

Village End Use Energy Efficiency Measures Program '05 – '06
AEA Grant # 2195234 Administered by Alaska Building Science Network

Nunapitchuk Final Report



Community Summary

12 Community buildings and 10 teacher housing units received energy efficiency upgrades January '06 - Summer '07

City Office, Public Safety Bldg., Clinic, Community Hall, Washeteria, Clinic, Sanitation Maintenance Shops 1 & 2, Nunapitchuk Ltd: Corporation Board Office, Corp. Store and Fuel Station, Nunapitchuk High School, 10 LKSD teacher housing units

Village-Wide Lighting Retrofit Summary:

- Retrofitted 251 light fixtures village-wide with electronic ballasts and T8 lamps
- Installed: 168 compact fluorescent light bulbs village-wide
- T5 Light fixtures were installed in the school gym.
- Pre-retrofit energy use for all lighting: 46,520 watts
- Post-retrofit energy use for all lighting: 20,258 watts
- Energy savings projection: 26,262 watts (26.26 kW)
- **Pre-retrofit to post retrofit energy reduction: 52 %**
- **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$12,343	1,992 Gallons	\$4,103
7 Hours	\$21,600	3,485 Gallons	\$7,180
10 Hours	\$30,858	4,979 Gallons	\$10,257

- Total project cost for village lighting: \$ 37,250
- Simple payback (lighting measures only): 1.72 Years
- Total village wide in-kind contribution: \$ 9,081

Additional Energy Efficiency Measures: (Budget Expense: \$ 2,432)

- Nine local village entity and maintenance staff participated in a two day, hands-on energy efficiency boiler training in Nunapitchuk. (Classroom hours were provided in-kind through ABSN's AHFC funds).
- Programmable thermostats were installed in 5 locations in Nunapitchuk community buildings.

Nunapitchuk City Owned Buildings

Energy efficient lighting upgrades were completed in seven buildings owned by the City of Nunapitchuk.

City owned Buildings - Lighting Retrofit Summary:

- Lighting upgrades completed in January 2006
- Retrofitted 36 linear fluorescent fixtures with T8 lamps and electronic ballasts
- Installed: 56 compact fluorescent light bulbs
- Pre-retrofit energy use for all lighting: 8,195 watts
- Post-retrofit energy use for all lighting: 3,501 watts
- Energy savings projection: 4,694 watts (4.69 kW)
- **Pre-retrofit to post retrofit energy reduction: 57 %**
- **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$2,206	356 Gallons	\$733
7 Hours	\$3,861	623 Gallons	\$1,283
10 Hours	\$5,515	890 Gallons	\$1,833

City Office



City office meeting room with T8 upgrades.



Electronic ballast installed.



Wilson Tikiun and Jerry Chris upgrade light fixtures.

Materials Installed	2-Lamp Ballasts	4-Lamp Ballasts	13w CFL	20w CFL	25w CFL
	25w lamps	25w lamps			
City Office	2	0	2	2	3

- Pre-retrofit energy use: 725 watts
- Post-Retrofit Energy Use: 235 watts
- Energy savings projection: 490 watts (.49 Kw)
- **Pre-retrofit to post retrofit energy reduction: 68 %**
- **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$230	37 Gallons	\$77
7 Hours	\$403	65 Gallons	\$134

Public Safety Building

Materials Installed	2-Lamp Ballasts 25w lamps	4-Lamp Ballasts 25w lamps	13w CFL	20w CFL	25w CFL
Public Safety	0	0	2	2	10

- Pre-retrofit energy use: 1,270 watts
- Post-Retrofit Energy Use: 316 watts
- Energy savings projection: 954 watts (.95 Kw)
- **Pre-retrofit to post retrofit energy reduction: 75 %**
- **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$448	72 Gallons	\$149
7 Hours	\$785	127 Gallons	\$261
10 Hours	\$1,121	181 Gallons	\$373

Washeteria



Washeteria lobby with T8 upgrades.



CFL installed in Washeteria sauna.



Washeteria boiler room with T8s

Materials Installed	2-Lamp Ballasts 25w lamps	2-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Ballasts 25w lamps	13w CFL	20w CFL	25w CFL
Washeteria	3	8	6	5	6	0

- Pre-retrofit energy use: 2,492 watts
- Post-Retrofit Energy Use: 1,306 watts
- Energy savings projection: 1,186 watts (1.19 Kw)
- **Pre-retrofit to post retrofit energy reduction: 48 %**
- **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$557	90 Gallons	\$185
7 Hours	\$975	157 Gallons	\$324
10 Hours	\$1,394	225 Gallons	\$463

Notes: Two 4-lamp fixtures were de-lamped to 2-lamps each bringing additional savings.

Community Hall



T8 upgrades in Community Hall



CFL installed in EPA IGAP office.



Installed Electronic Ballast

Materials Installed	2-Lamp Ballasts 25w lamps	2-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Ballasts 25w lamps	13w CFL	20w CFL	25w CFL
Community Center	6	0	0	0	1	6	1

- Pre-retrofit energy use: 1,102 watts
- Post-Retrofit Energy Use: 440 watts
- Energy savings projection: 662 watts (.66 Kw)
- **Pre-retrofit to post retrofit energy reduction: 60 %**

- **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$311	50 Gallons	\$103
7 Hours	\$544	88 Gallons	\$181
10 Hours	\$778	126 Gallons	\$259

Clinic



Hallway



T8 upgrades in Clinic waiting room.



Exam room.

Materials Installed	2-Lamp Ballasts 25w lamps	2-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Ballasts 25w lamps	13w CFL	20w CFL	25w CFL
Clinic	3	0	0	8	2	1	1

- Pre-retrofit energy use: 1,706 watts
- Post-Retrofit Energy Use: 964 watts
- Energy savings projection: 742 watts (.74 Kw)
- **Pre-retrofit to post retrofit energy reduction: 43 %**

• **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$349	56 Gallons	\$116
7 Hours	\$610	98 Gallons	\$203
10 Hours	\$872	141 Gallons	\$290

Sanitation Maintenance Shop #1

Materials Installed	2-Lamp Ballasts 25w lamps	2-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Ballasts 25w lamps	13w CFL	20w CFL	25w CFL
Water, Sewer Garage #1	0	0	0	0	0	6	0

- Pre-retrofit energy use: 450 watts
- Post-Retrofit Energy Use: 120 watts
- Energy savings projection: 330 watts (.33 Kw)
- **Pre-retrofit to post retrofit energy reduction: 73 %**

- **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$155	25 Gallons	\$52
7 Hours	\$271	44 Gallons	\$90
10 Hours	\$388	63 Gallons	\$129

Sanitation Maintenance Shop #2

Materials Installed	2-Lamp Ballasts 25w lamps	2-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Ballasts 25w lamps	13w CFL	20w CFL	25w CFL
water, sewer Garage #2	0	0	0	0	0	6	0

- Pre-retrofit energy use: 450 watts
- Post-Retrofit Energy Use: 120 watts
- Energy savings projection: 330 watts (.33 Kw)
- **Pre-retrofit to post retrofit energy reduction: 73 %**

- **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$155	25 Gallons	\$52
7 Hours	\$271	44 Gallons	\$90
10 Hours	\$388	63 Gallons	\$129

Nunapitchuk IRA Owned Buildings

IRA Traditional Council Office



IRA Boardroom upgraded with T8s and fixtures taken offline.



Office space.



IRA Administrator Office upgraded with T8s.

This buildings was owned by Nunapitchuk IRA during the '05-'06 grant cycle.

IRA Traditional Council Office Building - Lighting Retrofit Summary:

- Lighting upgrades completed in January, 2006
- Retrofitted 28 linear fluorescent fixtures with T8 lamps and electronic ballasts
- Installed: 2 compact fluorescent light bulbs

Materials Installed	2-Lamp Ballasts 25w lamps	2-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Fixtures 3-lamp ballasts 25w lamps	20w CFL	25w CFL
Fixture TOTALS	7	16	5	1	1

- Pre-retrofit energy use for all lighting: 2,625 watts
- Post-retrofit energy use for all lighting: 1,581 watts
- Energy savings projection: 1,044 watts (1.04 kW)
- **Pre-retrofit to post retrofit energy reduction: 40 %**
- **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$491	79 Gallons	\$163
7 Hours	\$859	139 Gallons	\$285
10 Hours	\$1,227	198 Gallons	\$408

Notes: Seven fixtures were taken offline to bring additional savings.

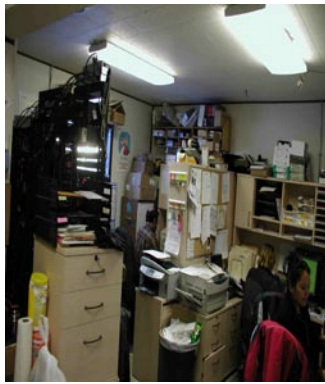
Nunapitchuk Village Corporation Owned Buildings

Village Corporation owned Buildings - Lighting Retrofit Summary:

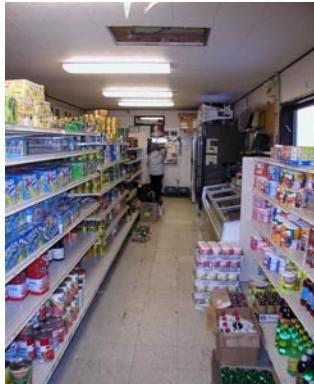
- Lighting upgrades completed in January 2006
- Retrofitted 32 linear fluorescent fixtures with T8 lamps and electronic ballasts
- Installed: 8 compact fluorescent light bulbs
- Pre-retrofit energy use for all lighting: 4,155 watts
- Post-retrofit energy use for all lighting: 1,808 watts
- Energy savings projection: 2,347 watts (2.35 kW)
- **Pre-retrofit to post retrofit energy reduction: 56 %**
- **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$1,103	178 Gallons	\$367
7 Hours	\$1,930	311 Gallons	\$642
10 Hours	\$2,758	445 Gallons	\$917

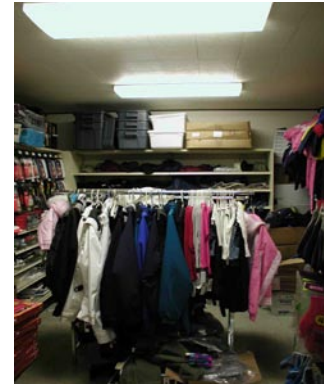
Store



Store office with T8 upgrades.



Retail space.



Store clothing room.

Materials Installed	2-Lamp Ballasts 25w lamps	2-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Ballasts 25w lamps	13w CFL	20w CFL	25w CFL
Store/ Warehouse	0	28	0	0	0	1

- Pre-retrofit energy use: 3,247 watts
- Post-Retrofit Energy Use: 1,481 watts
- Energy savings projection: 1,766 watts (1.77 Kw)
- **Pre-retrofit to post retrofit energy reduction: 54 %**
- **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$830	134 Gallons	\$276
7 Hours	\$1,453	234 Gallons	\$483
10 Hours	\$2,075	335 Gallons	\$690

Fuel Station

Materials Installed	2-Lamp Ballasts 25w lamps	2-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Ballasts 25w lamps	13w CFL	20w CFL	25w CFL
Warehouse & gas station	0	0	0	0	1	0	4

- Pre-retrofit energy use: 460 watts
- Post-Retrofit Energy Use: 113 watts
- Energy savings projection: 347 watts (.35 Kw)
- **Pre-retrofit to post retrofit energy reduction: 75 %**

- **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$163	26 Gallons	\$54
7 Hours	\$285	46 Gallons	\$95
10 Hours	\$408	66 Gallons	\$136

Corporation Board Office

Materials Installed	2-Lamp Ballasts 25w lamps	2-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Ballasts 25w lamps	13w CFL	20w CFL	25w CFL
Corporation Office	4	0	0	0	2	0	0

- Pre-retrofit energy use: 448 watts
- Post-Retrofit Energy Use: 214 watts
- Energy savings projection: 234 watts (.23 Kw)
- **Pre-retrofit to post retrofit energy reduction: 52 %**

- **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$110	18 Gallons	\$37
7 Hours	\$192	31 Gallons	\$64
10 Hours	\$275	44 Gallons	\$91

Lower Kuskokwim School District Owned Buildings - Nunapitchuk School

School owned Buildings - Lighting Retrofit Summary:

- Lighting upgrades completed in Summer 2007
- Retrofitted 155 linear fluorescent fixtures with T8 lamps and electronic ballasts
- Installed: 102 compact fluorescent light bulbs
- Pre-retrofit energy use for all lighting: 31,545 watts
- Post-retrofit energy use for all lighting: 13,368 watts
- Energy savings projection: 18,177 watts (18.18 kW)
- **Pre-retrofit to post retrofit energy reduction: 58 %**

- **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$8,543	1,379 Gallons	\$2,840
7 Hours	\$14,951	2,412 Gallons	\$4,970
10 Hours	\$21,358	3,446 Gallons	\$7,099

BIA Classroom Building



Classroom T8s in classroom.



Hallway.



Restroom.

Materials Installed	2-Lamp Ballasts 25w lamps	2-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Ballasts 25w lamps	13w CFL	20w CFL	25w CFL
School Buildings	0	67	0	0	6	5	0

- Pre-retrofit energy use: 6,115 watts
- Post-Retrofit Energy Use: 3,662 watts
- Energy savings projection: 2,453 watts (2.45 Kw)
- **Pre-retrofit to post retrofit energy reduction: 40 %**

- **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$1,153	186 Gallons	\$383
7 Hours	\$2,018	326 Gallons	\$671
10 Hours	\$2,882	465 Gallons	\$958

Notes: The old BIA classroom building had not been upgraded to T8 lighting with the rest of the school previous to the VEUEEM grants. Light fixtures in these classrooms and in teacher housing units contained magnetic ballasts and 40-watt T-12 lamps, which, were retrofitted with electronic ballasts and 25-watt T-8 lamps. All incandescent bulbs were replaced with CFLs. The large number of fixtures in this building will result in significant savings. This building was completed in March 2006.

Teacher Housing Units (including apartments in BIA Building)

Materials Installed	2-Lamp Ballasts 32w lamps	4-Lamp Ballasts 32w lamps	2-Lamp Ballasts 25w lamps	2-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Fixtures 3-lamp ballasts 25w lamps	4-Lamp Ballasts 25w lamps	13w CFL	20w CFL	25w CFL
Teacher Housing	1	0	8	75	0	4	43	37	11

- Pre-retrofit energy use: 13,330 watts
- Post-Retrofit Energy Use: 6,286 watts
- Energy savings projection: 7,044 watts (7.04 Kw)
- **Pre-retrofit to post retrofit energy reduction: 53 %**

- **Estimated Annual Savings:**

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$3,311	534 Gallons	\$1,100
7 Hours	\$5,794	935 Gallons	\$1,926
10 Hours	\$8,277	1,336 Gallons	\$2,751

Notes: Various CFL wattage combinations and de-lamping enabled maximum light output with minimum wattage. This strategy greatly improved light levels in living spaces while reducing total wattage per fixture.

High Output T5 Lighting Upgrades for the School Gym

Hours Per Day / 250 Days Per Year	Electrical Savings	Avoided Diesel Use	Avoided Diesel Costs
4 Hours	\$4,080	658 Gallons	\$1,356
7 Hours	\$7,139	1,152 Gallons	\$2,373
10 Hours	\$10,199	1,646 Gallons	\$3,390

For Nunapitchuk High School, the school gym/multi-purpose room will be retrofitted in summer '07 with 4', linear T5 fluorescent light fixtures providing much improved light quality at substantially reduced energy use. Existing lighting consists of fifty-five HO fluorescent fixtures each using 220 watts for a total pre-retrofit energy use of 12,100 watts. This scenario will be cut by 71% by retrofitting with 20, 3-lamp T5 fixtures each using 171 watts for an overall post-retrofit wattage of 3,420!

T-12 Lamp and magnetic ballast recycling

All waste lamps and ballasts were removed from the community for recycling including sixty-seven PCB ballasts – primarily from the old BIA school classrooms.



PCB Ballast.



PCB Ballast in recycling drum.



Waste lamps and ballasts prepared for shipping.

Nunapitchuk T5 Lighting Upgrade Details - ABSN Energy Efficiency Projects '05-'06

These retrofits were completed in (Month, Year). Post retrofit utility tracking can begin in (Month, Year).

School Gym	Length (feet)	Width (feet)	Ceiling Hieght (feet)	# of Existing Fixtures	Existing Fixture Wattage	Total Existing Wattage	Existing Foot-candles	New Foot-Candles	# of New Fixtures	lamps / fixture	New Fixture Wattage	Total New Wattage
	79	54	sloping 17'-23'	55	220	12,100	27	45	20	3	171	3420

Total New wattage for gym = 71 % savings

Savings & Payback Calculation for Gym:

71.73553719

Assume 1,750 hrs / year for 250 days/year of use

Full cost of electricity: \$0.47 /kWh

Watts of existing lighting: 12,100

New wattage for T5 fixtures: 3,420

Calculation: (Watts) x (hrs/year) / (1000w/kw) x (cost of electricity) = (cost / year)

Existing

Cost: \$9,952

Retrofitted Cost: \$2,813

Annual Savings:

\$7,139

Material & shipping cost of Gym retrofit: \$5,727.87

Simple Payback: Materials cost / annual savings = **0.802301346** years (for retrofit to pay for itself in materials)

Nunapitchuk - Heating Energy Efficiency Site Visit by Charlie Deer May 2 & 3, 2006



Boiler –room class-time



Charlie Deer demonstrating heating control systems



ABSN boiler specialist Charlie Deer traveled to Nunapitchuk and gave a total of 12 hours of classroom and hands-on boiler energy efficiency care and maintenance training for 9 village entity and maintenance staff from Nunapitchuk and 1 maintenance staff from Kasigluk. Nick Keene, Lloyd Andrew Jr., Ely Wastley, and Wilson Tikium from Nunapitchuk and Wilson Twitchell from Kasigluk attended the two-day, 9-hour training. While in Nunapitchuk, Charlie also gave a 3-hour night class on boiler energy efficiency care and maintenance for IRA and city employees that were working during the day class. Steven T. Alexie Sr., Jerry Wassillie Sr., William M. Andrew, Walt b. Riley Sr., Roberta Nick (city admin), and Sophia Sergie were present for the night class. The city administration office building and boiler was used for the training. A never used flue gas analyzer kit was found in the Laundromat and utilized for the training.



Components of a Bacharach Flu Gas Analyzing Kit used in boiler efficiency training and left with capable maint staff



Smoke-test kit for analyzing flue gases for boiler efficiency



Flu gas analyzer measures levels of unburned carbon in combustion gases

The city boiler was found to have gross glycol leaks which resulted in a failed expansion tank as well as deterioration of all other ferrous metal in the system. To mitigate system leakage Charlie and trainees removed two of six di-electric unions and replaced them with sweat to thread adapters, then installed a new expansion tank. Class-time also included programming 5 setback thermostats for various community buildings and installing one for the city office building. Remaining programmed thermostats were given to the attending maintenance staff with agreement they would install them in their buildings.

Nunapitchuk, In-Kind Contribution Tracking Record - ABSN Energy Efficiency Projects '05-'06

Village entities worked with: Tribe, City, Village Corp, School District.

In-Kind Item	Dates	Hours Contributed	Hourly Wage	Value / Amount	Notes
Staff time for project contact, introduction, and review of intro materials (Number of entities x 1 hour each)		4	\$15.00	\$60.00	Hrs contributed column indicates # of entities we worked with in the village. \$15 / hr is our estimated average wage for local village staff: Tribal Administrators, City Clerks, Facilities Managers, maintenance staff, etc.
Staff time for Attending teleconference, all entities village-wide		18	\$15.00	\$270.00	Hrs contributed column indicates length of telecon multiplied by # of village telecon participants
Office manager and/or Staff time for site visit set-up		6	\$15.00	\$90.00	city, tribal, corp store manager mtg time 1.5 hrs.
Office Manager / Staff time for lighting upgrades follow-up				\$321.00	city/IRA/corp administrative
Office Manager / Staff time for upgrades beyond lighting		2	\$18.00	\$36.00	EPA IGAP waste ballast transport
Maint. Staff time to attend ABSN training		12	\$14.00	\$168.00	Hrs contributed column indicates length of training multiplied by # of in-kind training participants
Village office administrative percentage of total project cost less ABSN Admin %. Total project cost = \$37,250/village - (our admin percentage, (around 9%) Approx: \$3,352) = \$33,897 x 5% = \$1,694 (this 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 project support.	Jan '05 - Jan '07			\$1,694.00	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 Field Managers - 1st assessment site visit		4	\$55.00	\$220.00	FM Dan Lung
Transportation and fuel costs - 1st assessment site-visit				\$40.00	Transport supplies to Kasigluk by snowmachine.
Employer share of payroll contributions				\$360.00	Nunap Ltd. donated maintenance worker payroll 30 hrs at \$12 hr (workers comp and etc. not calculated)
Payroll/bookkeeping costs				\$90.00	city/IRA/corp accounting
LKSD local maint labor for T8 retrofits		37	\$15.00	\$555.00	
LKSD cert. electrician maint labor for T5 retrofits				\$4,500.00	Comparable estimate - In-kind labor, provided by school district - includes airfare & per diem and lodging.
LKSD local maint labor for T5 retrofits		30	\$15.00	\$450.00	Est for local maint staff support
Employer expense for Workman's Comp		1197	0.05	\$59.85	Generic multiplier: .05 x gross payroll of village labor
Waste Management - PCB backhaul	2/25/06	335	\$0.25	\$83.75	Disposal Backhaul, ATS, Nunap - Bethel
Waste Management - PCB backhaul	2/25/06	335	\$0.25	\$83.75	Disposal Backhaul, NAC, Bethel - Anch
	TOTAL			\$9,081.35	