

Village End Use Energy Efficiency Measures Program

AEA Grant # 2195294 Administered by Alaska Building Science Network

Fort Yukon Final Report



Community Summary

40 community buildings and 2 teacher housing units received energy efficiency upgrades.

ANTHC Office & ANTHC Warm Storage, Bingo Hall, City Offices, City Shop, Elders Building, Liquor Store, Old Clinic Housing #1, Old Clinic Housing #2, Old Clinic Housing #3, Old Clinic Shop, Pump Station #2, Richard Carroll Building, VPSO Housing, Water Plant, Education Department, Elder Kitchen, Red Recycling, Tribal Government, Tribal Office & Community Hall, Youth R Us, Arctic Circle Baptist, Assembly of God, Episcopal Church, Learning Center, New Clinic, Radio Station KZPA, School Shop, Bus Barn, Voc Ed Building, Voc Ed Dorms, Voc Ed Shop, Bill Walz Apartment, One New Teacher Housing, CATG Natural Resources Department, Community Kitchen, Fuel Company, Generator Plant, Utility Office, 6 Room Dorm Housing Rental, Rental Housing

Upgrades Completed: April 2010

Village-Wide Lighting Retrofit Summary:

- Installed 231 compact fluorescent light bulbs
- Retrofitted 12 light fixtures with HO electronic ballasts & T8 lamps
- Retrofitted 688 light fixtures with electronic ballasts & T8 lamps
- Installed 21 T5 linear fluorescent fixtures
- Pre-retrofit energy use for all lighting: 95.696 Kilowatts
- Post-retrofit energy use for all lighting: 49.881 Kilowatts
- Energy savings projection: 45.815 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 48%
- Estimated Annual Savings:

kWh Rate (FY 2009 AVE): \$0.54

Fuel Cost (FY 2009 Ave): \$4.45

Hours Per Day/ Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
Locally Estimated Use	\$40,243.03	5505.38	\$24,498.9
4 Hours/day	\$24,570.58	3361.34	\$14,957.9
7 Hours/day	\$42,998.52	5882.34	\$26,176.4
10 Hours/day	\$61,426.46	8403.34	\$37,394.8

- Total project cost for all measures: \$102,000
- Simple Payback (lighting measures only, using 7 hours/day lighting use run-time): 2.37
- Total village wide in-kind contribution: \$20,646

Additional Energy Efficiency Measures

- Installed 2 Programmable Thermostats

City Owned Buildings



15 buildings owned by the City received energy efficient lighting upgrades as follows:

ANTHC Office & ANTHC Warm Storage, Bingo Hall, City Offices, City Shop, Elders Building, Liquor Store, Old Clinic Housing #1, Old Clinic Housing #2, Old Clinic Housing #3, Old Clinic Shop, Pump Station #2, Richard Carroll Building, VPSO Housing, Water Plant

- Lighting upgrades completed in April 2010
- Installed 110 compact fluorescent light bulbs
- Retrofitted 12 light fixtures with HO electronic ballasts & T8 lamps
- Retrofitted 145 light fixtures with electronic ballasts & T8 lamps
- Installed 8 T5 linear fluorescent fixtures
- Pre-retrofit energy use for all lighting: 29.807 Kilowatts
- Post-retrofit energy use for all lighting: 14.506 Kilowatts
- Energy savings projection: 15.301 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 51%
- Estimated Annual Savings:

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
Locally Estimated	\$13,640.4	1866.05	\$8,303.94
4 Hours/day	\$8,205.93	1122.60	\$4,995.56
7 Hours/day	\$14,360.3	1964.55	\$8,742.23
10 Hours/day	\$20,514.8	2806.49	\$12,488.8

ANTHC Office & Housing Units



Materials Installed

CFL-14 W	<u>Quantity</u>	6
CFL-20 W		6
CFL-9 W		8
4-lamp electronic ballast, (3) 25 watt T8 lamps		2
• Pre-retrofit energy use:		1571 watts
• Post-retrofit energy use:		426 watts
• Energy savings projection:		1145 watts
• Pre-retrofit to post retrofit energy reduction:		73%
• Estimated annual savings:		

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$614.06	84.01	\$373.83
7 Hours/day	\$1,074.61	147.01	\$654.20
10 Hours/day	\$1,535.16	210.01	\$934.57
1750 Hours/year (Est.)	\$1,074.61	147.01	\$654.20

ANTHC Warm Storage / Shop

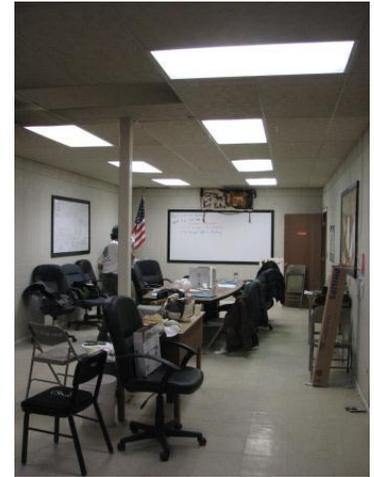


Materials Installed

2-lamp electronic ballast, (2) 32 watt T8 lamps	<u>Quantity</u>	7
• Pre-retrofit energy use:		984 watts
• Post-retrofit energy use:		420 watts
• Energy savings projection:		564 watts
• Pre-retrofit to post retrofit energy reduction:		57%
• Estimated annual savings:		

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$302.47	41.38	\$184.14
7 Hours/day	\$529.33	72.41	\$322.24
10 Hours/day	\$756.18	103.45	\$460.34
1800 Hours/year (Est.)	\$544.45	74.48	\$331.45

City Offices



Materials Installed

Quantity

CFL-11 W	3
CFL-14 W	1
CFL-20 W	5
CFL-27 W	1
2-lamp electronic ballast, (2) 25 watt T8 lamps	28
2-lamp electronic ballast, (2) 32 watt T8 lamps	6
3-lamp electronic ballast, (2) 25 watt T8 lamps	8
3-lamp electronic ballast, (3) 25 watt T8 lamps	5
4-lamp electronic ballast, (3) 25 watt T8 lamps	5
4-lamp electronic ballast, (4) 25 watt T8 lamps	1
• Pre-retrofit energy use:	5765 watts
• Post-retrofit energy use:	3073 watts
• Energy savings projection:	2692 watts
• Pre-retrofit to post retrofit energy reduction:	47%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$1,443.72	197.51	\$878.90
7 Hours/day	\$2,526.51	345.63	\$1,538.07
10 Hours/day	\$3,609.30	493.76	\$2,197.25
1750 Hours/year (Est.)	\$2,526.51	345.63	\$1,538.07

Bingo Hall



Materials Installed

CFL-23 W	Quantity
2-lamp electronic ballast, (2) 25 watt T8 lamps	2
• Pre-retrofit energy use:	11
• Post-retrofit energy use:	942 watts
• Energy savings projection:	552 watts
• Pre-retrofit to post retrofit energy reduction:	390 watts
• Estimated annual savings:	41%

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$209.16	28.61	\$127.33
7 Hours/day	\$366.02	50.07	\$222.83
10 Hours/day	\$522.89	71.53	\$318.32
2000 Hours/year (Est.)	\$418.31	57.23	\$254.66

City Shop



Materials Installed

8 FT, 2 lamp HO electronic ballast, T8 (152w)	Quantity
• Pre-retrofit energy use:	12
• Post-retrofit energy use:	3168 watts
• Energy savings projection:	1824 watts
• Pre-retrofit to post retrofit energy reduction:	1344 watts
• Estimated annual savings:	42%

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$720.79	98.61	\$438.80
7 Hours/day	\$1,261.38	172.56	\$767.89
10 Hours/day	\$1,801.97	246.52	\$1,096.99
1750 Hours/year (Est.)	\$1,261.38	172.56	\$767.89

Elders Building

Materials Installed

	<u>Quantity</u>
CFL-27 W	2
2-lamp electronic ballast, (2) 25 watt T8 lamps	3
3-lamp electronic ballast, (3) 25 watt T8 lamps	12
• Pre-retrofit energy use:	2418 watts
• Post-retrofit energy use:	1080 watts
• Energy savings projection:	1338 watts
• Pre-retrofit to post retrofit energy reduction:	55%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$717.57	98.17	\$436.84
7 Hours/day	\$1,255.75	171.79	\$764.47
10 Hours/day	\$1,793.92	245.41	\$1,092.09
1750 Hours/year (Est.)	\$1,255.75	171.79	\$764.47

Liquor Store



Materials Installed

	<u>Quantity</u>
CFL-27 W	1
2-lamp electronic ballast, (2) 32 watt T8 lamps	1
• Pre-retrofit energy use:	172 watts
• Post-retrofit energy use:	87 watts
• Energy savings projection:	85 watts
• Pre-retrofit to post retrofit energy reduction:	49%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$45.59	6.24	\$27.75
7 Hours/day	\$79.77	10.91	\$48.56
10 Hours/day	\$113.96	15.59	\$69.38
1750 Hours/year (Est.)	\$79.77	10.91	\$48.56

Old Clinic Housing, Green 3-Bedroom



Materials Installed

CFL-14 W	11
CFL-20 W	2
CFL-23 W	1
1-lamp electronic ballast, (1) 32 watt T8 lamp	1
2 ft, 6-lamp electronic ballast, T8, 17 watt (6 lamps)	3
8 ft fixture, 2 lamp electronic ballast, (2) 59 watt T8	3
• Pre-retrofit energy use:	1823 watts
• Post-retrofit energy use:	892 watts
• Energy savings projection:	931 watts
• Pre-retrofit to post retrofit energy reduction:	51%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$499.30	68.31	\$303.96
7 Hours/day	\$873.77	119.53	\$531.93
10 Hours/day	\$1,248.24	170.76	\$759.90
1400 Hours/year (Est.)	\$699.01	95.63	\$425.54

Old Clinic Housing, White 4-Bedroom



Materials Installed

CFL-14 W	8
CFL-20 W	19
CFL-27 W	1
• Pre-retrofit energy use:	1900 watts
• Post-retrofit energy use:	519 watts
• Energy savings projection:	1381 watts
• Pre-retrofit to post retrofit energy reduction:	73%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$740.63	101.32	\$450.88
7 Hours/day	\$1,296.10	177.31	\$789.03
10 Hours/day	\$1,851.58	253.30	\$1,127.19
1400 Hours/year (Est.)	\$1,036.88	141.85	\$631.23

Old Clinic Housing, Pink 3-Bedroom



Materials Installed

	<u>Quantity</u>
CFL-14 W	10
CFL-20 W	10
CFL-23 W	1
1-lamp electronic ballast, (1) 32 watt T8 lamp	1
2 ft, 6-lamp electronic ballast, T8, 17 watt (6 lamps)	4
2-lamp electronic ballast, (2) 25 watt T8 lamps	1
• Pre-retrofit energy use:	2017 watts
• Post-retrofit energy use:	826 watts
• Energy savings projection:	1191 watts
• Pre-retrofit to post retrofit energy reduction:	59%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$638.73	87.38	\$388.84
7 Hours/day	\$1,117.78	152.92	\$680.48
10 Hours/day	\$1,596.83	218.45	\$972.11
1400 Hours/year (Est.)	\$894.23	122.33	\$544.38

Old Clinic Shop

Materials Installed

	<u>Quantity</u>
2-lamp electronic ballast, (2) 32 watt T8 lamps	16
• Pre-retrofit energy use:	1236 watts
• Post-retrofit energy use:	960 watts
• Energy savings projection:	276 watts
• Pre-retrofit to post retrofit energy reduction:	22%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$148.02	20.25	\$90.11
7 Hours/day	\$259.03	35.44	\$157.69
10 Hours/day	\$370.05	50.62	\$225.28
1200 Hours/year (Est.)	\$177.62	24.30	\$108.13

Pump Station #2



Materials Installed

- 2-lamp electronic ballast, (2) 32 watt T8 lamps
- Pre-retrofit energy use:
- Post-retrofit energy use:
- Energy savings projection:
- Pre-retrofit to post retrofit energy reduction:
- Estimated annual savings:

Quantity

- 7
- 864 watts
- 420 watts
- 444 watts
- 51%

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$238.12	32.58	\$144.96
7 Hours/day	\$416.71	57.01	\$253.68
10 Hours/day	\$595.29	81.44	\$362.40
1750 Hours/year (Est.)	\$416.71	57.01	\$253.68

Richard Carroll Building



Materials Installed

- CFL-27 W
- 2-lamp electronic ballast, (2) 32 watt T8 lamps
- 4-lamp electronic ballast, (3) 32 watt T8 lamps
- Pre-retrofit energy use:
- Post-retrofit energy use:
- Energy savings projection:
- Pre-retrofit to post retrofit energy reduction:
- Estimated annual savings:

Quantity

- 2
- 15
- 4
- 2480 watts
- 1350 watts
- 1130 watts
- 46%

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$606.02	82.91	\$368.93
7 Hours/day	\$1,060.53	145.08	\$645.63
10 Hours/day	\$1,515.05	207.26	\$922.32
1750 Hours/year (Est.)	\$1,060.53	145.08	\$645.63

VPSO Housing



Materials Installed

CFL-20 W	5
CFL-23 W	4
CFL-27 W	1
2-lamp electronic ballast, (2) 25 watt T8 lamps	1
• Pre-retrofit energy use:	867 watts
• Post-retrofit energy use:	265 watts
• Energy savings projection:	602 watts
• Pre-retrofit to post retrofit energy reduction:	69%
• Estimated annual savings:	

Quantity

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$322.85	44.17	\$196.54
7 Hours/day	\$564.99	77.29	\$343.95
10 Hours/day	\$807.13	110.42	\$491.36
1600 Hours/year (Est.)	\$516.56	70.67	\$314.47

Water Plant



Materials Installed

Incandescent - 300 W	3
T5 fixture, electronic ballast, (2) 54 watt T5 HO	8
• Pre-retrofit energy use:	3600 watts
• Post-retrofit energy use:	1812 watts
• Energy savings projection:	1788 watts
• Pre-retrofit to post retrofit energy reduction:	50%
• Estimated annual savings:	

Quantity

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$958.90	131.18	\$583.76
7 Hours/day	\$1,678.08	229.57	\$1,021.57
10 Hours/day	\$2,397.26	327.95	\$1,459.39
1750 Hours/year (Est.)	\$1,678.08	229.57	\$1,021.57

Gwitchyaa Gwichin Tribal Government Owned Buildings



6 buildings owned by the Gwitchyaa Gwichin Tribal Government received energy efficient lighting upgrades as follows:

Education Department, Elder Kitchen, Red Recycling, Tribal Government, Tribal Office & Community Hall, Youth R Us

- Lighting upgrades completed in April 2010
- Installed 14 compact fluorescent light bulbs
- Retrofitted 88 light fixtures with electronic ballasts & T8 lamps
- Pre-retrofit energy use for all lighting: 7.861 Kilowatts
- Post-retrofit energy use for all lighting: 5.25 Kilowatts
- Energy savings projection: 2.611 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 33%
- Estimated Annual Savings:

Hours Per Day / 250 Days Per Year Locally Estimated	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$3,167.91	433.38	\$1,928.54
7 Hours/day	\$1,400.28	191.56	\$852.45
10 Hours/day	\$2,450.49	335.23	\$1,491.79
	\$3,500.70	478.91	\$2,131.14

Education Department Building

Materials Installed

	<u>Quantity</u>
CFL-14 W	6
CFL-23 W	2
CFL-9 W	4
• Pre-retrofit energy use:	625 watts
• Post-retrofit energy use:	166 watts
• Energy savings projection:	459 watts
• Pre-retrofit to post retrofit energy reduction:	73%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$246.16	33.68	\$149.86
7 Hours/day	\$430.78	58.93	\$262.25
10 Hours/day	\$615.40	84.19	\$374.64
2860 Hours/year (Est.)	\$704.02	96.31	\$428.59

Elder Kitchen

Materials Installed

	<u>Quantity</u>
2-lamp electronic ballast, (2) 25 watt T8 lamps	7
2-lamp electronic ballast, (2) 32 watt T8 lamps	2
• Pre-retrofit energy use:	732 watts
• Post-retrofit energy use:	442 watts
• Energy savings projection:	290 watts
• Pre-retrofit to post retrofit energy reduction:	40%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$155.53	21.28	\$94.68
7 Hours/day	\$272.17	37.23	\$165.69
10 Hours/day	\$388.82	53.19	\$236.70
1750 Hours/year (Est.)	\$272.17	37.23	\$165.69

Red Recycling Building



Materials Installed

	<u>Quantity</u>
2-lamp electronic ballast, (2) 32 watt T8 lamps	14
• Pre-retrofit energy use:	1092 watts
• Post-retrofit energy use:	840 watts
• Energy savings projection:	252 watts
• Pre-retrofit to post retrofit energy reduction:	23%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$135.15	18.49	\$82.27
7 Hours/day	\$236.51	32.36	\$143.98
10 Hours/day	\$337.87	46.22	\$205.69
1750 Hours/year (Est.)	\$236.51	32.36	\$143.98

Tribal Government Office



Materials Installed

- 2-lamp electronic ballast, (2) 25 watt T8 lamps
- 2-lamp electronic ballast, (2) 32 watt T8 lamps
- Pre-retrofit energy use:
- Post-retrofit energy use:
- Energy savings projection:
- Pre-retrofit to post retrofit energy reduction:
- Estimated annual savings:

Quantity

- 14
- 31
- 3456 watts
- 2504 watts
- 952 watts
- 28%

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$510.56	69.85	\$310.81
7 Hours/day	\$893.48	122.23	\$543.93
10 Hours/day	\$1,276.39	174.61	\$777.04
2620 Hours/year (Est.)	\$1,337.66	183.00	\$814.33

Community Hall



Materials Installed

- 2-lamp electronic ballast, (2) 32 watt T8 lamps
- 4-lamp electronic ballast, (3) 32 watt T8 lamps
- Pre-retrofit energy use:
- Post-retrofit energy use:
- Energy savings projection:
- Pre-retrofit to post retrofit energy reduction:
- Estimated annual savings:

Quantity

- 8
- 4
- 1248 watts
- 876 watts
- 372 watts
- 30%

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$199.50	27.29	\$121.45
7 Hours/day	\$349.13	47.76	\$212.54
10 Hours/day	\$498.76	68.23	\$303.63
1750 Hours/year (Est.)	\$349.13	47.76	\$212.54

Youth R Us



Materials Installed

- CFL-27 W
- 2-lamp electronic ballast, (2) 25 watt T8 lamps
- Pre-retrofit energy use:
- Post-retrofit energy use:
- Energy savings projection:
- Pre-retrofit to post retrofit energy reduction:
- Estimated annual savings:

Quantity

- 2
- 8
- 708 watts
- 422 watts
- 286 watts
- 40%

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$153.38	20.98	\$93.37
7 Hours/day	\$268.42	36.72	\$163.41
10 Hours/day	\$383.45	52.46	\$233.44
1750 Hours/year (Est.)	\$268.42	36.72	\$163.41

Council of Athabascan Tribal Governments Cap Owned Buildings



3 buildings owned by the Council of Athabascan Tribal Governments received energy efficient lighting upgrades as follows:

Learning Center, New Clinic, Radio Station KZPA

- Lighting upgrades completed in April 2010
- Installed 11 compact fluorescent light bulbs
- Retrofitted 127 light fixtures with electronic ballasts & T8 lamps
- Pre-retrofit energy use for all lighting: 11.29 Kilowatts
- Post-retrofit energy use for all lighting: 6.714 Kilowatts
- Energy savings projection: 4.576 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 41%
- Estimated Annual Savings:

Hours Per Day / 250 Days Per Year Locally Estimated	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$2,454.11	335.73	\$1,494.00
7 Hours/day	\$4,294.69	587.53	\$2,614.50
10 Hours/day	\$6,135.27	839.33	\$3,735.00

Learning Center for Parents and Children



Materials Installed

Quantity

CFL-20 W	4
CFL-27 W	6
2-lamp electronic ballast, (2) 25 watt T8 lamps	12
4-lamp electronic ballast, (3) 25 watt T8 lamps	1
• Pre-retrofit energy use:	1648 watts
• Post-retrofit energy use:	869 watts
• Energy savings projection:	779 watts
• Pre-retrofit to post retrofit energy reduction:	47%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$417.78	57.15	\$254.33
7 Hours/day	\$731.11	100.02	\$445.08
10 Hours/day	\$1,044.44	142.88	\$635.83
1750 Hours/year (Est.)	\$731.11	100.02	\$445.08

New Clinic



Materials Installed

Quantity

2-lamp electronic ballast, (2) 25 watt T8 lamps	38
• Pre-retrofit energy use:	2280 watts
• Post-retrofit energy use:	1748 watts
• Energy savings projection:	532 watts
• Pre-retrofit to post retrofit energy reduction:	23%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$285.31	39.03	\$173.69
7 Hours/day	\$499.30	68.31	\$303.96
10 Hours/day	\$713.28	97.58	\$434.23
1750 Hours/year (Est.)	\$499.30	68.31	\$303.96

Radio Station KZPA



Materials Installed

Quantity

CFL-20 W	1
2-lamp electronic ballast, (2) 25 watt T8 lamps	56
2-lamp electronic ballast, (2) 32 watt T8 lamps	2
3-lamp electronic ballast, (2) 25 watt T8 lamps	1
3-lamp electronic ballast, (2) 32 watt T8 lamps	4
3-lamp electronic ballast, (3) 25 watt T8 lamps	2
4-lamp electronic ballast, (3) 25 watt T8 lamps	7
4-lamp electronic ballast, (3) 32 watt T8 lamps	4
• Pre-retrofit energy use:	7362 watts
• Post-retrofit energy use:	4097 watts
• Energy savings projection:	3265 watts
• Pre-retrofit to post retrofit energy reduction:	44%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$1,751.02	239.55	\$1,065.98
7 Hours/day	\$3,064.28	419.20	\$1,865.46
10 Hours/day	\$4,377.55	598.86	\$2,664.94
1750 Hours/year (Est.)	\$3,064.28	419.20	\$1,865.46

School Owned Buildings



5 buildings and 2 teacher housing units owned by the School received energy efficient lighting upgrades as follows:

School Shop, Bus Barn, Voc Ed Building, Voc Ed Dorms, Voc Ed Shop, Bill Walz Apartment, One New Teacher Housing

- Lighting upgrades completed in April 2010
- Installed 20 compact fluorescent light bulbs
- Retrofitted 174 light fixtures with electronic ballasts & T8 lamps
- Installed 13 T5 linear fluorescent fixtures
- Pre-retrofit energy use for all lighting: 24.131 Kilowatts
- Post-retrofit energy use for all lighting: 13.302 Kilowatts
- Energy savings projection: 10.829 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 45%
- Estimated Annual Savings:

Hours Per Day / 250 Days Per Year Locally Estimated	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$5,807.59	794.50	\$3,535.51
7 Hours/day	\$10,163.2	1390.37	\$6,187.15
10 Hours/day	\$14,518.9	1986.24	\$8,838.78

School Shop

Materials Installed

T5 fixture, electronic ballast, (2) 54 watt T5 HO	4
T5 fixture, electronic ballast, (3) 54 watt T5 HO	4
• Pre-retrofit energy use:	3320 watts
• Post-retrofit energy use:	1140 watts
• Energy savings projection:	2180 watts
• Pre-retrofit to post retrofit energy reduction:	66%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$1,169.13	159.94	\$711.74
7 Hours/day	\$2,045.98	279.90	\$1,245.54
10 Hours/day	\$2,922.84	399.85	\$1,779.35
1750 Hours/year (Est.)	\$2,045.98	279.90	\$1,245.54

School Shop / Bus Barn



Materials Installed

CFL-27 W	12
2-lamp electronic ballast, (2) 32 watt T8 lamps	13
• Pre-retrofit energy use:	2191 watts
• Post-retrofit energy use:	1104 watts
• Energy savings projection:	1087 watts
• Pre-retrofit to post retrofit energy reduction:	50%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$582.96	79.75	\$354.89
7 Hours/day	\$1,020.18	139.56	\$621.06
10 Hours/day	\$1,457.40	199.38	\$887.22
1000 Hours/year (Est.)	\$582.96	79.75	\$354.89

Voc Ed Shop

Materials Installed

T5 fixture, electronic ballast, (3) 54 watt T5 HO	3
T5 fixture, electronic ballast, (4) 54 watt T5 HO	2
• Pre-retrofit energy use:	1560 watts
• Post-retrofit energy use:	969 watts
• Energy savings projection:	591 watts
• Pre-retrofit to post retrofit energy reduction:	38%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$316.95	43.36	\$192.95
7 Hours/day	\$554.67	75.88	\$337.67
10 Hours/day	\$792.38	108.40	\$482.38
1000 Hours/year (Est.)	\$316.95	43.36	\$192.95

Voc Ed Building



Materials Installed

Quantity

2-lamp electronic ballast, (1) 25 watt T8 lamp	1
2-lamp electronic ballast, (2) 25 watt T8 lamps	29
2-lamp electronic ballast, (2) 32 watt T8 lamps	41
3-lamp electronic ballast, (3) 25 watt T8 lamps	24
3-lamp electronic ballast, (3) 32 watt T8 lamps	6
4-lamp electronic ballast, (3) 25 watt T8 lamps	7
4-lamp electronic ballast, (3) 32 watt T8 lamps	13

- Pre-retrofit energy use: 12864 watts
- Post-retrofit energy use: 7948 watts
- Energy savings projection: 4916 watts
- Pre-retrofit to post retrofit energy reduction: 38%

• Estimated annual savings:

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$2,636.45	360.67	\$1,605.00
7 Hours/day	\$4,613.79	631.18	\$2,808.76
10 Hours/day	\$6,591.13	901.69	\$4,012.51
1750 Hours/year (Est.)	\$4,613.79	631.18	\$2,808.76

Voc Ed Dorms



Materials Installed

- 2-lamp electronic ballast, (2) 25 watt T8 lamps
- 3-lamp electronic ballast, (2) 25 watt T8 lamps
- 4-lamp electronic ballast, (4) 25 watt T8 lamps
- Pre-retrofit energy use:
- Post-retrofit energy use:
- Energy savings projection:
- Pre-retrofit to post retrofit energy reduction:
- Estimated annual savings:

Quantity

- 20
- 4
- 4
- 2772 watts
- 1488 watts
- 1284 watts
- 46%

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$688.61	94.20	\$419.21
7 Hours/day	\$1,205.07	164.86	\$733.61
10 Hours/day	\$1,721.52	235.51	\$1,048.02
1750 Hours/year (Est.)	\$1,205.07	164.86	\$733.61

Voc Ed Shop

Materials Installed

- T5 fixture, electronic ballast, (3) 54 watt T5 HO
- T5 fixture, electronic ballast, (4) 54 watt T5 HO
- Pre-retrofit energy use:
- Post-retrofit energy use:
- Energy savings projection:
- Pre-retrofit to post retrofit energy reduction:
- Estimated annual savings:

Quantity

- 3
- 2
- 1560 watts
- 969 watts
- 591 watts
- 38%

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$316.95	43.36	\$192.95
7 Hours/day	\$554.67	75.88	\$337.67
10 Hours/day	\$792.38	108.40	\$482.38
1000 Hours/year (Est.)	\$316.95	43.36	\$192.95

Bill Walz Apartment



Materials Installed

- 2-lamp electronic ballast, (2) 25 watt T8 lamps
- 4-lamp electronic ballast, (3) 25 watt T8 lamps
- Pre-retrofit energy use:
- Post-retrofit energy use:
- Energy savings projection:
- Pre-retrofit to post retrofit energy reduction:
- Estimated annual savings:

Quantity

- 11
- 1
- 1224 watts
- 581 watts
- 643 watts
- 53%

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$344.84	47.18	\$209.93
7 Hours/day	\$603.47	82.56	\$367.38
10 Hours/day	\$862.10	117.94	\$524.83
1600 Hours/year (Est.)	\$551.75	75.48	\$335.89

One New Teacher Housing



Materials Installed

- CFL-9 W
- Pre-retrofit energy use:
- Post-retrofit energy use:
- Energy savings projection:
- Pre-retrofit to post retrofit energy reduction:
- Estimated annual savings:

Quantity

- 8
- 200 watts
- 72 watts
- 128 watts
- 64%

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$68.65	9.39	\$41.79
7 Hours/day	\$120.13	16.43	\$73.13
10 Hours/day	\$171.62	23.48	\$104.48
1750 Hours/year (Est.)	\$120.13	16.43	\$73.13

Gwitchyaa Zhee Corporation Owned Buildings



8 buildings owned by the Gwitchyaa Zhee Corporation received energy efficient lighting upgrades as follows:

CATG Natural Resources Department, Community Kitchen, Fuel Company, Generator Plant, Utility Office, 6 Room Dorm, Housing Rental, Rental Housing

- Lighting upgrades completed in
- Installed 37 compact fluorescent light bulbs
- Retrofitted 117 light fixtures with electronic ballasts & T8 lamps
- Pre-retrofit energy use for all lighting: 15.715 Kilowatts
- Post-retrofit energy use for all lighting: 7.175 Kilowatts
- Energy savings projection: 8.54 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 54%
- Estimated Annual Savings:

Hours Per Day / 250 Days Per Year Locally Estimated	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$4,580.00	626.56	\$2,788.19
7 Hours/day	\$8,015.00	1096.48	\$4,879.33
10 Hours/day	\$11,450.0	1566.40	\$6,970.47

CATG Natural Resource Dept



Materials Installed

Quantity

CFL-20 W	2
CFL-27 W	2
2-lamp electronic ballast, (2) 25 watt T8 lamps	53
• Pre-retrofit energy use:	6660 watts
• Post-retrofit energy use:	2532 watts
• Energy savings projection:	4128 watts
• Pre-retrofit to post retrofit energy reduction:	62%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$2,213.85	302.86	\$1,347.73
7 Hours/day	\$3,874.23	530.01	\$2,358.53
10 Hours/day	\$5,534.62	757.15	\$3,369.33
1750 Hours/year (Est.)	\$3,874.23	530.01	\$2,358.53

Community Kitchen

Materials Installed

Quantity

CFL-14 W	1
CFL-20 W	1
3-lamp electronic ballast, (3) 25 watt T8 lamps	8
• Pre-retrofit energy use:	1479 watts
• Post-retrofit energy use:	626 watts
• Energy savings projection:	853 watts
• Pre-retrofit to post retrofit energy reduction:	58%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$457.46	62.58	\$278.49
7 Hours/day	\$800.56	109.52	\$487.36
10 Hours/day	\$1,143.66	156.46	\$696.23
1750 Hours/year (Est.)	\$800.56	109.52	\$487.36

Fuel Company and Main Corp Office



Materials Installed

4-lamp electronic ballast, (4) 25 watt T8 lamps

- Pre-retrofit energy use:
- Post-retrofit energy use:
- Energy savings projection:
- Pre-retrofit to post retrofit energy reduction:
- Estimated annual savings:

Quantity

8
960 watts
720 watts
240 watts
25%

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$128.71	17.61	\$78.36
7 Hours/day	\$225.25	30.81	\$137.12
10 Hours/day	\$321.78	44.02	\$195.89
1750 Hours/year (Est.)	\$225.25	30.81	\$137.12

Generator Plant



Materials Installed

- CFL-14 W
- CFL-20 W
- 2-lamp electronic ballast, (2) 25 watt T8 lamps
- Pre-retrofit energy use:
- Post-retrofit energy use:
- Energy savings projection:
- Pre-retrofit to post retrofit energy reduction:
- Estimated annual savings:

Quantity

10
14
24
3378 watts
1524 watts
1854 watts
55%

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$994.30	136.02	\$605.30
7 Hours/day	\$1,740.03	238.04	\$1,059.28
10 Hours/day	\$2,485.75	340.06	\$1,513.26
1750 Hours/year (Est.)	\$1,740.03	238.04	\$1,059.28

Utility Office



Materials Installed

- CFL-27 W
- 4-lamp electronic ballast, (3) 25 watt T8 lamps
- Pre-retrofit energy use:
- Post-retrofit energy use:
- Energy savings projection:
- Pre-retrofit to post retrofit energy reduction:
- Estimated annual savings:

Quantity

- 1
- 4
- 676 watts
- 327 watts
- 349 watts
- 52%

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$187.17	25.61	\$113.94
7 Hours/day	\$327.55	44.81	\$199.40
10 Hours/day	\$467.92	64.01	\$284.86
1750 Hours/year (Est.)	\$327.55	44.81	\$199.40

6 Room Dorm

Materials Installed

- 2-lamp electronic ballast, (2) 25 watt T8 lamps
- Pre-retrofit energy use:
- Post-retrofit energy use:
- Energy savings projection:
- Pre-retrofit to post retrofit energy reduction:
- Estimated annual savings:

Quantity

- 6
- 432 watts
- 276 watts
- 156 watts
- 36%

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$83.66	11.45	\$50.93
7 Hours/day	\$146.41	20.03	\$89.13
10 Hours/day	\$209.16	28.61	\$127.33
1750 Hours/year (Est.)	\$146.41	20.03	\$89.13

Rental Housing

Materials Installed

- CFL-20 W
- 4-lamp electronic ballast, (3) 25 watt T8 lamps
- Pre-retrofit energy use:
- Post-retrofit energy use:
- Energy savings projection:
- Pre-retrofit to post retrofit energy reduction:
- Estimated annual savings:

Quantity

- 3
- 7
- 1065 watts
- 585 watts
- 480 watts
- 45%

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$257.42	35.22	\$156.71
7 Hours/day	\$450.49	61.63	\$274.25
10 Hours/day	\$643.56	88.04	\$391.78
1750 Hours/year (Est.)	\$450.49	61.63	\$274.25

Housing Rental Building

Materials Installed

CFL-20 W	3
4-lamp electronic ballast, (3) 25 watt T8 lamps	7
• Pre-retrofit energy use:	1065 watts
• Post-retrofit energy use:	585 watts
• Energy savings projection:	480 watts
• Pre-retrofit to post retrofit energy reduction:	45%
• Estimated annual savings:	

Quantity

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$257.42	35.22	\$156.71
7 Hours/day	\$450.49	61.63	\$274.25
10 Hours/day	\$643.56	88.04	\$391.78
1750 Hours/year (Est.)	\$450.49	61.63	\$274.25

Community Church Owned Buildings

3 buildings owned by the Other received energy efficient lighting upgrades as follows:

Arctic Circle Baptist, Assembly of God, Episcopal Church

- Lighting upgrades completed in April 2010
- Installed 39 compact fluorescent light bulbs
- Retrofitted 37 light fixtures with electronic ballasts & T8 lamps
- Pre-retrofit energy use for all lighting: 6.892 Kilowatts
- Post-retrofit energy use for all lighting: 2.934 Kilowatts
- Energy savings projection: 3.958 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 57%
- Estimated Annual Savings:

Hours Per Day / 250 Days Per Year Locally Estimated	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$1,688.38	230.98	\$1,027.84
7 Hours/day	\$2,122.68	290.39	\$1,292.23
10 Hours/day	\$3,714.68	508.18	\$2,261.40
	\$5,306.69	725.97	\$3,230.58

Arctic Circle Baptist Church



Materials Installed

	<u>Quantity</u>
CFL-20 W	7
CFL-27 W	2
2-lamp electronic ballast, (2) 25 watt T8 lamps	2
3-lamp electronic ballast, (3) 25 watt T8 lamps	6
4-lamp electronic ballast, (3) 25 watt T8 lamps	2
4-lamp electronic ballast, (4) 25 watt T8 lamps	1
• Pre-retrofit energy use:	1880 watts
• Post-retrofit energy use:	970 watts
• Energy savings projection:	910 watts
• Pre-retrofit to post retrofit energy reduction:	48%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$488.03	66.76	\$297.10
7 Hours/day	\$854.06	116.84	\$519.93
10 Hours/day	\$1,220.08	166.91	\$742.75
780 Hours/year (Est.)	\$380.67	52.08	\$231.74

Assembly of God Church

Materials Installed

	<u>Quantity</u>
CFL-27 W	8
2-lamp electronic ballast, (2) 25 watt T8 lamps	11
• Pre-retrofit energy use:	1684 watts
• Post-retrofit energy use:	722 watts
• Energy savings projection:	962 watts
• Pre-retrofit to post retrofit energy reduction:	57%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$515.92	70.58	\$314.08
7 Hours/day	\$902.86	123.51	\$549.64
10 Hours/day	\$1,289.80	176.45	\$785.20
800 Hours/year (Est.)	\$412.74	56.46	\$251.26

Episcopal Church

Materials Installed

	<u>Quantity</u>
CFL-27 W	22
2 ft fixture, 2-lamp electronic ballast, (2) 17 watt T8	3
2-lamp electronic ballast, (2) 25 watt T8 lamps	12
• Pre-retrofit energy use:	3328 watts
• Post-retrofit energy use:	1242 watts
• Energy savings projection:	2086 watts
• Pre-retrofit to post retrofit energy reduction:	63%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	\$1,118.72	153.04	\$681.05
7 Hours/day	\$1,957.76	267.83	\$1,191.84
10 Hours/day	\$2,796.80	382.61	\$1,702.62
800 Hours/year (Est.)	\$894.98	122.44	\$544.84

Fort Yukon In-Kind Contribution Tracking Record - ABSN Energy Efficiency Projects:

In-Kind Item	Dates	Hours Contributed	Hourly Wage	Value / Amount	Notes
Staff time for intro, & review of intro materials (# of entities x 1 hour each)		5	\$ 20.00	\$ 100.00	list number of entities
Staff time for Attending telecon (GGTG)		4	\$ 20.00	\$ 80.00	\$15/hr is an average wage designated for entity staff).
Staff time for Attending telecon (CATG)		2	\$ 20.00	\$ 40.00	"
Staff time for Attending telecon(Corp)		4	\$ 20.00	\$ 80.00	"
Maint. Staff time to accompany FM on building assess. - 1st site visit				\$ 198.00	SEE MAINTENACE STAFF TIME LOG TAB
Conservative village office administrative percentage of total project cost less ABSN Admin %. Total project cost = \$102,000/village - (our admin percentage , (around 12%) Approx: \$12,240) = \$89,760 x 5.5% = \$4936.80 (this 5.5% village admin cost estimate is spread across all entities we work with for the course of the grant for completing all energy efficiency measures. These are primarily for cumulative, otherwise unaccounted time expense for village- based project support.	Feb, '07 through			\$ 4,936.80	Each time we call, email, or fax a village entity, someone has to receive the communication, review and/or forward the information, follow-up on requests, etc. Whether it is to set-up a teleconference, verify maintenance staff participation in lighting or boiler trainings, set-up in-kind lodging and transportation, lighting trainings, track a shipment, verify completion of lighting in a given building, ship lamps and ballasts out of the village, request a labor reimbursement agreement, or invoice etc. Village expenses for phone charges, copying and fax costs, office supplies, etc. are part of this amount.
Lodging for ABSN Staff - 1st visit	2/9-12/09	6	\$ 40.00	\$ 240.00	3 nights each for Geoff and Garrison to stay at Voc Ed
Transportation & fuel costs - 1st site-visit	2/10/2009	3	\$75	\$ 225.00	Use of the CATG truck for 3 days, 2-10 to 2-12-09
Lodging for ABSN Staff - 2nd site visit	4/20-28/09	11	\$ 40.00	\$ 440.00	Geoff & Anna 3 nights, Garrison 8 nights
Transportation & fuel costs 2nd Site-visit	4/20-28/09	12	\$ 50.00	\$ 600.00	Truck - City 12 days @ \$50 (some days 2 trucks) (Inv. tracked 09.03.287)
Transportation & fuel costs 2nd Site-visit	4/20-28/09	8	\$ 75.00	\$ 600.00	Truck Rental - CATG 8 days at \$75
City - Freight from Fairbanks to Ft. Yukon	3/9/2009			\$405	900lbs of freight at \$.45 per pound (Inv. tracked 09.03.287)
City - Freight from Fort Yukon to Fairbanks - Evert's Air				\$1,350	freight at \$.45 per pound, IN-kind back-haul, Everts Air Cargo, late April, 2009, hauled 596 lbs of lamps and 1,493 lbs of non-PCB ballasts, and 800 lbs of PCB ballasts: Also, there will be another back-haul shipment in-kind by Everts: Fort Yukon - FBKS (Inv. tracked 09.03.287)
City - Freight last backhaul FY to Fbks				\$180	set-up / coordination time for back-haul, (Inv. tracked 09.03.287)
City - Freight last backhaul FY to Fbks	6/4/2009			\$419	freight at \$.45 per pound,932 lbs ballasts and lamps
City - Labor 35% Payroll				\$1,727	Estimated "fringe" & payroll costs (Inv. tracked 09.03.287)
City - Weekly Storage Space				\$1,200	12 days at \$100 (Inv. tracked 09.03.287)
City - Conference Room Rental				\$900	12 days at \$75 (Inv. tracked 09.03.287)

City - Labor Office Personnel		6	\$ 25.00	\$150	(Inv. tracked 09.03.287)
CATG - HR Manager Time		0.50	\$ 27.50	\$13.75	James Kelly showed rooms to be worked on
CATG - Finance Director Time		2.70	\$ 45.37	\$122.50	Nora's time preparing financial reports
CATG - Executive Director Time		2	\$ 54.37	\$108.73	Ben Stevens Short Meetings with Field Managers
CATG - Payroll Tech		4	\$ 27.47	\$109.89	Linda Wells Time with payroll
Native Village of Fort Yukon				\$100	Payroll Taxes & Work Comp Andrew Ansaknok
Native Village of Fort Yukon				\$101	Payroll Taxes & Work Comp Walter Solomon
School - T5 Upgrades		45	\$ 50.00	\$2,250	John Stoffa Expense
School Maintenance Staff Time		44	\$ 18.00	\$792	For Upgrades - Earl Eric Sr
School Maintenance Staff Time		77	\$ 18.00	\$1,386	For Upgrades - Samson Peter II
School Maintenance Staff Time		100	\$ 18.00	\$1,791	For Upgrades - Danieal Carroll
	TOTAL			\$20,646.72	

The capacity of ABSN's scope of work was greatly increased by the response of local communities to work in partnership with ABSN and provide in-kind services of project coordination, paid labor for lighting retrofits, transportation and lodging for ABSN field staff, and other valuable contributions. This allowed ABSN and the community of Allakaket to deliver 20% more energy savings measures beyond the original grant funding.