution system improvements are not eligible for the shared savings mechanism.³

In the TRC calculation, benefits and costs are reported in current dollars, which requires a discount rate for future dollars. Even though these activities are at the margin, OEB has dictated that the discount rate to be used is the weighted average cost of capital (WACC). The WACC provided by NPDI is as follows:

- 2005-2008: 6.51%

Because the WACC is only used to calculate present values for TRC calculations for the SSM, it is only required for these four years in which distributor-funded programs were offered.

² See OEB Smart Metering Funding and Cost Recovery (File no: G-2008-002).

³ OEB, 2007. Report of the Board on the Regulatory Framework for Conservation and Demand Management by Ontario Electricity Distributors in 2007 and Beyond. (March 2). p.12

TRC inputs, and requested SSM and LRAM amounts

TRC inputs

Inputs used to calculate energy savings, TRC costs and TRC benefits for each prescriptive and custom measure were reviewed to ensure accuracy and suitability.

IndEco finds that appropriate measure specifications were used to calculate program energy savings and net TRC benefits. For the calculation of LRAM claims, prescriptive measures used values provided by the 2010 OPA Measures and Assumptions list. Quasi-prescriptive measures used values provided by the 2010 OPA Quasi-prescriptive Measures and Assumptions list. For the calculation of SSM claims, the best available information at the beginning of the year the program was launched was used, not the 2010 OPA Measures and Assumptions list. This is consistent with the guidance in section 7.3 of the *OEB Guidelines for Electricity CDM*. Custom measures were substantiated through documentation such as invoices of equipment type, wattage, and costs.

Exceptions to the sources of prescriptive and quasi-prescriptive measure input assumptions used in the calculation of LRAM claims are as follows:

- The final '2006-2008 OPA Conservation Results – Norfolk Power Distribution Inc.'⁴ was used as a source of inputs for 2006-2008 OPA funded CDM programs. These evaluated results have been adopted in accordance with Board recommendations that "The Board would consider an evaluation by the OPA or a third party designated by the OPA to be sufficient."⁵ OPA advises that these estimates are prepared in a manner consistent with OPA current practice, and are the same values used to report progress against provincial conservation targets.
- Similarly, the '2009 Final OPA CDM Results Norfolk Power Distribution Inc.'⁶ were used as a source of inputs for 2009 OPA funded CDM programs.
- One measure from the 2005 Lighten Your Electricity Bill Program was not found on the 2010 OPA Measures and Assumptions list. The most current assumptions were used.⁷

⁴ OPA 2009. Final 2006-8 OPA Conservation Program Results – Norfolk Distribution Inc. E-mail from R. Bunker (OPA) dated 10 November

⁵ OEB 2008a. Guidelines for Electricity Distributor Conservation and Demand Management. p.28

⁶ OPA 2010c. 2009 Final OPA CDM Results Norfolk Power Distribution Inc. E-mail from J. Yue (OPA) dated 1 December

⁷ These assumptions were provided in a report on program results completed by SeeLine for the 2005 Lighten Your Electricity Bill Program.

- The 2005 Residential Customer Program - Cold Water Wash program offered cold water detergent to residential participants. This measure is not found on the 2010 OPA Measures and Assumptions list. OEB 2008b was considered the most current source of assumptions.
- The 2005 Energy Star® Window Program used installation-specific knowledge of the average square footage of the installations as well as other installation-specific specifications to calculate energy and natural gas savings. The energy and gas savings values used are conservative in comparison to those reported in the 2010 OPA Measures and Assumptions list.
- The Water Heater Replacement Program involved replacement of 40 and 60-gallon water heaters, which is not covered in the 2010 OPA Measures and Assumptions list. LRAM and SSM calculations were based on measure information provided by NPDI.
- The Energy Audits for Major Customers program LRAM and SSM inputs are those for custom measures not found on any OPA Measures and Assumptions lists, or are values (such as operating hours, equipment cost and energy savings) derived from audit inspections, customer-specific usage and a telephone survey of the participants conducted by IndEco in August 2010.

Default free-rider rates of 30% for LRAM calculations and 10% for SSM calculations were used for the majority of programs in NPDI's CDM portfolio.

Exceptions to the default values proposed by the OEB and the OPA are as follows:

- All OPA programs used the program-specific free-rider rates provided by the 2006-2009 OPA Conservation Results for Norfolk Power Distribution Inc.
- The Water Heater Replacement Program involved an early replacement of inefficient water heaters rentals with energy efficient models. This replacement would not have proceeded in the absence of the program and as such, a free-rider rate of 0% is appropriate.
- In 2007, NPDI upgraded the lighting in its own facility. This retrofit was an initiative that was not budgeted for nor planned, but was put into place once the third-tranche CDM funding was offered. NPDI has advised that because it would not have undertaken these initiatives in the absence of the CDM program, the appropriate free-rider rate for these retrofit measures is 0%.
- The Energy Audits for Major Customers Program saw NPDI complete energy audits at participating customers' facilities. To determine the measure implementation rate and the free-rider rate, IndEco completed a survey of all 12 participating

customers. The free-rider rates were based on the survey responses and the extent to which the suggested energy improvements were implemented. A breakdown of which of the custom measures were implemented is given in Table 11 and Appendix B provides the results of the telephone survey.

A summary list of the assumption sources used for the calculation of the LRAM claim is provided in Table 1.

Table 1 – Source of assumptions used for the calculation of the LRAM claim

Funding source	Rate class	Program	Source of LRAM inputs
Third Tranche	GS < 50 kW and GS > 50 kW	2005 Energy Audits for Major Customers	NPDI 2005a, OPA 2009b and Survey results
	Residential	2005 Energy Star Window Program	NPDI 2005b
	Residential	2005 Water Heater Replacement Program	NPDI 2007a
	Residential	2005 Lighten Your Electricity Bill	OPA 2010a, SeeLine 2006 ¹
	Residential	2005 Res Customer Program - Cold Water Wash	OEB 2008b
	GS < 50 kW and GS > 50 kW	2006 Energy Audits for Major Customers	NPDI 2006b, OPA 2010a, OPA 2010b and Survey results
	Residential	2006 Water Heater Replacement Program	NPDI 2007a
	Residential	2006 CFL Education and Giveaway	OPA 2010a
	Residential	2006 LED Light Exchange	OPA 2010a
	Residential	2006 Every Kilowatt Counts	OPA 2009a
	Residential	2007 Water Heater Replacement Program	NPDI 2008
	GS < 50 kW	2007 Norfolk Power Facility Lighting Program	OPA 2010b
	Residential	2007 CFL Education and Giveaway	OPA 2010a
	Residential	2007 LED Light Exchange	OPA 2010a
	Residential	2007 Every Kilowatt Counts	OPA 2009a
	Residential	2007 Energy Star Appliance Rebate Program	OPA 2010a
	Residential	2007 Res Customer Program - Education	OPA 2010a
	Residential	2008 CFL Education and Giveaway	OPA 2010a
	Residential	2008 Energy Star Appliance Rebate Program	OPA 2010a
	Residential	2008 Res Customer Program - Education	OPA 2010a
OPA	Residential	2006 Cool Savings Rebate Program	OPA 2009a
	Residential	2006 Secondary Fridge Retirement Pilot	OPA 2009a
	Residential	2007 Great Refrigerator Roundup	OPA 2009a
	Residential	2007 Cool Savings Rebate Program	OPA 2009a
	Residential, GS < 50 kW and GS > 50 kW	2007 peaksaver	OPA 2009a
	Residential	2007 Summer Savings	OPA 2009a
	Residential	2007 Social Housing - Pilot	OPA 2009a
	GS < 50 kW and GS > 50 kW	2007 ERIP	OPA 2009a
	Residential	2008 Great Refrigerator Roundup	OPA 2009a
	Residential	2008 Cool Savings Rebate Program	OPA 2009a
	Residential	2008 Summer Sweepstakes	OPA 2009a
	Residential	2008 Every Kilowatt Counts - PSE	OPA 2009a
	Residential, GS < 50 kW and GS > 50 kW	2008 peaksaver	OPA 2009a
	GS < 50 kW and GS > 50 kW	2008 ERIP	OPA 2009a
	Residential	2008 High Performance New Construction	OPA 2009a

Funding source	Rate class	Program	Source of LRAM inputs
	Residential	2009 Great Refrigerator Roundup	OPA 2010c
	Residential	2009 Cool Savings Rebate Program	OPA 2010c
	Residential	2009 Every Kilowatt Counts - PSE	OPA 2010c
	Residential, GS < 50 kW and GS > 50 kW	2009 peaksaver	OPA 2010c
	GS < 50 kW and GS > 50 kW	2009 ERIP	OPA 2010c
	GS < 50 kW	2009 High Performance New Construction	OPA 2010c
	GS < 50 kW	2009 Power Savings Blitz	OPA 2010c

1. SeeLine 2006 was used for input assumptions for one measure not found in OPA 2010a: AC indoor timers.

A summary list of the information sources used for the calculation of the SSM claim is provided in Table 2.

Table 2 – Source of information used for the calculation of the SSM claim

Rate class	Program	Source of SSM inputs
GS < 50 kW and GS > 50 kW	2005 Energy Audits for Major Customers	NPDI 2005a, OPA 2009b and Survey results
Residential	2005 Energy Star Window Program	NPDI 2005b
Residential	2005 Water Heater Replacement Program	NPDI 2007a
Residential	2005 Lighten Your Electricity Bill	SeeLine 2006
Residential	2005 Res Customer Program - Cold Water Wash	OEB 2008b
GS < 50 kW and GS > 50 kW	2006 Energy Audits for Major Customers	NPDI 2006b, OPA 2010a, OPA 2010b, Willems 2010 ² and Survey results
Residential	2006 CFL Education and Giveaway	OEB 2008b
Residential	2006 LED Light Exchange	OEB 2008b
Residential	2006 Every Kilowatt Counts	OPA 2009a, OPA 2006a and OPA 2006b ³
GS < 50 kW	2007 Norfolk Power Facility Lighting Program	OEB 2008b and NPDI 2008 ⁴
Residential	2007 CFL Education and Giveaway	OEB 2008b
Residential	2007 LED Light Exchange	OEB 2008b
Residential	2007 Energy Star Appliance Rebate Program	OEB 2008b
Residential	2007 Res Customer Program - Education	OEB 2008b
Residential	2007 Water Heater Replacement Program	NPDI 2008
Residential	2007 Every Kilowatt Counts	OPA 2009a and OEB 2008b
Residential	2008 CFL Education and Giveaway	OEB 2008b
Residential	2008 Energy Star Appliance Rebate Program	OEB 2008b
Residential	2008 Res Customer Program - Education	OEB 2008b

1. The sources of SSM inputs were the best available at the onset of the program.
2. Willems 2010 was used for estimating the equipment and installation cost of replacing a jackshaft boiler control.
3. OPA 2006a and OPA 2006b were used for equipment costs.
4. NPDI 2008 was used for equipment cost.

The measure inputs used to calculate SSM and LRAM claims can be found in Table 9 to Table 14 in Appendix A.

Requested SSM amounts

Equipment costs and benefits were calculated by entering the measure assumptions found in Table 9, Table 10 and Table 11 of Appendix A

into IndEco's TRC calculator.⁸ The net TRC benefits were then used to calculate SSM entitlements for each year of every program.

SSM amounts were calculated for all third tranche programs, including the 2006 and 2007 EKC programs, for which NPDI played a central role, and funded its contribution from third tranche funds.

The program design was changed in 2008 and NPDI's participation was not integral to the program. Therefore no SSM is claimed on net benefits from the 2008 program.

SSM amounts and TRC benefits net of free riders for all applicable programs are shown in Table 3.

Requested LRAM amounts

LRAM calculations are to be completed with the best information available at the time of the third party review. As such, the energy savings indicated in NPDI's annual reports for programs in NPDI's CDM portfolio were recalculated with the assumptions found in Table 12 to Table 14 in Appendix A.

Table 4 shows the net energy savings or demand reductions of each program by rate class. Table 5 shows the gross energy savings or demand reductions of each program by rate class. OPA program energy savings in Table 4 and Table 5, as well as LRAM amounts (in Table 7) were acquired directly from spreadsheets provided by the OPA.

Energy savings were converted to LRAM values by using NPDI's distribution rates. Distribution rates are in Table 6.

The LRAM claim is presented in Table 7.

⁸ The original spreadsheets used to calculate the TRC values in NPDI's annual reports were unavailable. Where natural gas and water savings occurred, these were not included in the TRC calculations in the NPDI's annual reports, but have been included here.

Table 3 – Summary of Net TRC benefits and SSM entitlement

Program	Year	Residential	GS < 50 kW	GS > 50 kW	Net TRC	SSM amount
CDM General Administration Costs	2005	(\$30,855)	(\$6,171)	(\$4,114)	(\$41,140)	(\$2,057)
CFL Education and Giveaway	2006	\$16,819			\$16,819	\$841
	2007	\$173,608			\$173,608	\$8,680
	2008	\$60,720			\$60,720	\$3,036
Distributed Generation, Wind Power Study	2005	(\$11,968)			(\$11,968)	(\$598)
Energy Audits for Major Customers	2005			\$126,115	\$126,115	\$6,306
	2006			\$173,795	\$173,795	\$8,690
	2007			(\$24,690)	(\$24,690)	(\$1,234)
Energy Star Appliance Rebate Program	2007	(\$2,087)			(\$2,087)	(\$104)
	2008	\$10,213			\$10,213	\$511
Energy Star Window Program	2005	\$6,848			\$6,848	\$342
Every Kilowatt Counts	2006	\$385,669			\$385,669	\$19,283
	2007	\$182,405			\$182,405	\$9,120
LED Light Exchange	2006	\$30,917			\$30,917	\$1,546
	2007	\$30,939			\$30,939	\$1,547
Lighten Your Electricity Bill	2005	\$76,808			\$76,808	\$3,840
Load Control Pilot Program	2005	(\$6,927)			(\$6,927)	(\$346)
	2006	(\$8,490)			(\$8,490)	(\$425)
Norfolk Power Facility Lighting Program	2007		\$13,963		\$13,963	\$698
Res Customer Program - Cold Water Wash	2005	\$1,916			\$1,916	\$96
Res Customer Program - Conserver Family	2005	(\$23,714)			(\$23,714)	(\$1,186)
	2006	(\$1,751)			(\$1,751)	(\$88)
	2007	(\$2,105)			(\$2,105)	(\$105)
	2008	(\$1,300)			(\$1,300)	(\$65)
Res Customer Program - Education	2006	(\$45,153)			(\$45,153)	(\$2,258)
	2007	(\$14,315)			(\$14,315)	(\$716)
	2008	(\$3,579)			(\$3,579)	(\$179)
Res Customer Program - Newspaper	2005	(\$12,332)			(\$12,332)	(\$617)
Training	2005	(\$3,427)	(\$643)	(\$214)	(\$4,284)	(\$214)
	2006	(\$5,445)	(\$1,021)	(\$340)	(\$6,806)	(\$340)
	2007	(\$3,049)	(\$572)	(\$191)	(\$3,812)	(\$191)
	2008	(\$2,640)	(\$495)	(\$165)	(\$3,300)	(\$165)
Water Heater Replacement Program	2005	(\$14,895)			(\$14,895)	(\$745)
	2007	(\$11,367)			(\$11,367)	(\$568)
Total net TRC benefits		\$771,462	\$5,062	\$270,197	\$1,046,721	
Total net SSM						\$52,336

Table 4 – Cumulative net program energy savings and demand savings by rate class through 2010

Funding source	Program	Program year	Residential (kWh)	GS < 50 kW (kWh)	GS > 50 kW (kW-mo) ¹	
OPA	Cool Savings Rebate Program	2006	162,959			
		2007	418,842			
		2008	224,241			
		2009	203,029			
	ERIP	2007			55,100	952
		2008			17,366	117
		2009			472,400	2,820
	Every Kilowatt Counts - PSE	2008	1,230,054			
		2009	345,711			
	Great Refrigerator Roundup	2007	300,157			
		2008	513,288			
		2009	278,097			
	High Performance New Construction	2008			2,471	
		2009			50,265	
	peaksaver	2007				2
		2008	6,097		861	129
		2009	1,755		248	88
	Power Savings Blitz	2009			2,401,325	
	Secondary Fridge Retirement Pilot	2006	97,250			
	Social Housing - Pilot	2007	165,092			
	Summer Savings	2007	1,261,167			
	Summer Sweepstakes	2008	713,877			
	<i>OPA net savings by rate class</i>			<i>5,921,614</i>	<i>3,000,034</i>	<i>4,109</i>
Third Tranche	CDM General Administration Costs	2005				
	CFL Education and Giveaway	2006	128,247			
		2007	869,260			
		2008	232,838			
	Distributed Generation, Wind Power Study	2005				
	Energy Audits for Major Customers	2005				1,388
		2006				2,640
		2007				
	Energy Star Appliance Rebate Program	2007	3,683			
		2008	49,055			
	Energy Star Window Program	2005	19,167			
	Every Kilowatt Counts	2006	5,144,004			
		2007	1,815,183			
	LED Light Exchange	2006	106,313			
		2007	82,688			
	Lighten Your Electricity Bill	2005	489,541			
Load Control Pilot Program	2005					

Funding source	Program	Program year	Residential (kWh)	GS < 50 kW (kWh)	GS > 50 kW (kW-mo) ¹
		2006			
	Norfolk Power Facility Lighting Program	2007		102,435	
	Res Customer Program - Cold Water Wash	2005	40,121		
	Res Customer Program - Conserver Family	2005			
		2006			
		2007			
		2008			
	Res Customer Program - Education	2006			
		2007	5,433		
		2008	3,881		
	Res Customer Program - Newspaper Training	2005			
		2006			
		2007			
		2008			
	Water Heater Replacement Program	2005	153,020		
		2006			
		2007	78,367		
	<i>Third Tranche net savings by rate class</i>		9,220,798	102,435	4,028
	<i>Total net savings by rate class</i>		15,142,412	3,102,469	
	<i>Total net savings</i>		18,244,881		8,137

1. Rates for the general service rate class of customers rated at greater than 50kW are on a monthly demand basis (kW), not an energy one (kWh). Lost revenue results when the customer's monthly peak demand is lower than it otherwise would be as a result of the CDM initiatives. These are measured in kW-month, which is the reduction within one month of the peak kilowatt demand. (So a 2 kW-month reduction could be realized by reducing the peak demand in the month by 1 kW for two months, or by 2 kW for one month.) Excluded are peak demand reductions associated with demand response programs which are not anticipated to impact on revenues.
2. The EKC program in 2006 and 2007 was a partnership with the OPA. NPDI's financial contribution was funded through its third-tranche allocation.

Table 5 – Cumulative gross program energy savings and peak demand savings by rate class through 2010

Funding source	Program	Program year	Residential (kWh)	GS < 50 kW (kWh)	GS > 50 kW (kW-mo)	
OPA	Cool Savings Rebate Program	2006	181,065			
		2007	797,282			
		2008	418,168			
		2009	475,186			
	ERIP	2007			61,222	1,058
		2008			17,366	117
		2009			472,400	2,820
	Every Kilowatt Counts - PSE	2008	3,049,404			
		2009	916,180			
	Great Refrigerator Roundup	2007	619,420			
		2008	945,585			
		2009	522,532			
	High Performance New Construction	2008			3,530	
		2009			71,807	
	peaksaver	2007				3
		2008	6,774		956	143
		2009	1,950		275	97
	Power Savings Blitz	2009			2,527,710	
	Secondary Fridge Retirement Pilot	2006	108,055			
	Social Housing - Pilot	2007	165,092			
	Summer Savings	2007	10,509,724			
	Summer Sweepstakes	2008	915,227			
	<i>OPA gross savings by rate class</i>			<i>19,631,643</i>	<i>3,155,266</i>	<i>4,239</i>
Third Tranche	CDM General Administration Costs	2005				
	CFL Education and Giveaway	2006	183,210			
		2007	1,241,800			
		2008	332,625			
	Distributed Generation, Wind Power Study	2005				
	Energy Audits for Major Customers	2005				1,663
		2006				3,112
		2007				
	Energy Star Appliance Rebate Program	2007	5,262			
		2008	70,078			
	Energy Star Window Program	2005	27,381			
	Every Kilowatt Counts	2006	5,715,560			
		2007	2,566,273			
	LED Light Exchange	2006	151,875			
		2007	118,125			
	Lighten Your Electricity Bill	2005	699,344			
	Load Control Pilot Program	2005				

	2006			
Norfolk Power Facility	2007		102,435	
Lighting Program				
Res Customer Program - Cold Water Wash	2005	57,316		
Res Customer Program - Conserver Family	2005			
	2006			
	2007			
	2008			
Res Customer Program - Education	2006			
	2007	7,761		
	2008	5,544		
Res Customer Program - Newspaper Training	2005			
	2006			
	2007			
	2008			
Water Heater Replacement Program	2005	153,020		
	2006			
	2007	78,367		
<i>Third Tranche gross savings by rate class</i>		<i>11,413,540</i>	<i>102,435</i>	<i>4,775</i>
<i>Total gross savings by rate class</i>		<i>31,045,183</i>	<i>3,257,700</i>	
Total gross savings		34,302,884		9,014

Table 6 – Distribution rates per rate class

Rate Class	Units	2005	2006	2007	2008	2009	2010
Residential	\$/kWh	0.0135	0.0167	0.0169	0.0198	0.0199	0.019
General Service < 50 kW	\$/kWh	0.0091	0.0116	0.0117	0.0145	0.0146	0.0139
General Service > 50 kW	\$/kW/month	2.2122	2.9906	3.0175	3.8907	3.9228	3.622

Table 7 – Summary of requested LRAM amounts in 2011\$¹

Funding	Program	Year	Residential	General Service < 50 kW	General Service > 50 kW	6-year LRAM
OPA	Cool Savings Rebate Program	2006	\$3,183	\$0	\$0	\$3,183
		2007	\$8,232	\$0	\$0	\$8,232
		2008	\$4,496	\$0	\$0	\$4,496
		2009	\$4,002	\$0	\$0	\$4,002
	ERIP	2007	\$0	\$783	\$3,574	\$4,358
		2008	\$0	\$247	\$453	\$701
		2009	\$0	\$6,823	\$10,783	\$17,606
	Every Kilowatt Counts - PSE	2008	\$24,661	\$0	\$0	\$24,661
		2009	\$6,819	\$0	\$0	\$6,819
	Great Refrigerator Roundup	2007	\$5,899	\$0	\$0	\$5,899
		2008	\$10,290	\$0	\$0	\$10,290
		2009	\$5,482	\$0	\$0	\$5,482
	High Performance New Construction	2008	\$0	\$36	\$0	\$36
		2009	\$0	\$726	\$0	\$726
	peaksaver	2008	\$122	\$13	\$504	\$639
		2007	\$0	\$0	\$9	\$9
		2009	\$35	\$4	\$335	\$373
	Power Savings Blitz	2009	\$0	\$34,682	\$0	\$34,682
	Secondary Fridge Retirement Pilot	2006	\$1,899	\$0	\$0	\$1,899
	Social Housing - Pilot	2007	\$3,245	\$0	\$0	\$3,245
Summer Savings	2007	\$24,714	\$0	\$0	\$24,714	
Summer Sweepstakes	2008	\$14,489	\$0	\$0	\$14,489	
<i>OPA total</i>			\$117,568	\$43,313	\$15,660	\$176,541
Third Tranche	CDM General Administration Costs	2005	\$0	\$0	\$0	
	CFL Education and Giveaway	2006	\$2,510	\$0	\$0	\$2,510
		2007	\$17,216	\$0	\$0	\$17,216
		2008	\$4,631	\$0	\$0	\$4,631
	Distributed Generation, Wind Power Study	2005	\$0	\$0	\$0	
Energy Audits for Major Customers	2005	\$0	\$0	\$4,974	\$4,974	
	2006	\$0	\$0	\$9,801	\$9,801	

Funding	Program	Year	Residential	General Service < 50 kW	General Service > 50 kW	6-year LRAM
		2007	\$0	\$0	\$0	
	Energy Star Appliance Rebate Program	2007	\$73	\$0	\$0	\$73
		2008	\$976	\$0	\$0	\$976
	Energy Star Window Program	2005	\$368	\$0	\$0	\$368
	Every Kilowatt Counts	2006	\$100,837	\$0	\$0	\$100,837
		2007	\$35,670	\$0	\$0	\$35,670
	LED Light Exchange	2006	\$2,081	\$0	\$0	\$2,081
		2007	\$1,638	\$0	\$0	\$1,638
	Lighten Your Electricity Bill	2005	\$9,406	\$0	\$0	\$9,406
	Load Control Pilot Program	2005	\$0	\$0	\$0	
		2006	\$0	\$0	\$0	
	Norfolk Power Facility Lighting Program	2007	\$0	\$1,475	\$0	\$1,475
	Res Customer Program - Cold Water Wash	2005	\$706	\$0	\$0	\$706
	Res Customer Program - Conserver Family	2005	\$0	\$0	\$0	
		2006	\$0	\$0	\$0	
		2007	\$0	\$0	\$0	
		2008	\$0	\$0	\$0	
	Res Customer Program - Education	2006	\$0	\$0	\$0	
		2007	\$108	\$0	\$0	\$108
		2008	\$77	\$0	\$0	\$77
	Res Customer Program - Newspaper	2005	\$0	\$0	\$0	
	Training	2005	\$0	\$0	\$0	
		2006	\$0	\$0	\$0	
		2007	\$0	\$0	\$0	
		2008	\$0	\$0	\$0	
	Water Heater Replacement Program	2005	\$2,940	\$0	\$0	\$2,940
		2006	\$0	\$0	\$0	
		2007	\$1,552	\$0	\$0	\$1,552
	<i>Third tranche total</i>		\$180,788	\$1,475	\$14,774	\$197,038
<i>Total</i>			\$298,356	\$44,789	\$30,434	\$373,578

1. LRAM amounts by program and program year, and program totals are for energy (or demand) reductions for the years 2005 through 2010.

Findings

The seventeen third tranche programs in NPDI's CDM portfolio were completed as of December 31, 2008. Although the OEB guidance for this report asks for comments on future program evaluation and improvements to program performance, this expectation is not relevant for these programs that have ended and are not expected to be reinitiated.

IndEco has reviewed the input values and custom project justifications used to calculate the energy savings and net TRC benefits resulting from NPDI's portfolio as well as those associated with 2006, 2007, 2008 and 2009 OPA-funded programs.

IndEco has concluded that sufficient detail and documentation exists to recommend increasing Norfolk Power Distribution Inc.'s distribution rates in order to collect \$373,578 in LRAM and \$52,336 in SSM amounts, allocated by rate class as shown in Table 8.

Table 8 – LRAM and SSM amounts by rate class in 2011\$

Rate class	LRAM	SSM
Residential	\$298,356	\$38,573
General Service < 50 kW	\$44,789	\$253
General Service > 50 kW	\$30,434	\$13,510
Sentinel Lights	\$0	\$0
Street Lighting	\$0	\$0
Unmetered Scattered Load	\$0	\$0
Total	\$373,578	\$52,336

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Appendix A. Inputs used for TRC and energy savings calculations

Table 9 - SSM inputs and contribution to the total SSM for all residential rate class measures.

Program	Energy Efficient Measure	Number of units	Measure life	SSM Free Ridership	Total gross technology benefits	Total gross technology costs	Annual operating hours ¹	Annual energy savings (kWh/a)	Contribution to SSM
2005 Energy Star Window Program	Energy Star Windows	185	25	10%	\$17,115	\$5,365	0	27	\$529
2005 Water Heater Replacement Program ²	40 Gallon Efficient Tanks	104	18	0%	\$21,153	\$0	0	219	\$1,058
	60 Gallon Efficient Tanks	24	18	0%	\$4,686	\$0	0	210	\$234
2005 Lighten Your Electricity Bill	15W CFL	1,338	4	10%	\$35,375	\$2,676	0	104	\$1,471
	Seasonal LED Lights - 5W	242	30	5%	\$11,047	\$484	0	45	\$502
	Seasonal LED Lights - Mini Lights	241	30	5%	\$4,203	\$482	0	17	\$177
	Pstat - Space Heating	20	18	10%	\$25,447	\$1,200	0	1,459	\$1,091
	Pstat - Space Cooling	52	18	10%	\$12,577	\$3,120	0	158	\$426
	Outdoor Timer	32	20	10%	\$8,608	\$640	0	292	\$359
	Indoor Timer	8	20	10%	\$1,034	\$56	0	98	\$44
	Indoor Timer for AC	7	20	10%	\$1,523	\$49	0	109	\$66
2005 Res Customer Program - Cold Water Wash	Ceiling Fan	45	20	10%	\$0	\$1,890	0	0	(\$85)
2005 Res Customer Program - Cold Water Wash	Cold Water Wash	92	1	25%	\$3,808	\$920	0	623	\$108
2006 CFL Education and Giveaway	15W CFL	918	4	10%	\$24,271	\$1,836	0	104	\$1,010
2006 LED Light Exchange	Seasonal LED Lights - 5W	2,500	30	5%	\$48,728	\$15,023	0	19	\$1,601
2007 CFL Education and Giveaway	15W CFL	8,000	4	10%	\$211,391	\$16,000	0	104	\$8,793
2007 LED Light Exchange	Seasonal LED Lights - 5W	2,500	30	5%	\$49,745	\$16,006	0	19	\$1,603
2007 Energy Star Appliance Rebate	Energy Star Dishwasher	1	13	10%	\$68	\$100	0	100	(\$1)
	Energy Star Freezer	4	21	10%	\$163	\$800	0	37	(\$29)

Program	Energy Efficient Measure	Number of units	Measure life	SSM Free Ridership	Total gross technology benefits	Total gross technology costs	Annual operating hours ¹	Annual energy savings (kWh/a)	Contribution to SSM
Program	Energy Star Refrigerator	2	19	10%	\$159	\$140	0	74	\$1
	Energy Star Front Load Washer	6	14	10%	\$2,150	\$1,200	0	480	\$43
2007 Res Customer Program - Education	15W CFL	50	4	10%	\$1,321	\$100	0	104	\$55
2007 Water Heater Replacement Program ²	40 Gallon Efficient Tanks	84	18	0%	\$17,592	\$0	0	219	\$880
	60 Gallon Efficient Tanks	19	18	0%	\$3,820	\$0	0	210	\$191
2008 CFL Education and Giveaway	15W CFL	3,000	4	10%	\$79,272	\$6,000	0	104	\$3,297
2008 Energy Star Appliance Rebate Program	Energy Star Dishwasher	38	13	10%	\$2,602	\$3,800	0	100	(\$54)
	Energy Star Freezer	15	21	10%	\$591	\$3,000	0	37	(\$108)
	Energy Star Refrigerator	44	19	10%	\$3,502	\$3,080	0	74	\$19
	Energy Star Front Load Washer	122	14	10%	\$43,710	\$24,400	0	480	\$869
2008 Res Customer Program - Education	15W CFL	50	4	10%	\$1,321	\$100	0	104	\$55
2006 Every Kilowatt Counts	Energy Star® Compact Fluorescent Light Bulb	4,652	4	10%	\$122,994	\$11,630	0	104	\$5,011
	Electric Timers	130	20	10%	\$21,987	\$1,630	0	183	\$916
	Programmable Thermostats	57	15	10%	\$10,956	\$3,688	0	216	\$327
	Energy Star® Ceiling Fans	43	20	10%	\$5,646	\$1,079	0	141	\$206
	Energy Star® Compact Fluorescent Light Bulb	6,898	4	10%	\$182,364	\$11,174	0	104	\$7,704
	Seasonal Light Emitting Diode Light String	1,660	30	10%	\$52,373	\$14,444	0	31	\$1,707
	Programmable Thermostats	109	18	10%	\$62,692	\$2,736	0	522	\$2,698
	Dimmers	87	10	10%	\$6,437	\$1,125	0	139	\$239
	Indoor Motion Sensors	31	20	10%	\$5,979	\$621	0	209	\$241
	Programmable Baseboard Thermostats	7	18	10%	\$8,336	\$163	0	1,466	\$368

Program	Energy Efficient Measure	Number of units	Measure life	SSM Free Ridership	Total gross technology benefits	Total gross technology costs	Annual operating hours ¹	Annual energy savings (kWh/a)	Contribution to SSM
2007 Every Kilowatt Counts	15 W CFL	8,241	8	22%	\$169,601	\$16,482	0	43	\$5,972
	20 W+ CFLs	1,342	8	22%	\$39,887	\$1,150	0	62	\$1,511
	Project Porchlight CFLs	1,734	8	24%	\$35,690	\$3,468	0	43	\$1,224
	Energy Star Ceiling Fan	66	10	45%	\$3,446	\$3,124	0	90	\$9
	Furnace Filter	268	1	45%	\$683	\$3,214	0	38	(\$70)
	Solar Lights	1,058	5	87%	\$10,222	\$5,026	0	33	\$34
	Outdoor Motion Sensor	106	10	45%	\$9,279	\$1,715	0	160	\$208
	Dimmer Switch	67	10	45%	\$928	\$874	0	24	\$1
	Energy Star Light Fixtures	32	16	45%	\$3,374	\$768	0	123	\$72
	SLEDs	2,183	5	51%	\$9,992	\$18,995	0	14	(\$221)
	T8	63	18	23%	\$2,158	\$1,255	0	37	\$35
	Programmable Thermostat	65	15	45%	\$3,818	\$1,616	0	75	\$61
	Power Bar with Timer	29	10	23%	\$1,258	\$732	0	72	\$20
Lighting Control Devices	339	10	45%	\$16,660	\$7,051	0	72	\$264	
Total					\$1,423,706	\$222,227			\$52,739

1. Annual operating hours are not needed when both the measure life and annual kWh energy savings are available.
2. The equipment costs for the 2005 and 2007 Water Heater Replacement program are included in the program utility costs.

Table 10 - SSM inputs and contribution to the total SSM for all GS < 50 kW rate class measures

Program	Energy Efficient Measure	Number of units	Measure life	SSM Free Ridership	Total gross technology benefits	Total gross technology costs	Annual operating hours	Annual energy savings (kWh/a)	Contribution to SSM
2007 Norfolk Power Facility Lighting Program	2Lamp - T8 23W	152	5	0%	\$25,846	\$0	2651	392	\$1,292
	4Lamp - T8 32W	108	5	0%	\$13,502	\$0	2651	288	\$675
Total					\$39,348	\$0			\$1,967

1. The equipment costs for the Norfolk Power Facility Lighting program are included in the program utility costs.

Table 11 - SSM inputs and contribution to the total SSM for all GS > 50 kW rate class measures

Program	Energy Efficient Measure	Number of units	Measure life	SSM Free Ridership	Total gross technology benefits	Total gross technology costs ¹	Annual operating hours ²	Annual energy savings (kWh/a)	Contribution to SSM
2005 Energy Audits for Major Customers	Reducing the weekend loading from 200 kW to 100 kW	1	5	0%	\$92,308	\$0	0	249,600	\$4,615
	Fixing of air leaks around compressors and air driers	1	5	0%	\$36,644	\$0	0	92,864	\$1,832
	Office AC programmable PStat	1	5	0%	\$8,274	\$140	0	11,250	\$407
	Installation of PStats for HVAC rooftop units AC	1	30	50%	\$24,663	\$140	0	10,000	\$613
	Installation of PStats for HVAC units heating	1	30	50%	\$5,058	\$140	0	0	\$123
	15W CFL	2	3	0%	\$51	\$8	3120	140	\$2
	15W CFL	6	6	0%	\$212	\$24	1248	56	\$9
	15W CFL	1	1	0%	\$25	\$4	7488	337	\$1
	15W CFL	17	9	0%	\$669	\$68	936	42	\$30
	15W CFL	13	9	0%	\$512	\$52	936	42	\$23
	15W CFL	3	9	0%	\$118	\$12	936	42	\$5
	15W CFL	5	1	0%	\$122	\$20	5616	253	\$5
	15W CFL	3	1	0%	\$73	\$12	5616	253	\$3

Program	Energy Efficient Measure	Number of units	Measure life	SSM Free Ridership	Total gross technology benefits	Total gross technology costs ¹	Annual operating hours ²	Annual energy savings (kWh/a)	Contribution to SSM
	15W CFL	4	3	0%	\$109	\$16	2496	112	\$5
	15W CFL	1	3	0%	\$27	\$4	2496	112	\$1
	15W CFL	1	3	0%	\$27	\$4	2496	112	\$1
	15W CFL	1	3	0%	\$27	\$4	2496	112	\$1
	15W CFL	1	3	0%	\$27	\$4	2496	112	\$1
	T5 fixture, 4' 28W – 3 Lamps	9	14	50%	\$967	\$1,104	1460	102	(\$3)
	T5 fixture, 4' 28W – 1 Lamp	1	5	50%	\$38	\$170	4380	88	(\$3)
	T5 fixture, 4' 28W – 1 Lamp	3	5	50%	\$76	\$340	4380	88	(\$7)
	T5 fixture, 4' 28W – 1 Lamp	5	5	50%	\$133	\$594	4380	88	(\$12)
	T5 fixture, 4' 28W – 1 Lamp	40	5	50%	\$1,144	\$1,030	4380	88	\$3
	T5 fixture, 4' 28W – 1 Lamp	40	5	50%	\$1,144	\$1,030	4380	88	\$3
	T5 fixture, 4' 28W – 1 Lamp	13	5	50%	\$362	\$317	4380	88	\$1
	T5 fixture, 4' 28W – 1 Lamp	13	5	50%	\$362	\$317	4380	88	\$1
	2 foot, 1 tube, T16, electronic ballast	2	5	50%	\$17	\$42	4380	31	(\$1)
	2 foot, 1 tube, T16, electronic ballast	2	5	50%	\$17	\$42	4380	31	(\$1)
	Replace “jackshaft” type boiler controls on 3 boilers	1	15	50%	\$195,958	\$21,000	0	22,788	\$4,374
	Decreasing the bottom blowdown frequency on the water boilers	1	15	50%	\$4,632	\$0	0	0	\$116
	Lighting Retrofit	1	4	75%	\$4,223	\$2,006	0	15,488	\$28
	HWH Reduced Digester Flaring	1	15	0%	\$108,361	\$0	0	91,657	\$5,418
	Sewage Pump Optimization	1	15	75%	\$69,018	\$0	0	65,664	\$863
Total contribution to SSM claim					\$555,402	\$28,641			\$18,459

1. Measures with no equipment cost are considered part of regular maintenance costs.
2. Annual operating hours are provided by on-site inspections of the facilities during the audit process.

The net TRC benefits are the total technology benefits less the total technology costs (net of free riders) less the total program costs. The total gross technology benefits and costs, from Table 9, Table 10 and Table 11 are \$1,992,649 and \$250,868, respectively. The total net technology benefits and costs are \$1,657,831 and \$194,527. The total program cost for all programs is \$416,583. Net TRC benefits are thus \$1,046,721. The SSM incentive is 5% of these net TRC benefits, or \$52,336.

Table 12 – LRAM inputs and contribution to the total LRAM for all residential rate class measures.

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2005 Energy Star Window Program	Energy Star Windows	185	20	30%	27	0.008	\$368	Norfolk analysis
2005 Water Heater Replacement Program	40 Gallon Efficient Tanks	104	13	0%	219	0.025	\$2,407	Norfolk analysis and 2010 OPA for ML
2005 Water Heater Replacement Program	60 Gallon Efficient Tanks	24	13	0%	210	0.024	\$533	Norfolk analysis and 2010 OPA for ML
2005 Lighten Your Electricity Bill	15W CFL	1,338	8	30%	44	0.001	\$4,389	2010 OPA M&A List
2005 Lighten Your Electricity Bill	Seasonal LED Lights - 5W	242	5	30%	14	0.000	\$220	2010 OPA M&A List
2005 Lighten Your Electricity Bill	Seasonal LED Lights - Mini Lights	241	5	30%	5	0.000	\$78	2010 OPA M&A List

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Your Electricity Bill								M&A List
2005 Lighten Your Electricity Bill	Pstat - Space Heating	20	11	30%	2,151	0.176	\$3,182	2010 OPA M&A List
2005 Lighten Your Electricity Bill	Pstat - Space Cooling	52	11	30%	203	0.176	\$781	2010 OPA M&A List
2005 Lighten Your Electricity Bill	Outdoor Timer	32	10	30%	68	0.000	\$161	2010 OPA M&A List
2005 Lighten Your Electricity Bill	Indoor Timer	8	10	30%	219	0.010	\$130	2010 OPA M&A List
2005 Lighten Your Electricity Bill	Indoor Timer for AC	7	20	30%	109	0.170	\$56	2006 SeeLine
2005 Lighten Your Electricity Bill	Ceiling Fan	45	10	30%	123	0.004	\$408	2010 OPA M&A List
2005 Res Customer Program - Cold Water Wash	Cold Water Wash	92	1	30%	623	0.021	\$706	2008 OEB M&A List
2006 CFL Education and Giveaway	15W CFL	918	8	30%	44	0.001	\$2,510	2010 OPA M&A List

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2006 LED Light Exchange	Seasonal LED Lights - 5W	2,500	5	30%	14	0.000	\$2,081	2010 OPA M&A List
2007 CFL Education and Giveaway	15W CFL	8,000	8	30%	44	0.001	\$17,216	2010 OPA M&A List
2007 LED Light Exchange	Seasonal LED Lights - 5W	2,500	5	30%	14	0.000	\$1,638	2010 OPA M&A List
2007 Energy Star Appliance Rebate Program	Energy Star Dishwasher	1	11	30%	7	0.001	\$0	2010 OPA M&A List
2007 Energy Star Appliance Rebate Program	Energy Star Freezer	4	21	30%	46	0.006	\$9	2010 OPA M&A List
2007 Energy Star Appliance Rebate Program	Energy Star Refrigerator	2	14	30%	113	0.016	\$11	2010 OPA M&A List
2007 Energy Star Appliance Rebate Program	Energy Star Front Load Washer	6	14	30%	181	0.020	\$53	2010 OPA M&A List
2007 Res Customer Program - Education	15W CFL	50	8	30%	44	0.001	\$108	2010 OPA M&A List

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2007 Water Heater Replacement Program	40 Gallon Efficient Tanks	84	13	0%	219	0.025	\$1,275	Norfolk analysis and 2010 OPA for ML
2007 Water Heater Replacement Program	60 Gallon Efficient Tanks	19	13	0%	210	0.024	\$277	Norfolk analysis and 2010 OPA for ML
2008 CFL Education and Giveaway	15W CFL	3,000	8	30%	44	0.001	\$4,631	2010 OPA M&A List
2008 Energy Star Appliance Rebate Program	Energy Star Dishwasher	38	13	30%	7	0.001	\$9	2010 OPA M&A List
2008 Energy Star Appliance Rebate Program	Energy Star Freezer	15	21	30%	46	0.006	\$24	2010 OPA M&A List
2008 Energy Star Appliance Rebate Program	Energy Star Refrigerator	44	19	30%	113	0.016	\$173	2010 OPA M&A List
2008 Energy Star Appliance	Energy Star Front Load Washer	122	14	30%	181	0.020	\$770	2010 OPA M&A List

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Rebate Program 2008 Res Customer Program - Education	15W CFL	50	8	30%	44	0.001	\$77	2010 OPA M&A List
2006 Every Kilowatt Counts	Energy Star® Compact Fluorescent Light Bulb	4,652	4	10%	104	0.000	\$34,298	OPA 2009 and OPA 2006b
2006 Every Kilowatt Counts	Electric Timers	130	20	10%	183	0.000	\$2,098	OPA 2009 and OPA 2006b
2006 Every Kilowatt Counts	Programmable Thermostats	57	15	10%	216	0.050	\$1,077	OPA 2009 and OPA 2006b
2006 Every Kilowatt Counts	Energy Star® Ceiling Fans	43	20	10%	141	0.014	\$535	OPA 2009 and OPA 2006b
2006 Every Kilowatt Counts	Energy Star® Compact Fluorescent Light Bulb	6,898	4	10%	104	0.000	\$50,854	OPA 2009 and OPA 2006a
2006 Every Kilowatt Counts	Seasonal Light Emitting Diode Light String	1,660	30	10%	31	0.000	\$4,487	OPA 2009 and OPA 2006a
2006 Every Kilowatt Counts	Programmable Thermostats	109	18	10%	522	0.118	\$5,022	OPA 2009 and OPA 2006a

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2006 Every Kilowatt Counts	Dimmers	87	10	10%	139	0.000	\$1,057	OPA 2009 and OPA 2006a
2006 Every Kilowatt Counts	Indoor Motion Sensors	31	20	10%	209	0.000	\$570	OPA 2009 and OPA 2006a
2006 Every Kilowatt Counts	Programmable Basebaord Thermostats	7	18	10%	1,466	0.000	\$840	OPA 2009 and OPA 2006a
2006 Cool Savings Rebate Program	Energy Star® Air Conditioner	50	14	10%	351	0.359	\$1,543	OPA 2009
2006 Cool Savings Rebate Program	Programmable Thermostats	38	18	10%	159	0.163	\$533	OPA 2009
2006 Cool Savings Rebate Program	Air Conditioner Tune-Up	34	8	10%	369	0.038	\$1,107	OPA 2009
2006 Secondary Fridge Retirement Pilot	Refrigerator Retirement	17	6	10%	1,200	0.272	\$1,840	OPA 2009
2006 Secondary Fridge Retirement Pilot	Freezer Retirement	1	6	10%	900	0.204	\$60	OPA 2009
2007 Great	Refrigerator	205	9	52%	745	0.071	\$4,703	OPA 2009

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Refrigerator Roundup								
2007 Great Refrigerator Roundup	Freezer	61	8	50%	515	0.066	\$1,129	OPA 2009
2007 Great Refrigerator Roundup	Small Refrigerator	3	9	62%	490	0.045	\$35	OPA 2009
2007 Great Refrigerator Roundup	Small Freezer	2	8	62%	339	0.042	\$16	OPA 2009
2007 Great Refrigerator Roundup	Window Air Conditioner	2	5	57%	240	0.562	\$16	OPA 2009
2007 Cool Savings Rebate Program	ENERGY STAR® Central Air Conditioner	115	18	43%	152	0.166	\$788	OPA 2009
2007 Cool Savings Rebate Program	Programmable Thermostat	163	15	73%	55	0.029	\$192	OPA 2009
2007 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor	180	15	41%	832	0.493	\$6,969	OPA 2009
2007 Cool Savings Rebate Program	Central Air Conditioning Tune Up	97	5	84%	235	0.257	\$283	OPA 2009
2007 Every	15 W CFL	8,241	8	22%	43	0.001	\$21,730	OPA 2009

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Kilowatt Counts 2007 Every Kilowatt Counts	20 W+ CFLs	1,342	8	22%	62	0.002	\$5,109	OPA 2009
2007 Every Kilowatt Counts	Project Porchlight CFLs	1,734	8	24%	43	0.001	\$4,455	OPA 2009
2007 Every Kilowatt Counts	Energy Star Ceiling Fan	66	10	45%	90	0.003	\$258	OPA 2009
2007 Every Kilowatt Counts	Furnace Filter	268	1	45%	38	0.011	\$103	OPA 2009
2007 Every Kilowatt Counts	Solar Lights	1,058	5	87%	33	0.000	\$355	OPA 2009
2007 Every Kilowatt Counts	Outdoor Motion Sensor	106	10	45%	160	0.000	\$731	OPA 2009
2007 Every Kilowatt Counts	Dimmer Switch	67	10	45%	24	0.001	\$69	OPA 2009
2007 Every Kilowatt Counts	Energy Star Light Fixtures	32	16	45%	123	0.006	\$170	OPA 2009
2007 Every Kilowatt Counts	SLEDs	2,183	5	51%	14	0.000	\$1,152	OPA 2009

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Kilowatt Counts 2007 Every Kilowatt Counts	T8	63	18	23%	37	0.001	\$141	OPA 2009
2007 Every Kilowatt Counts	Programmable Thermostat	65	15	45%	75	0.000	\$210	OPA 2009
2007 Every Kilowatt Counts	Power Bar with Timer	29	10	23%	72	0.006	\$128	OPA 2009
2007 Every Kilowatt Counts	Lighting Control Devices	339	10	45%	72	0.019	\$1,058	OPA 2009
2007 Summer Savings	Household	6,680	2	88%	787	0.437	\$24,714	OPA 2009
2007 Social Housing - Pilot	Custom Retrofit Projects	34	10	0%	1,229	0.145	\$3,245	OPA 2009
2008 Great Refrigerator Roundup	Refrigerator	323	9	45%	775	0.079	\$8,280	OPA 2009
2008 Great Refrigerator Roundup	Freezer	85	8	48%	740	0.085	\$1,967	OPA 2009
2008 Great Refrigerator Roundup	Room Air Conditioner	10	5	64%	197	0.199	\$43	OPA 2009

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2008 Cool Savings Rebate Program	2007 Efficient Furnace with Electronically Commutable Motor	32	15	46%	837	0.496	\$874	OPA 2009
2008 Cool Savings Rebate Program	2007 ENERGYSTAR® Central Air Conditioner	15	18	48%	155	0.170	\$75	OPA 2009
2008 Cool Savings Rebate Program	2007 Programmable Thermostat	25	15	54%	54	0.028	\$37	OPA 2009
2008 Cool Savings Rebate Program	2008 Efficient Furnace with Electronically Commutable Motor	115	18	46%	819	0.485	\$3,066	OPA 2009
2008 Cool Savings Rebate Program	2008 ENERGYSTAR® Central Air Conditioner	76	18	48%	125	0.137	\$298	OPA 2009
2008 Cool Savings Rebate Program	2008 Programmable Thermostat	98	18	54%	54	0.028	\$145	OPA 2009
2008 Summer Sweepstakes	Households	1	1	22%	339,758	57.592	\$5,490	OPA 2009
2008 Every Kilowatt Counts - PSE	Air Conditioner/Furnace Filters	135	1	65%	38	0.021	\$37	OPA 2009
2008 Every Kilowatt Counts - PSE	Energy Star® Qualified Compact Fluorescent Floods (Indoor & Outdoor)	1,467	7	63%	88	0.003	\$2,897	OPA 2009
2008 Every Kilowatt Counts - PSE	Energy Star® Qualified Light Fixtures	2,277	16	67%	133	0.004	\$6,101	OPA 2009

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Kilowatt Counts - PSE 2008 Every	Heavy Duty Timers	52	10	67%	301	0.017	\$311	OPA 2009
Kilowatt Counts - PSE 2008 Every	T8 Fluorescent Fixtures	414	16	67%	37	0.001	\$304	OPA 2009
Kilowatt Counts - PSE 2008 Every	ENERGY STAR Decorative CFLs	5,285	4	61%	30	0.001	\$3,724	OPA 2009
Kilowatt Counts - PSE 2008 Every	ENERGY STAR Dimmable CFLs	341	6	62%	98	0.003	\$755	OPA 2009
Kilowatt Counts - PSE 2008 Every	Power Bars with Timers	24	10	59%	53	0.004	\$32	OPA 2009
Kilowatt Counts - PSE 2008 Every	Programmable Thermostats - Baseboard	144	15	53%	64	0.000	\$256	OPA 2009
Kilowatt Counts - PSE 2008 Every	Energy Star® Qualified Compact Fluorescent Light Bulbs	3,128	8	48%	53	0.002	\$5,207	OPA 2009
Kilowatt Counts - PSE 2008 Every	Lighting Control Devices	445	10	55%	102	0.003	\$1,242	OPA 2009
Kilowatt Counts - PSE 2008 Every	Pipe Wrap	2,918	6	53%	38	0.003	\$3,123	OPA 2009

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2008 Every Kilowatt Counts - PSE	Keep Cool – Dehumidifier	1	12	65%	500	0.290	\$10	OPA 2009
2008 Every Kilowatt Counts - PSE	Keep Cool – Room Air Conditioner	1	9	58%	141	0.142	\$4	OPA 2009
2008 Every Kilowatt Counts - PSE	Rewards for Recycling – Dehumidifier	27	12	56%	500	0.290	\$362	OPA 2009
2008 Every Kilowatt Counts - PSE	Rewards for Recycling – Room Air Conditioner	30	9	56%	141	0.142	\$110	OPA 2009
2008 Every Kilowatt Counts - PSE	Rewards for Recycling - Halogen Lamp	24	16	52%	275	0.009	\$187	OPA 2009
2008 peaksaver	Residential Programmable Thermostat	71	13	10%	17	0.865	\$57	OPA 2009
2008 peaksaver	Residential Air Conditioner Switch	74	13	10%	17	0.865	\$59	OPA 2009
2008 peaksaver	Commercial Programmable Thermostat	2	13	10%	74	3.700	\$7	OPA 2009
2008 Summer Sweepstakes	Households	1	8	22%	191,823	77.427	\$8,999	OPA 2009
2009 Great Refrigerator Roundup	Bottom Freezer Fridge - Not Replaced - Running Part Time (38% of the time)	0	5	46%	674	0.094	\$1	OPA 2010c
2009 Great Refrigerator	Bottom Freezer Fridge - Standard Efficiency Unit Replacement -	0	5	46%	454	0.063	\$0	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Roundup	Running Part Time (38% of the time)							
2009 Great Refrigerator Roundup	Bottom Freezer Fridge - Energy Star Unit Replacement - Running Part Time (38% of the time)	0	5	46%	498	0.070	\$1	OPA 2010c
2009 Great Refrigerator Roundup	Bottom Freezer Fridge - Not Replaced - Running All Time (100% of time)	1	5	46%	1,769	0.246	\$20	OPA 2010c
2009 Great Refrigerator Roundup	Bottom Freezer Fridge - Standard Efficiency Unit Replacement - Running All Time (100% of time)	0	5	46%	1,193	0.167	\$5	OPA 2010c
2009 Great Refrigerator Roundup	Bottom Freezer Fridge - Energy Star Unit Replacement - Running All Time (100% of time)	1	5	46%	1,308	0.183	\$28	OPA 2010c
2009 Great Refrigerator Roundup	Chest Freezer - Not Replaced - Running Part Time (26% of the time)	2	4	48%	282	0.039	\$13	OPA 2010c
2009 Great Refrigerator Roundup	Chest Freezer - Standard Efficiency Unit Replacement - Running Part Time (26% of the time)	1	4	48%	247	0.034	\$3	OPA 2010c
2009 Great Refrigerator Roundup	Chest Freezer - Energy Star Unit Replacement - Running Part Time (26% of the time)	3	4	48%	261	0.036	\$15	OPA 2010c
2009 Great Refrigerator Roundup	Chest Freezer - Not Replaced - Running All Time (100% of time)	22	4	48%	1,096	0.153	\$492	OPA 2010c
2009 Great Refrigerator Roundup	Chest Freezer - Standard Efficiency Unit Replacement - Running All Time	6	4	48%	959	0.133	\$119	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Roundup	(100% of time time)							
2009 Great Refrigerator Roundup	Chest Freezer - Energy Star Unit Replacement - Running All Time (100% of time time)	28	4	48%	1,012	0.141	\$574	OPA 2010c
2009 Great Refrigerator Roundup	Side by Side Fridge-Freezer - Not Replaced - Running Part Time (38% of the time)	1	5	46%	507	0.071	\$6	OPA 2010c
2009 Great Refrigerator Roundup	Side by Side Fridge-Freezer - Standard Efficiency Unit Replacement - Running Part Time (38% of the time)	0	5	46%	260	0.036	\$1	OPA 2010c
2009 Great Refrigerator Roundup	Side by Side Fridge-Freezer - Energy Star Unit Replacement - Running Part Time (38% of the time)	1	5	46%	309	0.043	\$7	OPA 2010c
2009 Great Refrigerator Roundup	Side by Side Fridge-Freezer - Not Replaced - Running All Time (100% of time time)	4	5	46%	1,331	0.185	\$110	OPA 2010c
2009 Great Refrigerator Roundup	Side by Side Fridge-Freezer - Standard Efficiency Unit Replacement - Running All Time (100% of time time)	1	5	46%	682	0.095	\$21	OPA 2010c
2009 Great Refrigerator Roundup	Side by Side Fridge-Freezer - Energy Star Unit Replacement - Running All Time (100% of time time)	8	5	46%	812	0.113	\$130	OPA 2010c
2009 Great Refrigerator Roundup	Single Door Fridge - Not Replaced - Running Part Time (38% of the time)	1	5	46%	418	0.058	\$12	OPA 2010c
2009 Great	Single Door Fridge - Standard	1	5	46%	237	0.033	\$3	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Refrigerator Roundup	Efficiency Unit Replacement - Running Part Time (38% of the time)							
2009 Great Refrigerator Roundup	Single Door Fridge - Energy Star Unit Replacement - Running Part Time (38% of the time)	3	5	46%	273	0.038	\$16	OPA 2010c
2009 Great Refrigerator Roundup	Single Door Fridge - Not Replaced - Running All Time (100% of time time)	10	5	46%	1,097	0.153	\$236	OPA 2010c
2009 Great Refrigerator Roundup	Single Door Fridge - Standard Efficiency Unit Replacement - Running All Time (100% of time time)	4	5	46%	623	0.087	\$50	OPA 2010c
2009 Great Refrigerator Roundup	Single Door Fridge - Energy Star Unit Replacement - Running All Time (100% of time time)	20	5	46%	718	0.100	\$300	OPA 2010c
2009 Great Refrigerator Roundup	Top Freezer Fridge - Not Replaced - Running Part Time (38% of the time)	6	5	46%	470	0.065	\$64	OPA 2010c
2009 Great Refrigerator Roundup	Top Freezer Fridge - Standard Efficiency Unit Replacement - Running Part Time (38% of the time)	2	5	46%	252	0.035	\$13	OPA 2010c
2009 Great Refrigerator Roundup	Top Freezer Fridge - Energy Star Unit Replacement - Running Part Time (38% of the time)	12	5	46%	295	0.041	\$78	OPA 2010c
2009 Great Refrigerator Roundup	Top Freezer Fridge - Not Replaced - Running All Time (100% of time time)	46	5	46%	1,234	0.172	\$1,217	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2009 Great Refrigerator Roundup	Top Freezer Fridge - Standard Efficiency Unit Replacement - Running All Time (100% of time time)	17	5	46%	661	0.092	\$242	OPA 2010c
2009 Great Refrigerator Roundup	Top Freezer Fridge - Energy Star Unit Replacement - Running All Time (100% of time time)	90	5	46%	776	0.108	\$1,488	OPA 2010c
2009 Great Refrigerator Roundup	Upright Freezer - Not Replaced - Running Part Time (26% of the time)	0	4	48%	365	0.051	\$2	OPA 2010c
2009 Great Refrigerator Roundup	Upright Freezer - Standard Efficiency Unit Replacement - Running Part Time (26% of the time)	0	4	48%	180	0.025	\$0	OPA 2010c
2009 Great Refrigerator Roundup	Upright Freezer - Energy Star Unit Replacement - Running Part Time (26% of the time)	0	4	48%	189	0.026	\$1	OPA 2010c
2009 Great Refrigerator Roundup	Upright Freezer - Not Replaced - Running All Time (100% of time time)	3	4	48%	1,416	0.197	\$79	OPA 2010c
2009 Great Refrigerator Roundup	Upright Freezer - Standard Efficiency Unit Replacement - Running All Time (100% of time time)	1	4	48%	697	0.097	\$11	OPA 2010c
2009 Great Refrigerator Roundup	Upright Freezer - Energy Star Unit Replacement - Running All Time (100% of time time)	3	4	48%	736	0.102	\$52	OPA 2010c
2009 Great Refrigerator	Dehumidifier - Not Replaced - Running All Time (100% of time)	2	4	64%	960	0.972	\$25	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Roundup	time)							
2009 Great Refrigerator Roundup	Dehumidifier - Standard Efficiency Unit Replacement - Running All Time (100% of time time)	1	4	64%	540	0.547	\$8	OPA 2010c
2009 Great Refrigerator Roundup	Dehumidifier - Energy Star Unit Replacement - Running All Time (100% of time time)	3	4	64%	463	0.468	\$20	OPA 2010c
2009 Great Refrigerator Roundup	Window Air Conditioner - Not Replaced - Running All Time (100% of time time)	3	3	64%	371	0.375	\$16	OPA 2010c
2009 Great Refrigerator Roundup	Window Air Conditioner - Standard Efficiency Unit Replacement - Running All Time (100% of time time)	0	3	64%	118	0.119	\$1	OPA 2010c
2009 Great Refrigerator Roundup	Window Air Conditioner - Energy Star Unit Replacement - Running All Time (100% of time time)	2	3	64%	141	0.142	\$3	OPA 2010c
2009 Cool Savings Rebate Program	Energy Star® 14.5 SEER (Tier 1) Central Air Conditioner (CAC)	34	18	42%	113	0.123	\$88	OPA 2010c
2009 Cool Savings Rebate Program	Energy Star® 14.5 SEER (Tier 1) Central Air Conditioner (CAC) with change in behaviour	5	18	42%	317	0.346	\$39	OPA 2010c
2009 Cool Savings Rebate Program	Energy Star® 15.0 SEER (Tier 2) Central Air Conditioner (CAC)	91	18	42%	177	0.193	\$365	OPA 2010c
2009 Cool	Energy Star® 15.0 SEER (Tier 2) Central	14	18	42%	366	0.400	\$118	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Savings Rebate Program	Air Conditioner (CAC) with change in behaviour							
2009 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor (ECM), Home constructed before 1980, AHRI Matched CAC & Furnace, Continuous Fan, No change	8	19	60%	2,773	1.658	\$334	OPA 2010c
2009 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor (ECM), Home constructed before 1980, AHRI Matched CAC & Furnace, Non-continuous Fan, No change	32	19	60%	324	0.183	\$160	OPA 2010c
2009 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor (ECM), Home constructed before 1980, AHRI Matched CAC & Furnace, Continuous Fan, Change from non-continuous	3	19	60%	91	0.054	\$4	OPA 2010c
2009 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor (ECM), Home constructed before 1980, Unmatched CAC & Furnace, Continuous Fan, No change	14	19	60%	2,823	1.687	\$600	OPA 2010c
2009 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor (ECM), Home constructed before 1980, Unmatched CAC & Furnace, Non-continuous Fan, No change	56	19	60%	373	0.211	\$326	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2009 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor (ECM), Home constructed before 1980, Unmatched CAC & Furnace, Continuous Fan, Change from non-continuous	4	19	60%	140	0.084	\$10	OPA 2010c
2009 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor (ECM), Home constructed before 1980, Heating only, Continuous Fan, No change	2	19	60%	1,535	0.837	\$53	OPA 2010c
2009 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor (ECM), Home constructed before 1980, Heating only, Non-continuous Fan, No change	9	19	60%	324	0.177	\$46	OPA 2010c
2009 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor (ECM), Home constructed before 1980, Heating only, Continuous Fan, Change from non-continuous	1	19	60%	192	0.105	\$2	OPA 2010c
2009 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor (ECM), Home constructed after 1980, AHRI Matched CAC & Furnace, Continuous Fan, No change	9	19	60%	2,867	1.714	\$405	OPA 2010c
2009 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor (ECM), Home constructed after 1980, AHRI	37	19	60%	207	0.117	\$120	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2009 Cool Savings Rebate Program	Matched CAC & Furnace, Non-continuous Fan, No change Furnace with Electronically Commutated Motor (ECM), Home constructed after 1980, AHRI Matched CAC & Furnace, Continuous Fan, Change from non-continuous	3	19	60%	(49)	(0.029)	(\$2)	OPA 2010c
2009 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor (ECM), Home constructed after 1980, Unmatched CAC & Furnace, Continuous Fan, No change	16	19	60%	2,927	1.750	\$730	OPA 2010c
2009 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor (ECM), Home constructed after 1980, Unmatched CAC & Furnace, Non-continuous Fan, No change	65	19	60%	267	0.151	\$274	OPA 2010c
2009 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor (ECM), Home constructed after 1980, Unmatched CAC & Furnace, Continuous Fan, Change from non-continuous	5	19	60%	11	0.007	\$1	OPA 2010c
2009 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor (ECM), Home constructed after 1980, Heating only, Continuous Fan, No change	3	19	60%	1,570	0.856	\$64	OPA 2010c
2009 Cool	Furnace with Electronically	11	19	60%	207	0.113	\$35	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Savings Rebate Program	Commutated Motor (ECM), Home constructed after 1980, Heating only, Non-continuous Fan, No change							
2009 Cool Savings Rebate Program	Furnace with Electronically Commutated Motor (ECM), Home constructed after 1980, Heating only, Continuous Fan, Change from non-continuous	1	19	60%	76	0.041	\$1	OPA 2010c
2009 Cool Savings Rebate Program	Programmable Thermostat - Central Air Conditioning (CAC) & Gas heating	72	15	61%	30	0.026	\$33	OPA 2010c
2009 Cool Savings Rebate Program	Programmable Thermostat - Energy Star® Central Air Conditioning (CAC) & Gas Heating	96	15	61%	26	0.022	\$38	OPA 2010c
2009 Cool Savings Rebate Program	Programmable Thermostat - Gas Heating only	21	15	61%	9	0.000	\$3	OPA 2010c
2009 Cool Savings Rebate Program	Participant Spillover - Lighting	10	5	0%	40	0.001	\$16	OPA 2010c
2009 Cool Savings Rebate Program	Participant Spillover - Cooling or Heating	4	3	0%	100	0.087	\$14	OPA 2010c
2009 Cool Savings Rebate Program	Participant Spillover - Water heating	5	10	0%	141	0.011	\$27	OPA 2010c
2009 Cool Savings Rebate Program	Participant Spillover - Appliances	7	4	0%	76	0.008	\$20	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Savings Rebate Program								
2009 Cool Savings Rebate Program	Participant Spillover - Insulation of other weatherization	10	10	0%	75	0.029	\$30	OPA 2010c
2009 Cool Savings Rebate Program	Participant Spillover - Windows	8	10	0%	100	0.085	\$31	OPA 2010c
2009 Cool Savings Rebate Program	Participant Spillover - Roof products	4	15	0%	50	0.004	\$8	OPA 2010c
2009 Cool Savings Rebate Program	Participant Spillover - Other products	4	5	0%	50	0.004	\$8	OPA 2010c
2009 Every Kilowatt Counts - PSE	Energy Star Qualified Compact Fluorescent - Spring Campaign - Participant Rebated	380	8	31%	23	0.001	\$238	OPA 2010c
2009 Every Kilowatt Counts - PSE	ENERGY STAR Decorative CFLs - Spring Campaign - Participant Rebated	900	6	23%	26	0.001	\$707	OPA 2010c
2009 Every Kilowatt Counts - PSE	ENERGY STAR Fixtures - Spring Campaign - Participant Rebated	73	16	47%	116	0.004	\$178	OPA 2010c
2009 Every Kilowatt Counts - PSE	ENERGY STAR Ceiling Fans - Spring Campaign - Participant Rebated	32	10	24%	71	0.002	\$68	OPA 2010c
2009 Every	Heavy Duty Pool and Spa Timers -	12	10	24%	454	0.060	\$162	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Kilowatt Counts - PSE	Spring Campaign - Participant Rebated							
2009 Every Kilowatt Counts - PSE	Clotheslines - Spring Campaign - Participant Rebated	30	10	45%	77	0.009	\$51	OPA 2010c
2009 Every Kilowatt Counts - PSE	Pipe Wrap - Spring Campaign - Participant Rebated	25	6	22%	8	0.001	\$6	OPA 2010c
2009 Every Kilowatt Counts - PSE	Water Blanket - Spring Campaign - Participant Rebated	3	10	20%	52	0.004	\$6	OPA 2010c
2009 Every Kilowatt Counts - PSE	Energy Star Qualified Window Air Conditioner - Spring Campaign - Participant Promoted	31	12	33%	96	0.098	\$80	OPA 2010c
2009 Every Kilowatt Counts - PSE	Energy Star Qualified Dehumidifiers - Spring Campaign - Participant Promoted	30	12	32%	284	0.025	\$226	OPA 2010c
2009 Every Kilowatt Counts - PSE	Programmable Thermostat - Spring Campaign - Participant Promoted	73	15	55%	138	0.050	\$179	OPA 2010c
2009 Every Kilowatt Counts - PSE	Solar Power Products - Spring Campaign - Participant Promoted	190	5	40%	5	0.000	\$22	OPA 2010c
2009 Every Kilowatt Counts - PSE	Control Products - Spring Campaign - Participant Promoted	94	10	47%	72	0.001	\$143	OPA 2010c
2009 Every	Reduce power to electronics	40	1	85%	21	0.002	\$3	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Kilowatt Counts - PSE 2009 Every	(Behavioural) - Spring Campaign - Participant Spillover Installed CFLs - Spring Campaign - Participant Spillover	35	8	87%	101	0.003	\$18	OPA 2010c
Kilowatt Counts - PSE 2009 Every	Washed in Cold Laundry (Behavioural) - Spring Campaign - Participant Spillover	34	1	86%	30	0.002	\$3	OPA 2010c
Kilowatt Counts - PSE 2009 Every	Turned off/Reduced lights (Behavioural) - Spring Campaign - Participant Spillover	32	1	88%	263	0.008	\$20	OPA 2010c
Kilowatt Counts - PSE 2009 Every	Dried clothes outside or on rack (Behavioural) - Spring Campaign - Participant Spillover	28	1	89%	74	0.008	\$5	OPA 2010c
Kilowatt Counts - PSE 2009 Every	Installed a new energy efficient appliance - Refrigerator - Spring Campaign - Participant Spillover	25	14	86%	65	0.007	\$9	OPA 2010c
Kilowatt Counts - PSE 2009 Every	Unplugged devices usually left plugged in (Behavioural) - Spring Campaign - Participant Spillover	24	1	80%	70	0.006	\$7	OPA 2010c
Kilowatt Counts - PSE 2009 Every	Installed a new energy efficient appliance - Clothes washing machine - Spring Campaign - Participant Spillover	15	14	88%	122	0.014	\$8	OPA 2010c
Kilowatt Counts - PSE 2009 Every	Added ceiling/attic/wall/basement insulation - Spring Campaign - Participant Spillover	15	20	88%	394	0.104	\$27	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2009 Every Kilowatt Counts - PSE	Installed Programmable Thermostat - Spring Campaign - Participant Spillover	15	15	87%	308	0.022	\$23	OPA 2010c
2009 Every Kilowatt Counts - PSE	Energy Star Qualified Compact Fluorescent - Spring Campaign - Non-Participant Rebated	289	8	65%	22	0.001	\$89	OPA 2010c
2009 Every Kilowatt Counts - PSE	ENERGY STAR Decorative CFLs - Spring Campaign - Non-Participant Rebated	144	6	60%	26	0.001	\$59	OPA 2010c
2009 Every Kilowatt Counts - PSE	ENERGY STAR Fixtures - Spring Campaign - Non-Participant Rebated	135	16	59%	68	0.002	\$147	OPA 2010c
2009 Every Kilowatt Counts - PSE	ENERGY STAR Ceiling Fans - Spring Campaign - Non-Participant Rebated	40	10	86%	71	0.002	\$15	OPA 2010c
2009 Every Kilowatt Counts - PSE	Heavy Duty Pool and Spa Timers - Spring Campaign - Non-Participant Rebated	25	10	86%	454	0.060	\$60	OPA 2010c
2009 Every Kilowatt Counts - PSE	Clotheslines - Spring Campaign - Non-Participant Rebated	92	10	86%	77	0.009	\$38	OPA 2010c
2009 Every Kilowatt Counts - PSE	Pipe Wrap - Spring Campaign - Non-Participant Rebated	212	6	86%	8	0.001	\$9	OPA 2010c
2009 Every Kilowatt Counts - PSE	Water Blanket - Spring Campaign - Non-Participant Rebated	31	10	86%	52	0.004	\$9	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2009 Every Kilowatt Counts - PSE	Energy Star Qualified Window Air Conditioner - Spring Campaign - Non-Participant Promoted	52	12	57%	96	0.098	\$86	OPA 2010c
2009 Every Kilowatt Counts - PSE	Energy Star Qualified Dehumidifiers - Spring Campaign - Non-Participant Promoted	62	12	56%	284	0.025	\$307	OPA 2010c
2009 Every Kilowatt Counts - PSE	Programmable Thermostat - Spring Campaign - Non-Participant Promoted	98	15	71%	138	0.050	\$155	OPA 2010c
2009 Every Kilowatt Counts - PSE	Solar Power Products - Spring Campaign - Non-Participant Promoted	634	5	61%	5	0.000	\$47	OPA 2010c
2009 Every Kilowatt Counts - PSE	Control Products - Spring Campaign - Non-Participant Promoted	218	10	66%	72	0.001	\$214	OPA 2010c
2009 Every Kilowatt Counts - PSE	Energy Star Qualified Compact Fluorescent - Autumn Campaign - Participant Rebated	1,718	8	31%	25	0.001	\$1,199	OPA 2010c
2009 Every Kilowatt Counts - PSE	ENERGY STAR Specialty CFLs - Autumn Campaign - Participant Rebated	695	6	29%	21	0.001	\$407	OPA 2010c
2009 Every Kilowatt Counts - PSE	ENERGY STAR Fixtures - Autumn Campaign - Participant Rebated	83	16	30%	119	0.004	\$273	OPA 2010c
2009 Every Kilowatt Counts - PSE	Weatherstripping - adhesive foam or V-strip - Autumn Campaign - Participant Rebated	77	15	43%	15	0.001	\$27	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2009 Every Kilowatt Counts - PSE	Weatherstripping - door frame kits - Autumn Campaign - Participant Rebated	50	15	47%	17	0.001	\$18	OPA 2010c
2009 Every Kilowatt Counts - PSE	Programmable Thermostat - Autumn Campaign - Participant Rebated	33	15	33%	32	0.000	\$29	OPA 2010c
2009 Every Kilowatt Counts - PSE	Pipe Wrap - Autumn Campaign - Participant Rebated	29	6	55%	7	0.001	\$3	OPA 2010c
2009 Every Kilowatt Counts - PSE	Water Blanket - Autumn Campaign - Participant Rebated	6	10	37%	56	0.004	\$9	OPA 2010c
2009 Every Kilowatt Counts - PSE	Lighting/Appliance Controls - Autumn Campaign - Participant Rebated	58	17	28%	21	0.001	\$35	OPA 2010c
2009 Every Kilowatt Counts - PSE	Energy Star Qualified Holiday LED Lights - Autumn Campaign - Participant Promoted	205	5	41%	14	0.000	\$65	OPA 2010c
2009 Every Kilowatt Counts - PSE	Dimmer Switches - Autumn Campaign - Participant Promoted	86	10	50%	24	0.001	\$40	OPA 2010c
2009 Every Kilowatt Counts - PSE	Solar Powered Products - Autumn Campaign - Participant Promoted	167	4	48%	6	0.000	\$19	OPA 2010c
2009 Every Kilowatt Counts - PSE	Washed laundry with cold water - Autumn Campaign - Participant Spillover	61	1	83%	30	0.002	\$6	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2009 Every Kilowatt Counts - PSE	Turned off / reduced use of power to electronics - Autumn Campaign - Participant Spillover	56	1	81%	21	0.002	\$5	OPA 2010c
2009 Every Kilowatt Counts - PSE	Turned off / reduced use of lights - Autumn Campaign - Participant Spillover	52	1	83%	263	0.008	\$46	OPA 2010c
2009 Every Kilowatt Counts - PSE	Dried clothes outside or inside on a rack - Autumn Campaign - Participant Spillover	37	1	87%	74	0.008	\$7	OPA 2010c
2009 Every Kilowatt Counts - PSE	Turned down the thermostat setting on my furnace - Autumn Campaign - Participant Spillover	37	1	81%	270	0.000	\$38	OPA 2010c
2009 Every Kilowatt Counts - PSE	Unplugged devices usually plugged into outlet - Autumn Campaign - Participant Spillover	35	1	82%	70	0.006	\$9	OPA 2010c
2009 Every Kilowatt Counts - PSE	Installed a new energy efficient appliance – Refrigerator - Autumn Campaign - Participant Spillover	35	14	75%	65	0.007	\$22	OPA 2010c
2009 Every Kilowatt Counts - PSE	Added ceiling/attic/wall/basement insulation - Autumn Campaign - Participant Spillover	28	20	78%	394	0.000	\$95	OPA 2010c
2009 Every Kilowatt Counts - PSE	Replaced my old furnace with a high efficiency furnace - Autumn Campaign - Participant Spillover	25	15	80%	352	0.192	\$67	OPA 2010c
2009 Every Kilowatt Counts - PSE	Installed a new energy efficient appliance - Clothes washing machine - Autumn Campaign - Participant	23	15	81%	142	0.049	\$25	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
	Spillover							
2009 Every Kilowatt Counts - PSE	Energy Star Qualified Compact Fluorescent - Autumn Campaign - Non-Participant Rebated	1,565	8	86%	24	0.001	\$200	OPA 2010c
2009 Every Kilowatt Counts - PSE	ENERGY STAR Specialty CFLs - Autumn Campaign - Non-Participant Rebated	497	6	85%	30	0.001	\$88	OPA 2010c
2009 Every Kilowatt Counts - PSE	ENERGY STAR Fixtures - Autumn Campaign - Non-Participant Rebated	139	16	76%	36	0.001	\$48	OPA 2010c
2009 Every Kilowatt Counts - PSE	Weatherstripping - adhesive foam or V-strip - Autumn Campaign - Non-Participant Rebated	540	15	93%	15	0.001	\$23	OPA 2010c
2009 Every Kilowatt Counts - PSE	Weatherstripping - door frame kits - Autumn Campaign - Non-Participant Rebated	411	15	94%	17	0.001	\$18	OPA 2010c
2009 Every Kilowatt Counts - PSE	Programmable Thermostat - Autumn Campaign - Non-Participant Rebated	81	15	83%	83	0.000	\$47	OPA 2010c
2009 Every Kilowatt Counts - PSE	Pipe Wrap - Autumn Campaign - Non-Participant Rebated	382	6	89%	6	0.000	\$10	OPA 2010c
2009 Every Kilowatt Counts - PSE	Water Blanket - Autumn Campaign - Non-Participant Rebated	48	10	78%	40	0.003	\$16	OPA 2010c
2009 Every Kilowatt	Lighting/Appliance Controls - Autumn Campaign - Non-Participant Rebated	408	17	90%	42	0.001	\$69	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Counts - PSE								
2009 Every Kilowatt Counts - PSE	Energy Star Qualified Holiday LED Lights - Autumn Campaign - Non-Participant Promoted	668	5	65%	14	0.000	\$126	OPA 2010c
2009 Every Kilowatt Counts - PSE	Dimmer Switches - Autumn Campaign - Non-Participant Promoted	210	10	73%	24	0.001	\$53	OPA 2010c
2009 Every Kilowatt Counts - PSE	Solar Powered Products - Autumn Campaign - Non-Participant Promoted	338	4	58%	5	0.000	\$26	OPA 2010c
2009 Every Kilowatt Counts - PSE	Working Room Air Conditioner Retirement - Rewards for Recycling Campaign - Incented	16	6	62%	32	0.032	\$8	OPA 2010c
2009 Every Kilowatt Counts - PSE	Working Room Dehumidifier Retirement - Rewards for Recycling Campaign - Incented	15	8	53%	300	0.304	\$82	OPA 2010c
2009 Every Kilowatt Counts - PSE	Working Halogen Torchiere Retirement - Rewards for Recycling Campaign - Incented	5	10	49%	58	0.002	\$6	OPA 2010c
2009 Every Kilowatt Counts - PSE	Recycled Second Refrigerator - Rewards for Recycling Campaign - Spillover	3	14	64%	1,238	0.127	\$60	OPA 2010c
2009 Every Kilowatt Counts - PSE	Recycled Additional Room Air Conditioner - Rewards for Recycling Campaign - Spillover	3	6	64%	30	0.030	\$1	OPA 2010c
2009 Every Kilowatt	Recycled Central Air Conditioner - Rewards for Recycling Campaign -	3	18	64%	72	0.079	\$3	OPA 2010c

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Counts - PSE 2009 Every Kilowatt	Spillover Recycled Additional Room Dehumidifier - Rewards for Recycling Campaign - Spillover	3	8	64%	309	0.313	\$13	OPA 2010c
Counts - PSE 2009 Every Kilowatt	Installed Energy Star® Windows - Rewards for Recycling Campaign - Spillover	5	20	82%	1,530	0.087	\$52	OPA 2010c
Counts - PSE 2009 Every Kilowatt	Installed Energy Star® CFL Bulbs - Rewards for Recycling Campaign - Spillover	16	8	82%	45	0.001	\$5	OPA 2010c
2009 peaksaver	Residential Air Conditioner - Switch	65	13	10%	6	0.659	\$11	OPA 2010c
2009 peaksaver	Residential Air Conditioner - Thermostat	132	13	10%	6	0.659	\$22	OPA 2010c
2009 peaksaver	Commercial Air Conditioner - Switch	1	13	10%	6	0.957	\$0	OPA 2010c
2009 peaksaver	Commercial Air Conditioner - Thermostat	5	13	10%	6	0.957	\$1	OPA 2010c
Residential total							\$298,356	

1. 2007, 2008 and 2009 peaksaver program savings are split 85%, 12% and 3% across the Residential, GS < 50 kW and GS > 50 kW rate classes. The LRAM claims for these programs are allocated accordingly among these rate classes.

Table 13 - LRAM inputs and contribution to the total LRAM for all GS < 50 kW rate class measures.

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2007 Norfolk Power Facility Lighting Program	2Lamp - T8 23W	152	8	0%	12,089	4.560	\$609	2010 Quasi Prescriptive M&A List
2007 Norfolk Power Facility Lighting Program	4Lamp - T8 32W	108	8	0%	17,178	6.480	\$866	2010 Quasi Prescriptive M&A List
2007 ERIP	Custom Retrofit Projects	1	5	10%	76,527	27.550	\$783	OPA 2009
2008 peaksaver	Residential Programmable Thermostat	71	13	10%	1,228	61.415	\$6	OPA 2009
2008 peaksaver	Residential Air Conditioner Switch	74	13	10%	1,280	64.010	\$6	OPA 2009
2008 peaksaver	Commercial Programmable Thermostat	2	13	10%	148	7.400	\$1	OPA 2009
2008 ERIP	Custom Retrofit Projects	1	16	Custom	0	0.000	\$247	OPA 2009
2008 High Performance New Construction	Custom New Construction Project	1	14	30%	1,177	1.394	\$36	OPA 2009

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2009 peaksaver	Residential Air Conditioner - Switch	65	13	10%	367	42.760	\$1	OPA 2010c
2009 peaksaver	Residential Air Conditioner - Thermostat	132	13	10%	746	86.835	\$2	OPA 2010c
2009 peaksaver	Commercial Air Conditioner - Switch	1	13	10%	6	0.956	\$0	OPA 2010c
2009 peaksaver	Commercial Air Conditioner - Thermostat	5	13	10%	28	4.778	\$0	OPA 2010c
2009 ERIP	Custom measures	1	6	17%	1,422,890	176.969	\$6,823	OPA 2010c
2009 High Performance New Construction	Custom measures	1	20	30%	35,903	15.748	\$726	OPA 2010c
2009 Power Savings Blitz	Custom measures	1	9	5%	1,263,855	323.954	\$34,682	OPA 2010c
GS < 50 kW total							\$44,789	

1. 2007, 2008 and 2009 peaksaver program savings are split 85%, 12% and 3% across the Residential, GS < 50 kW and GS > 50 kW rate classes. The LRAM claims for these programs are allocated accordingly among these three rate classes.
2. 2007, 2008 and 2009 ERIP program savings are split 20%, 80% across the GS < 50 kW and GS > 50 kW rate classes. The LRAM claims for these programs are allocated accordingly among these two rate classes.

Table 14 – LRAM inputs and contribution to the total LRAM for all GS > 50 kW rate class measures.

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2007 peaksaver	Residential Programmable Thermostat	3	12	10%	0	1.890	\$9	OPA 2009
2007 ERIP	Custom Retrofit Projects	1	5	10%	76,527	27.550	\$3,574	OPA 2009
2008 peaksaver	Residential Programmable Thermostat	71	13	10%	1,228	61.415	\$233	OPA 2009
2008 peaksaver	Residential Air Conditioner Switch	74	13	10%	1,280	64.010	\$243	OPA 2009
2008 peaksaver	Commercial Programmable Thermostat	2	13	10%	148	7.400	\$28	OPA 2009
2008 ERIP	Custom Retrofit Projects	1	16	Custom	0	0.000	\$453	OPA 2009
2005 Energy Audits for Major Customers	Fixing of air leaks around compressors and air driers	1	5	0%	92,864	10.630	\$2,285	Norfolk 2005a and participant survey
2005 Energy Audits for Major Customers	Office AC programmable PStat	1	5	0%	11,250	7.917	\$1,702	Norfolk 2005a, participant survey and 2009 OPA Quasi-prescr M&A list
2005 Energy Audits for Major	Installation of PStats for HVAC rooftop units AC	1	30	50%	10,000	8.333	\$987	Norfolk 2005a, participant survey and 2009 OPA Quasi-prescr

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Customers 2006 Energy Audits for Major Customers	15W CFL	2	3	0%	281	0.090	\$10	M&A list Norfolk 2006a, participant survey and 2010 OPA M&A list
Customers 2006 Energy Audits for Major Customers	15W CFL	6	6	0%	337	0.270	\$54	Norfolk 2006a, participant survey and 2010 OPA M&A list
Customers 2006 Energy Audits for Major Customers	15W CFL	1	1	0%	337	0.045	\$2	Norfolk 2006a, participant survey and 2010 OPA M&A list
Customers 2006 Energy Audits for Major Customers	15W CFL	17	9	0%	716	0.765	\$153	Norfolk 2006a, participant survey and 2010 OPA M&A list
Customers 2006 Energy Audits for Major Customers	15W CFL	13	9	0%	548	0.585	\$117	Norfolk 2006a, participant survey and 2010 OPA M&A list
Customers 2006 Energy Audits for Major Customers	15W CFL	3	9	0%	126	0.135	\$27	Norfolk 2006a, participant survey and 2010 OPA M&A list
Customers 2006 Energy Audits for	15W CFL	5	1	0%	1,264	0.225	\$11	Norfolk 2006a, participant survey and

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Major Customers								2010 OPA M&A list
2006 Energy Audits for Major Customers	15W CFL	3	1	0%	758	0.135	\$7	Norfolk 2006a, participant survey and 2010 OPA M&A list
2006 Energy Audits for Major Customers	15W CFL	4	3	0%	449	0.180	\$24	Norfolk 2006a, participant survey and 2010 OPA M&A list
2006 Energy Audits for Major Customers	15W CFL	1	3	0%	112	0.045	\$6	Norfolk 2006a, participant survey and 2010 OPA M&A list
2006 Energy Audits for Major Customers	15W CFL	1	3	0%	112	0.045	\$6	Norfolk 2006a, participant survey and 2010 OPA M&A list
2006 Energy Audits for Major Customers	15W CFL	1	3	0%	112	0.045	\$6	Norfolk 2006a, participant survey and 2010 OPA M&A list
2006 Energy Audits for Major Customers	15W CFL	1	3	0%	112	0.045	\$6	Norfolk 2006a, participant survey and 2010 OPA M&A list
2006 Energy	T5 fixture, 4' 28W – 3	9	14	50%	886	0.607	\$61	Norfolk 2006a,

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Audits for Major Customers	Lamps							participant survey and 2010 Quasi-pres OPA M&A list
2006 Energy Audits for Major Customers	T5 fixture, 4' 28W – 1 Lamp	1	5	50%	117	0.027	\$3	Norfolk 2006a, participant survey and 2010 Quasi-pres OPA M&A list
2006 Energy Audits for Major Customers	T5 fixture, 4' 28W – 1 Lamp	3	5	50%	234	0.053	\$5	Norfolk 2006a, participant survey and 2010 Quasi-pres OPA M&A list
2006 Energy Audits for Major Customers	T5 fixture, 4' 28W – 1 Lamp	5	5	50%	409	0.093	\$9	Norfolk 2006a, participant survey and 2010 Quasi-pres OPA M&A list
2006 Energy Audits for Major Customers	T5 fixture, 4' 28W – 1 Lamp	40	5	50%	3,504	0.800	\$78	Norfolk 2006a, participant survey and 2010 Quasi-pres OPA M&A list
2006 Energy Audits for Major Customers	T5 fixture, 4' 28W – 1 Lamp	40	5	50%	3,504	0.800	\$78	Norfolk 2006a, participant survey and 2010 Quasi-pres OPA M&A list
2006 Energy Audits for Major Customers	T5 fixture, 4' 28W – 1 Lamp	13	5	50%	1,110	0.253	\$25	Norfolk 2006a, participant survey and 2010 Quasi-pres OPA M&A list

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
2006 Energy Audits for Major Customers	T5 fixture, 4' 28W – 1 Lamp	13	5	50%	1,110	0.253	\$25	Norfolk 2006a, participant survey and 2010 Quasi-pres OPA M&A list
2006 Energy Audits for Major Customers	2 foot, 1 tube, T16, electronic ballast	2	5	50%	51	0.012	\$1	Norfolk 2006a, participant survey and 2010 Quasi-pres OPA M&A list
2006 Energy Audits for Major Customers	2 foot, 1 tube, T16, electronic ballast (Note 1)	2	5	50%	51	0.012	\$1	Norfolk 2006a, participant survey and 2010 Quasi-pres OPA M&A list
2006 Energy Audits for Major Customers	Replace “jackshaft” type boiler controls on the 3 boilers	1	15	50%	22,788	2.610	\$262	Norfolk 2006a and participant survey and Jackshaft ref
2006 Energy Audits for Major Customers	Lighting Retrofit	1	4	75%	15,488	2.000	\$89	Norfolk 2006a and participant survey
2006 Energy Audits for Major Customers	HWH Reduced Digester Flaring	1	15	0%	91,657	42.000	\$8,422	Norfolk 2006a and participant survey
2006 Energy Audits for Major Customers	Sewage Pump Optimization	1	15	75%	65,664	6.250	\$313	Norfolk 2006a and participant survey

Program	Energy Efficient Measure	Number of units	Measure life	LRAM Free Ridership	Annual energy savings (kWh/a)	Annual peak demand savings (kW/a)	Contribution to LRAM (2011\$)	Assumption Source
Customers								
2009 peaksaver	Residential Air Conditioner - Switch	65	13	10%	367	42.760	\$106	OPA 2010c
2009 peaksaver	Residential Air Conditioner - Thermostat	132	13	10%	746	86.835	\$215	OPA 2010c
2009 peaksaver	Commercial Air Conditioner - Switch	1	13	10%	6	0.956	\$2	OPA 2010c
2009 peaksaver	Commercial Air Conditioner - Thermostat	5	13	10%	28	4.778	\$12	OPA 2010c
2009 ERIP	Custom measures	1	6	17%	1,422,890	176.969	\$10,783	OPA 2010c
GS > 50 kW total							\$30,434	

1. 2007, 2008 and 2009 peaksaver program savings are split 85%, 12% and 3% across the Residential, GS < 50 kW and GS > 50 kW rate classes. The LRAM claims for these programs are allocated accordingly among these three rate classes.
2. 2007, 2008 and 2009 ERIP program savings are split 20%, 80% across the GS < 50 kW and GS > 50 kW rate classes. The LRAM claims for these programs are allocated accordingly among these two rate classes.
3. Inputs from the 2005 and 2006 Energy Audits for Large Customers Program are from audit inspections, customer-specific usage and a telephone survey of the participants conducted by IndEco in August 2010.
4. Peak savings occur in the summer only.

Table 15 – Residential program LRAM contributions and carrying charges.

Program	Year of savings	Energy savings (kWh)	Energy rate (\$/kWh)	LRAM (programyear\$)	Carrying charges (\$)	LRAM (2011\$)
2005 Energy Star Window Program	2005	1,742	0.0135	\$24	\$4	\$28
	2006	3,485	0.0167	\$58	\$8	\$66
	2007	3,485	0.0169	\$59	\$5	\$64
	2008	3,485	0.0198	\$69	\$3	\$72
	2009	3,485	0.0199	\$69	\$1	\$71
	2010	3,485	0.0190	\$66	\$1	\$67
2005 Energy Star Window Program Sum		19,167	0.2116	\$345	\$23	\$368
2005 Lighten Your Electricity Bill	2005	44,645	0.0135	\$603	\$114	\$716
	2006	89,289	0.0167	\$1,491	\$208	\$1,699
	2007	89,289	0.0169	\$1,509	\$141	\$1,650
	2008	89,289	0.0198	\$1,768	\$82	\$1,850
	2009	89,289	0.0199	\$1,777	\$30	\$1,807
	2010	87,739	0.0190	\$1,667	\$16	\$1,683
2005 Lighten Your Electricity Bill Sum		489,541	1.9044	\$8,815	\$591	\$9,406
2005 Res Customer Program - Cold Water Wash	2005	20,061	0.0135	\$271	\$51	\$322
	2006	20,061	0.0167	\$335	\$49	\$384
	2007	0	0.0169	\$0	\$0	\$0
	2008	0	0.0198	\$0	\$0	\$0
	2009	0	0.0199	\$0	\$0	\$0
	2010	0	0.0190	\$0	\$0	\$0
2005 Res Customer Program - Cold Water Wash Sum		40,121	0.1058	\$606	\$100	\$706
2005 Water Heater Replacement Program	2005	13,911	0.0135	\$188	\$35	\$223
	2006	27,822	0.0167	\$465	\$65	\$529

Program	Year of savings	Energy savings (kWh)	Energy rate (\$/kWh)	LRAM (program/year\$)	Carrying charges (\$)	LRAM (2011\$)
	2007	27,822	0.0169	\$470	\$44	\$514
	2008	27,822	0.0198	\$551	\$26	\$576
	2009	27,822	0.0199	\$554	\$10	\$563
	2010	27,822	0.0190	\$529	\$5	\$534
2005 Water Heater Replacement Program Sum		153,020	0.4232	\$2,756	\$184	\$2,940
2006 CFL Education and Giveaway	2005	0	0.0135	\$0	\$0	\$0
	2006	14,250	0.0167	\$238	\$31	\$269
	2007	28,499	0.0169	\$482	\$45	\$527
	2008	28,499	0.0198	\$564	\$26	\$590
	2009	28,499	0.0199	\$567	\$10	\$577
	2010	28,499	0.0190	\$541	\$5	\$547
2006 CFL Education and Giveaway Sum		128,247	0.2116	\$2,393	\$117	\$2,510
2006 Cool Savings Rebate Program	2005	0	0.0135	\$0	\$0	\$0
	2006	32,592	0.0167	\$544	\$76	\$620
	2007	32,592	0.0169	\$551	\$51	\$602
	2008	32,592	0.0198	\$645	\$30	\$675
	2009	32,592	0.0199	\$649	\$11	\$660
	2010	32,592	0.0190	\$619	\$6	\$625
2006 Cool Savings Rebate Program Sum		162,959	0.3174	\$3,008	\$174	\$3,183
2006 Every Kilowatt Counts	2005	0	0.0135	\$0	\$0	\$0
	2006	1,245,844	0.0167	\$20,806	\$2,904	\$23,710
	2007	1,245,844	0.0169	\$21,055	\$1,963	\$23,017
	2008	1,245,844	0.0198	\$24,668	\$1,143	\$25,810
	2009	1,245,844	0.0199	\$24,792	\$425	\$25,218
	2010	160,629	0.0190	\$3,052	\$30	\$3,082
2006 Every Kilowatt Counts Sum		5,144,004	1.0580	\$94,372	\$6,464	\$100,837

Program	Year of savings	Energy savings (kWh)	Energy rate (\$/kWh)	LRAM (program/year\$)	Carrying charges (\$)	LRAM (2011\$)
2006 LED Light Exchange	2005	0	0.0135	\$0	\$0	\$0
	2006	11,813	0.0167	\$197	\$26	\$223
	2007	23,625	0.0169	\$399	\$37	\$436
	2008	23,625	0.0198	\$468	\$22	\$489
	2009	23,625	0.0199	\$470	\$8	\$478
	2010	23,625	0.0190	\$449	\$4	\$453
2006 LED Light Exchange Sum		106,313	0.2116	\$1,983	\$97	\$2,081
2006 Secondary Fridge Retirement Pilot	2005	0	0.0135	\$0	\$0	\$0
	2006	19,450	0.0167	\$325	\$45	\$370
	2007	19,450	0.0169	\$329	\$31	\$359
	2008	19,450	0.0198	\$385	\$18	\$403
	2009	19,450	0.0199	\$387	\$7	\$394
	2010	19,450	0.0190	\$370	\$4	\$373
2006 Secondary Fridge Retirement Pilot Sum		97,250	0.2116	\$1,795	\$104	\$1,899
2007 CFL Education and Giveaway	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	124,180	0.0169	\$2,099	\$181	\$2,279
	2008	248,360	0.0198	\$4,918	\$228	\$5,145
	2009	248,360	0.0199	\$4,942	\$85	\$5,027
	2010	248,360	0.0190	\$4,719	\$46	\$4,765
2007 CFL Education and Giveaway Sum		869,260	0.2116	\$16,677	\$539	\$17,216
2007 Cool Savings Rebate Program	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	104,710	0.0169	\$1,770	\$165	\$1,935
	2008	104,710	0.0198	\$2,073	\$96	\$2,169
	2009	104,710	0.0199	\$2,084	\$36	\$2,119

Program	Year of savings	Energy savings (kWh)	Energy rate (\$/kWh)	LRAM (programyear\$)	Carrying charges (\$)	LRAM (2011\$)
	2010	104,710	0.0190	\$1,989	\$19	\$2,009
2007 Cool Savings Rebate Program Sum		418,842	0.4232	\$7,916	\$316	\$8,232
2007 Energy Star Appliance Rebate Program	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	526	0.0169	\$9	\$1	\$10
	2008	1,052	0.0198	\$21	\$1	\$22
	2009	1,052	0.0199	\$21	\$0	\$21
	2010	1,052	0.0190	\$20	\$0	\$20
2007 Energy Star Appliance Rebate Program Sum		3,683	0.8464	\$71	\$2	\$73
2007 Every Kilowatt Counts	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	457,961	0.0169	\$7,740	\$721	\$8,461
	2008	452,407	0.0198	\$8,958	\$415	\$9,373
	2009	452,407	0.0199	\$9,003	\$155	\$9,157
	2010	452,407	0.0190	\$8,596	\$83	\$8,679
2007 Every Kilowatt Counts Sum		1,815,183	1.4812	\$34,296	\$1,374	\$35,670
2007 Great Refrigerator Roundup	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	75,039	0.0169	\$1,268	\$118	\$1,386
	2008	75,039	0.0198	\$1,486	\$69	\$1,555
	2009	75,039	0.0199	\$1,493	\$26	\$1,519
	2010	75,039	0.0190	\$1,426	\$14	\$1,440
2007 Great Refrigerator Roundup Sum		300,157	0.5290	\$5,673	\$226	\$5,899
2007 LED Light Exchange	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0

Program	Year of savings	Energy savings (kWh)	Energy rate (\$/kWh)	LRAM (program/year\$)	Carrying charges (\$)	LRAM (2011\$)
	2007	11,813	0.0169	\$200	\$17	\$217
	2008	23,625	0.0198	\$468	\$22	\$489
	2009	23,625	0.0199	\$470	\$8	\$478
	2010	23,625	0.0190	\$449	\$4	\$453
2007 LED Light Exchange Sum		82,688	0.2116	\$1,586	\$51	\$1,638
2007 Res Customer Program - Education	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	776	0.0169	\$13	\$1	\$14
	2008	1,552	0.0198	\$31	\$1	\$32
	2009	1,552	0.0199	\$31	\$1	\$31
	2010	1,552	0.0190	\$29	\$0	\$30
2007 Res Customer Program - Education Sum		5,433	0.2116	\$104	\$3	\$108
2007 Social Housing - Pilot	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	41,273	0.0169	\$698	\$65	\$763
	2008	41,273	0.0198	\$817	\$38	\$855
	2009	41,273	0.0199	\$821	\$14	\$835
	2010	41,273	0.0190	\$784	\$8	\$792
2007 Social Housing - Pilot Sum		165,092	0.1058	\$3,120	\$125	\$3,245
2007 Summer Savings	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	630,583	0.0169	\$10,657	\$993	\$11,650
	2008	630,583	0.0198	\$12,486	\$578	\$13,064
	2009	0	0.0199	\$0	\$0	\$0
	2010	0	0.0190	\$0	\$0	\$0
2007 Summer Savings Sum		1,261,167	0.1058	\$23,142	\$1,572	\$24,714

Program	Year of savings	Energy savings (kWh)	Energy rate (\$/kWh)	LRAM (programyear\$)	Carrying charges (\$)	LRAM (2011\$)
2007 Water Heater Replacement Program	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	11,195	0.0169	\$189	\$16	\$205
	2008	22,391	0.0198	\$443	\$21	\$464
	2009	22,391	0.0199	\$446	\$8	\$453
	2010	22,391	0.0190	\$425	\$4	\$430
2007 Water Heater Replacement Program Sum		78,367	0.4232	\$1,504	\$49	\$1,552
2008 CFL Education and Giveaway	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	0	0.0169	\$0	\$0	\$0
	2008	46,568	0.0198	\$922	\$37	\$959
	2009	93,135	0.0199	\$1,853	\$32	\$1,885
	2010	93,135	0.0190	\$1,770	\$17	\$1,787
2008 CFL Education and Giveaway Sum		232,838	0.2116	\$4,545	\$86	\$4,631
2008 Cool Savings Rebate Program	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	0	0.0169	\$0	\$0	\$0
	2008	74,747	0.0198	\$1,480	\$69	\$1,549
	2009	74,747	0.0199	\$1,487	\$26	\$1,513
	2010	74,747	0.0190	\$1,420	\$14	\$1,434
2008 Cool Savings Rebate Program Sum		224,241	0.7406	\$4,388	\$108	\$4,496
2008 Energy Star Appliance Rebate Program	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	0	0.0169	\$0	\$0	\$0
	2008	9,811	0.0198	\$194	\$8	\$202

Program	Year of savings	Energy savings (kWh)	Energy rate (\$/kWh)	LRAM (programyear\$)	Carrying charges (\$)	LRAM (2011\$)
	2009	19,622	0.0199	\$390	\$7	\$397
	2010	19,622	0.0190	\$373	\$4	\$376
2008 Energy Star Appliance Rebate Program Sum		49,055	0.8464	\$958	\$18	\$976
2008 Every Kilowatt Counts - PSE	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	0	0.0169	\$0	\$0	\$0
	2008	411,211	0.0198	\$8,142	\$377	\$8,519
	2009	409,422	0.0199	\$8,147	\$140	\$8,287
	2010	409,422	0.0190	\$7,779	\$75	\$7,854
2008 Every Kilowatt Counts - PSE Sum		1,230,054	2.3276	\$24,068	\$592	\$24,661
2008 Great Refrigerator Roundup	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	0	0.0169	\$0	\$0	\$0
	2008	171,096	0.0198	\$3,388	\$157	\$3,545
	2009	171,096	0.0199	\$3,405	\$58	\$3,463
	2010	171,096	0.0190	\$3,251	\$32	\$3,282
2008 Great Refrigerator Roundup Sum		513,288	0.3174	\$10,043	\$247	\$10,290
2008 peaksaver	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	0	0.0169	\$0	\$0	\$0
	2008	2,032	0.0198	\$40	\$2	\$42
	2009	2,032	0.0199	\$40	\$1	\$41
	2010	2,032	0.0190	\$39	\$0	\$39
2008 peaksaver Sum		6,097	0.6348	\$119	\$3	\$122
2008 Res Customer Program - Education	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0

Program	Year of savings	Energy savings (kWh)	Energy rate (\$/kWh)	LRAM (program/year\$)	Carrying charges (\$)	LRAM (2011\$)
	2007	0	0.0169	\$0	\$0	\$0
	2008	776	0.0198	\$15	\$1	\$16
	2009	1,552	0.0199	\$31	\$1	\$31
	2010	1,552	0.0190	\$29	\$0	\$30
2008 Res Customer Program - Education Sum		3,881	0.2116	\$76	\$1	\$77
2008 Summer Sweepstakes	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	0	0.0169	\$0	\$0	\$0
	2008	414,633	0.0198	\$8,210	\$380	\$8,590
	2009	149,622	0.0199	\$2,977	\$51	\$3,029
	2010	149,622	0.0190	\$2,843	\$28	\$2,870
2008 Summer Sweepstakes Sum		713,877	0.2116	\$14,030	\$459	\$14,489
2009 Cool Savings Rebate Program	2005	0	0.0135	\$0	\$0	\$0
	2006	0	0.0167	\$0	\$0	\$0
	2007	0	0.0169	\$0	\$0	\$0
	2008	0	0.0198	\$0	\$0	\$0
	2009	101,514	0.0199	\$2,020	\$35	\$2,055
	2010	101,514	0.0190	\$1,929	\$19	\$1,947
2009 Cool Savings Rebate Program Sum		203,029	2.8893	\$3,949	\$53	\$4,002
2009 ERIP	2009	0	0.0199	\$0	\$0	\$0
	2010	0	0.0190	\$0	\$0	\$0
2009 ERIP Sum		0	0.0389	\$0	\$0	\$0
2009 Every Kilowatt Counts - PSE	2009	176,518	0.0199	\$3,513	\$60	\$3,573
	2010	169,193	0.0190	\$3,215	\$31	\$3,246
2009 Every Kilowatt Counts - PSE Sum		345,711	3.3454	\$6,727	\$91	\$6,819
2009 Great Refrigerator Roundup	2005	0	0.0135	\$0	\$0	\$0

Program	Year of savings	Energy savings (kWh)	Energy rate (\$/kWh)	LRAM (programyear\$)	Carrying charges (\$)	LRAM (2011\$)
	2006	0	0.0167	\$0	\$0	\$0
	2007	0	0.0169	\$0	\$0	\$0
	2008	0	0.0198	\$0	\$0	\$0
	2009	139,048	0.0199	\$2,767	\$47	\$2,815
	2010	139,048	0.0190	\$2,642	\$26	\$2,668
2009 Great Refrigerator Roundup Sum		278,097	9.5220	\$5,409	\$73	\$5,482
2009 High Performance New Construction	2009	0	0.0199	\$0	\$0	\$0
	2010	0	0.0190	\$0	\$0	\$0
2009 High Performance New Construction Sum		0	0.0389	\$0	\$0	\$0
2009 peaksaver	2009	877	0.0199	\$17	\$0	\$18
	2010	877	0.0190	\$17	\$0	\$17
2009 peaksaver Sum		1,755	0.2334	\$34	\$0	\$35
2009 Power Savings Blitz	2009	0	0.0199	\$0	\$0	\$0
	2010	0	0.0190	\$0	\$0	\$0
2009 Power Savings Blitz Sum		0	0.0389	\$0	\$0	\$0
Residential total		15,142,412	35.6798	\$284,509	\$13,846	\$298,356

1. Carrying charges are calculated quarterly, at the measure (not program) level to capture different carrying charge interest rates by quarter, program ramp up, and measure life.

Table 16 – GS < 50 kW program LRAM contributions and carrying charges.

Program	Year of savings	Energy savings (kWh)	Energy rate (\$/kWh)	LRAM (programyear\$)	Carrying charges (\$)	LRAM (2011\$)
2007 ERIP	2005	0	0.0091	\$0	\$0	\$0
	2006	0	0.0116	\$0	\$0	\$0
	2007	13,775	0.0117	\$161	\$15	\$176
	2008	13,775	0.0145	\$200	\$9	\$209
	2009	13,775	0.0146	\$201	\$3	\$205
	2010	13,775	0.0139	\$191	\$2	\$193
2007 ERIP Sum		55,100		\$753	\$30	\$783
2007 Norfolk Power Facility Lighting Program	2005	0	0.0091	\$0	\$0	\$0
	2006	0	0.0116	\$0	\$0	\$0
	2007	14,634	0.0117	\$171	\$15	\$186
	2008	29,267	0.0145	\$424	\$20	\$444
	2009	29,267	0.0146	\$427	\$7	\$435
	2010	29,267	0.0139	\$407	\$4	\$411
2007 Norfolk Power Facility Lighting Program Sum		102,435		\$1,430	\$46	\$1,475
2008 ERIP	2005	0	0.0091	\$0	\$0	\$0
	2006	0	0.0116	\$0	\$0	\$0
	2007	0	0.0117	\$0	\$0	\$0
	2008	5,789	0.0145	\$84	\$4	\$88
	2009	5,789	0.0146	\$85	(\$2)	\$82
	2010	5,789	0.0139	\$80	(\$3)	\$78
2008 ERIP Sum		17,366		\$249	(\$1)	\$247
2008 High Performance New Construction	2005	0	0.0091	\$0	\$0	\$0
	2006	0	0.0116	\$0	\$0	\$0

Program	Year of savings	Energy savings (kWh)	Energy rate (\$/kWh)	LRAM (programyear\$)	Carrying charges (\$)	LRAM (2011\$)
	2007	0	0.0117	\$0	\$0	\$0
	2008	824	0.0145	\$12	\$1	\$12
	2009	824	0.0146	\$12	\$0	\$12
	2010	824	0.0139	\$11	\$0	\$12
2008 High Performance New Construction Sum		2,471		\$35	\$1	\$36
2008 peaksaver	2005	0	0.0091	\$0	\$0	\$0
	2006	0	0.0116	\$0	\$0	\$0
	2007	0	0.0117	\$0	\$0	\$0
	2008	287	0.0145	\$4	\$0	\$4
	2009	287	0.0146	\$4	\$0	\$4
	2010	287	0.0139	\$4	\$0	\$4
2008 peaksaver Sum		861		\$12	\$0	\$13
2009 ERIP	2009	236,200	0.0146	\$3,449	\$59	\$3,508
	2010	236,200	0.0139	\$3,283	\$32	\$3,315
2009 ERIP Sum		472,400		\$6,732	\$91	\$6,823
2009 High Performance New Construction	2009	25,132	0.0146	\$367	\$6	\$373
	2010	25,132	0.0139	\$349	\$3	\$353
2009 High Performance New Construction Sum		50,265		\$716	\$10	\$726
2009 peaksaver	2009	124	0.0146	\$2	\$0	\$2
	2010	124	0.0139	\$2	\$0	\$2
2009 peaksaver Sum		248		\$4	\$0	\$4
2009 Power Savings Blitz	2009	1,200,662	0.0146	\$17,530	\$301	\$17,831
	2010	1,200,662	0.0139	\$16,689	\$162	\$16,851
2009 Power Savings Blitz Sum		2,401,325	0.0285	\$34,219	\$463	\$34,682

Program	Year of savings	Energy savings (kWh)	Energy rate (\$/kWh)	LRAM (programyear\$)	Carrying charges (\$)	LRAM (2011\$)
GS < 50 kW total		3,102,469		\$44,150	\$638	\$44,789

1. Carrying charges are calculated quarterly, at the measure (not program) level to capture different carrying charge interest rates by quarter, program ramp up, and measure life.

Table 17 – GS > 50 kW program LRAM contributions and carrying charges.

Program	Year of savings	Energy savings (kW-mo)	Energy rate (\$/kW-mo)	LRAM (programyear\$)	Carrying charges (\$)	LRAM (2011\$)
2005 Energy Audits for Major Customers	2005	136	2.2122	\$301	\$57	\$358
	2006	273	2.9906	\$815	\$114	\$929
	2007	273	3.0175	\$822	\$77	\$899
	2008	273	3.8907	\$1,060	\$49	\$1,110
	2009	273	3.9228	\$1,069	\$18	\$1,088
	2010	161	3.6220	\$584	\$6	\$590
2005 Energy Audits for Major Customers Sum		1,388		\$4,653	\$321	\$4,974
2006 Energy Audits for Major Customers	2005	0	2.2122	\$0	\$0	\$0
	2006	297	2.9906	\$887	\$117	\$1,004
	2007	592	3.0175	\$1,785	\$166	\$1,952
	2008	588	3.8907	\$2,289	\$106	\$2,395
	2009	585	3.9228	\$2,296	\$39	\$2,335
	2010	578	3.6220	\$2,094	\$20	\$2,115
2006 Energy Audits for Major Customers Sum		2,640		\$9,351	\$449	\$9,801
2007 ERIP	2005	0	2.2122	\$0	\$0	\$0
	2006	0	2.9906	\$0	\$0	\$0
	2007	238	3.0175	\$718	\$67	\$785

Program	Year of savings	Energy savings (kW-mo)	Energy rate (\$/kW-mo)	LRAM (programyear\$)	Carrying charges (\$)	LRAM (2011\$)
	2008	238	3.8907	\$926	\$43	\$969
	2009	238	3.9228	\$934	\$16	\$950
	2010	238	3.6220	\$862	\$8	\$871
2007 ERIP Sum		952		\$3,440	\$134	\$3,574
2007 peaksaver	2005	0	2.2122	\$0	\$0	\$0
	2006	0	2.9906	\$0	\$0	\$0
	2007	1	3.0175	\$2	\$0	\$2
	2008	1	3.8907	\$2	\$0	\$2
	2009	1	3.9228	\$2	\$0	\$2
	2010	1	3.6220	\$2	\$0	\$2
2007 peaksaver Sum		2		\$9	\$0	\$9
2008 ERIP	2005	0	2.2122	\$0	\$0	\$0
	2006	0	2.9906	\$0	\$0	\$0
	2007	0	3.0175	\$0	\$0	\$0
	2008	39	3.8907	\$152	\$5	\$157
	2009	39	3.9228	\$153	\$1	\$154
	2010	39	3.6220	\$141	(\$0)	\$141
2008 ERIP Sum		117		\$447	\$6	\$453
2008 peaksaver	2005	0	2.2122	\$0	\$0	\$0
	2006	0	2.9906	\$0	\$0	\$0
	2007	0	3.0175	\$0	\$0	\$0
	2008	43	3.8907	\$167	\$8	\$175
	2009	43	3.9228	\$169	\$3	\$172
	2010	43	3.6220	\$156	\$2	\$157
2008 peaksaver Sum		129		\$492	\$12	\$504
2009 ERIP	2009	1,410	3.9228	\$5,531	\$95	\$5,626

Program	Year of savings	Energy savings (kW-mo)	Energy rate (\$/kW-mo)	LRAM (programyear\$)	Carrying charges (\$)	LRAM (2011\$)
	2010	1,410	3.6220	\$5,107	\$50	\$5,157
2009 ERIP Sum		2,820		\$10,639	\$144	\$10,783
2009 peaksaver	2009	44	3.9228	\$172	\$3	\$175
	2010	44	3.6220	\$159	\$2	\$160
2009 peaksaver Sum		88		\$331	\$4	\$335
GS > 50 kW total		8,137		\$29,362	\$1,072	\$30,434

1. Carrying charges are calculated quarterly, at the measure (not program) level to capture different carrying charge interest rates by quarter, program ramp up, and measure life.

The LRAM without carrying charges (the sum of the grand totals from Table 15, Table 16 and Table 17) is \$358,021. The carrying charges are \$15,557.

Appendix B. Results of the participant survey for the 2005 and 2006 Energy Audits for Major Customers program

Audit programs help customers to identify measures that may be taken to reduce their energy use or their peak demand. However, there is often concern about estimating energy savings from these programs for two reasons:

- customers may choose not to implement the programs for various reasons, including a lack of financial resources to do so, or
- audit programs often are used to direct customers to financial assistance programs.

In its annual reports, NPDI addressed the first of these reasons by assuming what it considered to be a very conservative adoption rate of 10% of identified energy savings. At the time those programs were initially offered, there was not a financial assistance program available to implement the measures.

To seek greater clarity on the actual implementation rate of measures identified in this program, IndEco reviewed the original audit reports and carried out a telephone survey of all twelve participants of the 2005 and 2006 Energy Audit for Large Customers program in order to determine:

- what measures suggested during the audit process were actually implemented;
- the measures that were implemented solely due to participation in the audit (which leads to a derivation of free-rider rates); and
- which participants filed an application to ERIP (and thus would not be included in the results of this program. The impacts of these measures would have been captured in ERIP results).

One of the facilities audited is no longer in the manufacturing business (and identified measures were associated with manufacturing), and another went out of business in August 2010. Where we were unable to reach someone at a facility that could speak to the measures, we assumed that the measures were not implemented.

Where practical, we updated TRC and LRAM input assumptions to be consistent with values in the OPA 2010 quasi-prescriptive list (e.g. equipment life and equipment cost).

The free-rider rate scheme is given in Table 18.

Table 18 - Free-rider rate allocation for measures in the Energy Audits for Major Customers Program

Was the measure fully implemented?	Was the measure implemented because of involvement in the program?	Was the measure installation funded through ERIP?	Percentage of free-riders (used for both LRAM and SSM)
Yes	Yes	No	0%
Yes	Partly	No	50%
Partly	Partly	No	75%
--	--	Yes	100%

TRC benefits were recalculated using participant-specific information from the audit or the survey, supplemented by inputs from the OPA Measures and Assumptions list inputs, where required. The recalculated TRC includes estimated natural gas and water savings, which had previously not been included in NPDI's TRC calculations.

The verified energy savings, peak demand savings and natural gas (NG) savings are given in Table 19. Table 11 in Appendix A provides the measures and their assumptions that contribute to these savings.

Table 19 - Potential and verified results of the 2005 and 2006 Energy Audits for Large Customers program

Year audit was performed	Participant	Energy savings (kWh)		Peak demand savings (kW)		NG savings (m ³)	
		Potential	Verified	Potential	Verified	Potential	Verified
2005	A	420,760	0	77.0	0.0	74,025	0
2005	B	394,554	353,714	50.4	29.6	0	0
2005	C	15,333	5,000	20.0	10.0	112,171	500
2006	D	555,375	0	133.0	0.0	42,708	0
2006	E	16,700	5,265	17.0	2.6	0	0
2006	F	6,500	0	10.0	0.0	0	0
2006	G	28,755	16,881	10.0	2.8	81,000	41,272
2006	H	4,400	0	2.0	0.0	0	0
2006	I	70,204	0	18.0	0.0	0	0
2006	J	119,265	95,529	50.0	42.5	0	0
2006	K	70,514	16,416	19.0	3.8	0	0
2006	L	6,960	0	3.0	0.0	0	0
<i>Total</i>		<i>1,709,320</i>	<i>492,805</i>	<i>409.4</i>	<i>91.3</i>	<i>309,904</i>	<i>41,772</i>
<i>Percent uptake</i>		<i>28.8%</i>		<i>22.3%</i>		<i>13.5%</i>	



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