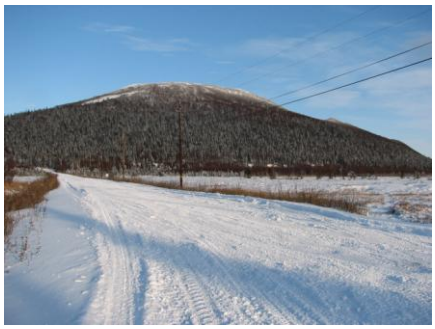
Village End Use Energy Efficiency Measures Program

AEA Grant # 2195225 Administered by Alaska Building Science Network

Upper Kalskag Final Report


Community Summary

12 community buildings received energy efficiency upgrades as follows:

Upper City Hall, Town Hall/Tribal Office, Bulk Fuel Plant, Jail, Sanitation Office, Trailer I, Trailer II, Joseph & Olinga Gregory Elementary School, George Morgan Sr. High School, Generator Shed, HS Bus Barn, HS Bus Barn T5 Retrofit, George Morgan Sr. HS Gymnasium T-5 retrofit

Retrofits Completed: January 2008 - October 2008

Village-Wide Lighting Retrofit Summary:

- Retrofitted 134 light fixtures with electronic ballasts & T8 lamps
- Installed 17 compact fluorescent light bulbs
- Installed 24 T5 linear fluorescent fixtures
- Pre-retrofit energy use for all lighting: 19.244 Kilowatts
- Post-retrofit energy use for all lighting: 13.028 Kilowatts
- Energy savings projection: 6.216 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 32%

- Estimated Annual Savings:

kWh Rate (as of 11/13/09): $0.64 Fuel Cost (FY 2007 Ave): $1.89

Hours Per Day/ 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	$3,986.94	452.07	$854.42
7 Hours/day	**$6,977.15**	791.13	$1,495.23
10 Hours/day	$9,967.36	1130.18	$2,136.04

- Total project cost for all measures: $37,775
- Simple Payback (lighting measures only, using 7 hours/day lighting use run-time): 5.41 years
- Total village wide in-kind contribution: $6,243

Additional Energy Efficiency Measures:

Town Hall/Tribal Office attic insulation and air sealing.

City of Upper Kalskag Owned Buildings

Field manager Harry Morgan helps out with maintenance worker training.

Steven Gregory and Frank One work on an energy efficient lighting retro-kit.

ABSN Field Manager Dan Lung and Steven Gregory shake hands on a successful project.

6 buildings owned by the City of Upper Kalskag received energy efficient lighting upgrades as follows:

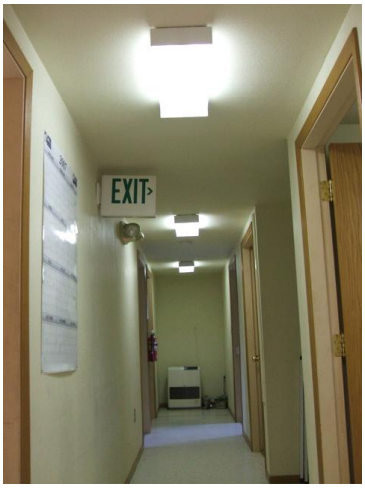
Upper City Hall , Town Hall/Tribal Office, Bulk Fuel Plant, Jail, Sanitation Office, Trailer I and Trailer II,

- Lighting upgrades completed in January 2008
- Retrofitted 49 light fixtures with electronic ballasts & T8 lamps
- Installed 13 compact fluorescent light bulbs
- Pre-retrofit energy use for all lighting: 5.136 Kilowatts
- Post-retrofit energy use for all lighting: 2.967 Kilowatts
- Energy savings projection: 2.169 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 42%

- Estimated Annual Savings:

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	$1,391.20	157.75	$298.14
7 Hours/day	$2,434.59	276.05	$521.74
10 Hours/day	$3,477.99	394.36	$745.35

Upper City Hall



Materials Installed	**Quantity**
2 ft fixture, 2-lamp electronic ballast, (2) 17 watt T8	9
2-lamp electronic ballast, (2) 25 watt T8 lamps	8
CFL-20 W	1
• Pre-retrofit energy use:	940 watts
• Post-retrofit energy use:	684 watts
• Energy savings projection:	256 watts
• Pre-retrofit to post retrofit energy reduction:	27%

• Estimated annual savings:

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	$164.20	18.62	$35.19
7 Hours/day	$287.35	32.58	$61.58
10 Hours/day	$410.50	46.55	$87.97

Town Hall/Tribal Office

Five 4-lamp fixtures de-lamped for additional savings.

Materials Installed	**Quantity**	
2-lamp fixture (w/existing electronic ballast) re-lamped with (2) 25 watt T8 lamps	1	
4 lamp fixture (w/existing electronic ballast) re-lamped with, (3) 25 watt T8 lamps	5	
4-lamp fixture (w/existing electronic ballast) re-lamped with, (4) 25 watt T8 lamps	5	
CFL-20 W	2	
• Pre-retrofit energy use:	1320	watts
• Post-retrofit energy use:	912	watts
• Energy savings projection:	408	watts
• Pre-retrofit to post retrofit energy reduction:	31%	

• Estimated annual savings:

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	$261.69	29.67	$56.08
7 Hours/day	$457.96	51.93	$98.14
10 Hours/day	**$654.23**	**74.18**	**$140.20**

Note: Fixtures contained existing electronic ballast and 32 watt T-8 lamps installed previously. All fixtures re-lamped with 25 watt T-8 lamps.

Town Hall/Tribal Office attic insulation and air sealing

Town Hall attic: -55’ x 19’ (1045 sq. ft.). Existing insulation consists of R-13 fiberglass bats between ceiling joists on 24” inch centers. This layer covers less than half of the ceiling attic floor space and the other half is exposed wood (not insulated). Vapor barrier is present.

Materials provided: 17 bales of R-38 fiberglass insulation 24” x 52” x 72” bats (64 sq ft ea. bale), 4 bales of R13 fiberglass insulation 24”x 51” x72” , 12 tubes of clear paintable caulk, caulking gun, sheet rock screws, 2 gable end vents and galvanized screws.

Work completed: Venting and Caulking-Installed two 12” x 18” gable end vents & caulked all seams and gaps in the (interior) ceiling to reduce air leakage from interior of building into attic. Caulked all gaps at ceiling corners, around light fixtures and seams between plywood sheets and other identified gaps.

Insulation-added new un-faced R13 insulation to front half of attic floor that was exposed wood then added 2nd layer of un-faced R38 insulation (over entire 1st layer) in a direction going from front to rear of building bringing the total attic insulating value to R-51.

Bulk Fuel Plant

Fixtures re-lamped with 25 watt T-8 lamps for additional savings.

Materials Installed	**Quantity**	
2-lamp fixture (w/existing electronic ballast) re-lamped with (2) 25 watt T8 lamps	8	
• Pre-retrofit energy use:	640	watts
• Post-retrofit energy use:	376	watts
• Energy savings projection:	264	watts
• Pre-retrofit to post retrofit energy reduction:	41%	
• Estimated annual savings:		

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	$169.33	19.20	$36.29
7 Hours/day	$296.33	33.60	$63.50
10 Hours/day	$423.32	48.00	$90.72

Note: Fixtures contained existing electronic ballast and 32 watt T-8 lamps installed previously. All fixtures re-lamped with 25 watt T-8 lamps.

Jail

Materials Installed	**Quantity**
2-lamp electronic ballast, (2) 25 watt T8 lamps	3
CFL-14 W	1
CFL-20 W	1
• Pre-retrofit energy use:	387 watts
• Post-retrofit energy use:	175 watts
• Energy savings projection:	212 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	$135.98	15.42	$29.14
7 Hours/day	$237.96	26.98	$51.00
10 Hours/day	$339.94	38.55	$72.85

Note: these lights were changed to maintain consistency with updating lighting in other tribal buildings. No measurable savings is anticipated since lights are rarely on.

Sanitation Office



Materials Installed **Quantity**

2-lamp electronic ballast, (2) 25 watt T8 lamps 6

- Pre-retrofit energy use: 504 watts
- Post-retrofit energy use: 282 watts
- Energy savings projection: 222 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	$142.39	16.15	$30.51
7 Hours/day	$249.18	28.25	$53.40
10 Hours/day	$355.98	40.36	$76.29

Trailer I and II



Materials Installed **Quantity**

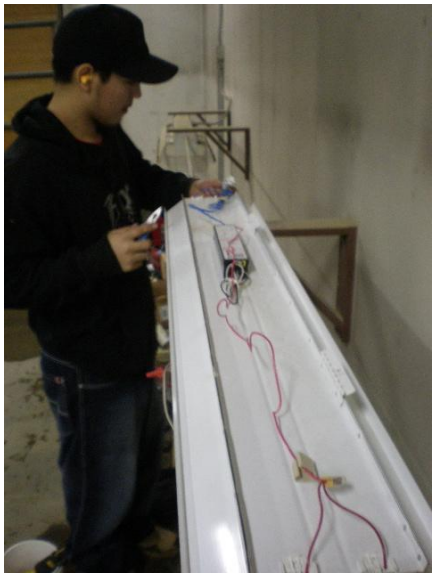
8 ft retro-kits, 4-Lamp electronic ballast, (4) 25 watt lamps 4
CFL-20 W 6
CFL-23 W 2

- Pre-retrofit energy use: 1345 watts
- Post-retrofit energy use: 538 watts
- Energy savings projection: 807 watts
- Pre-retrofit to post retrofit energy reduction: 60%

- Estimated annual savings:

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	$517.61	58.69	$110.93
7 Hours/day	$905.82	102.71	$194.12
10 Hours/day	$1,294.02	146.73	$277.31

Kuspuk School District Owned Buildings



Dennis Morris works on an energy efficient lighting retro-kit

Joe Nash retrofits a 4-lamp fixture.

Joe Nash, Earl Morgan and Jeromy Hoeldt pack up used fluorescent lamps for backhaul.

4 buildings owned by the Kuspuk School District received energy efficient lighting upgrades as follows:

Joseph & Olinga Gregory Elementary School, HS Bus Barn, HS Bus Barn T5 Retrofit, HS Generator Shed, George Morgan Sr. HS Gymnasium T-5 retrofit.

- Lighting upgrades completed in October 2008
- Retrofitted 85 light fixtures with electronic ballasts & T8 lamps
- Installed 4 compact fluorescent light bulbs
- Installed 24 T5 linear fluorescent fixtures
- Pre-retrofit energy use for all lighting: 14.108 Kilowatts
- Post-retrofit energy use for all lighting: 10.061 Kilowatts
- Energy savings projection: 4.047 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 29%

- Estimated Annual Savings:

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	$2,595.75	294.33	$556.28
7 Hours/day	$4,542.56	515.07	$973.49
10 Hours/day	$6,489.36	735.82	$1,390.70

Joseph & Olinga Gregory Elementary

Joseph & Olinga School recognized as one of the first buildings built in Upper Kalskag.

School hallway and classrooms re-lamped with 25 watt T-8 lamps.

Re-lamping with 25 watt T-8 lamps saves energy while improving over-all light levels in school classrooms for a better learning environment.

Materials Installed	**Quantity**	
2-lamp fixture (w/existing electronic ballast) re-lamped with (2) 25 watt T8 lamps	55	
4-lamp fixture (w/existing electronic ballast) re-lamped with, (4) 25 watt T8 lamps	3	
8 ft retro-kit, 4-Lamp electronic ballast, (4) 25 watt	8	
CFL-14 W	3	
CFL-23 W	1	
• Pre-retrofit energy use:	4552	watts
• Post-retrofit energy use:	3664	watts
• Energy savings projection:	888	watts
• Pre-retrofit to post retrofit energy reduction:	20%	

• Estimated annual savings:

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	$569.56	64.58	$122.06
7 Hours/day	$996.74	113.02	$213.60
10 Hours/day	$1,423.91	161.45	$305.15

Notes: Fixtures contained existing electronic ballast and 32 watt T-8 lamps installed previously. All fixtures re-lamped with 25-watt T-8 lamps

George Morgan Sr. High School Generator Shed

Materials Installed	**Quantity**	
4-lamp electronic ballast, (4) 32 watt T8 lamps	2	
• Pre-retrofit energy use:	336	watts
• Post-retrofit energy use:	240	watts
• Energy savings projection:	96	watts
• Pre-retrofit to post retrofit energy reduction:	29%	

• Estimated annual savings:

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	$61.57	6.98	$13.20
7 Hours/day	$107.76	12.22	$23.09
10 Hours/day	$153.94	17.45	$32.99

Note: these lights were changed to maintain consistency with updating lighting in other school buildings. Very little measurable savings is anticipated since lights are rarely on.

George Morgan Sr. High School Bus Barn

Joe Nash takes apart a fixture for retrofit.

Energy efficient T-8 and electronic ballast lighting retro-kits used to update fixtures in Bus Barn storage areas and workbench.

Materials Installed	**Quantity**
2-lamp electronic ballast retro-kits, (2) 25 watt T8 lamps	17
• Pre-retrofit energy use:	2380 watts
• Post-retrofit energy use:	799 watts
• Energy savings projection:	1581 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	$1,014.05	114.98	$217.32
7 Hours/day	$1,774.59	201.22	$380.30
10 Hours/day	$2,535.13	287.45	$543.29

Bus Barn T5 Retrofit

T-5 fluorescent fixture installed in Bus barn parking garage.

Materials Installed	**Quantity**
T5 fixture, electronic ballast, (2) 54 watt T5 HO	8
• Pre-retrofit energy use:	1120 watts
• Post-retrofit energy use:	912 watts
• Energy savings projection:	208 watts
• Pre-retrofit to post retrofit energy reduction:	19%
• Estimated annual savings:	

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	$133.41	15.13	$28.59
7 Hours/day	$233.47	26.47	$50.03
10 Hours/day	$333.53	37.82	$71.48

George Morgan Sr. High School Gymnasium

T-5 fluorescent fixtures installed in high school gymnasium.

T-5 fixtures save energy while improving light levels in large spaces.

Materials Installed	**Quantity**
T5 fluorescent fixture, electronic ballast, (4) 54 watt T5 HO	9
T5 fluorescent fixture, electronic ballast, (6) 54 watt T5 HO	7
• Pre-retrofit energy use:	5720 watts
• Post-retrofit energy use:	4446 watts
• Energy savings projection:	1274 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	$817.14	92.65	$175.12
7 Hours/day	$1,430.00	162.15	$306.45
10 Hours/day	$2,042.86	231.64	$437.79

Note: In Feb, 2009 George Morgan Sr. High School tragically burned down. The preceding village-wide and school district energy savings summaries include the high school gymnasium T-5 retrofits. See page 11 below for the village wide and school district-wide energy savings summaries excluding the school gym.

The Village-wide lighting retrofit summary below shows the expected savings excluding the long-term savings that would have come from the George Morgan Senior High School gymnasium T-5 retrofits.

Village-Wide Lighting Retrofit Summary:

- Retrofitted 132 light fixtures with electronic ballasts & T8 lamps
- Installed 17 compact fluorescent light bulbs
- Installed 8 T5 linear fluorescent fixtures
- Pre-retrofit energy use for all lighting: 13.188 Kilowatts
- Post-retrofit energy use for all lighting: 8.342 Kilowatts
- Energy savings projection: 4.846 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 37%
- Estimated Annual Savings:

kWh Rate (as of): $0.64 Fuel Cost (FY 2007 Ave): $1.89

Hours Per Day/ 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	$3,108.22	352.44	$666.10
7 Hours/day	$**5,439.39**	616.76	$1,165.68
10 Hours/day	$7,770.56	881.09	$1,665.26

- Total project cost for all measures: $37,775
- Simple Payback (lighting measures only, using 7 hours/day lighting use run-time): 6.9 years

The Kuspuk School District-wide lighting retrofit summary below shows the expected savings excluding the long-term savings that would have come from the George Morgan Senior High School gymnasium T-5 retrofits.

Kuspuk School District Lighting Retrofit Summary:

- Retrofitted 83 light fixtures with electronic ballasts & T8 lamps
- Installed 4 compact fluorescent light bulbs
- Installed 8 T5 linear fluorescent fixtures
- Pre-retrofit energy use for all lighting: 8.052 Kilowatts
- Post-retrofit energy use for all lighting: 5.375 Kilowatts
- Energy savings projection: 2.677 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 33%
- Estimated Annual Savings:

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	$1,717.03	194.69	$367.97
7 Hours/day	$3,004.80	340.71	$643.94
10 Hours/day	$4,292.57	486.73	$919.91

Upper Kalskag Community Churches

Because the Fairbanks Catholic Diocese financially supports the Kalskag Catholic Church, ABSN did not do upgrades in the church. However, ABSN worked closely with all three churches to do a lighting assessment and made recommendations for what materials they should install and what their savings would be. The Catholic Church recommendations are as follows, these calculations and savings estimates are not included in the village-wide summary:

Catholic Church

Materials Installed	Quantity
2-lamp electronic ballast, (2) 25 watt T8 lamps	3
4-lamp electronic ballast, (4) 32 watt T8 lamps	8
CFL-14 W	2
CFL-20 W	3
CFL-23 W	1

- Recommended 6 compact fluorescent light bulbs
- Recommended 11 light fixtures with electronic ballasts & T8 lamps
- Pre-retrofit energy use for all lighting: 2.001 Kilowatts
- Potential Post-retrofit energy use for all lighting: 1.212 Kilowatts
- Energy savings projection: 0.789 Kilowatts
- Pre-retrofit to post retrofit energy reduction: 39%

- Estimated Annual Savings:

Hours Per Day / 250 Days Per Year	Electrical Savings	Comparative Avoided Diesel Use (gal)	Comparative Avoided Diesel Costs
4 Hours/day	$506.06	57.38	$108.45
7 Hours/day	$885.61	100.42	$189.79
10 Hours/day	$1,265.16	143.45	$271.13

Upper Kalskag - Alaska Building Science Network - T5 Lighting Upgrade Details

Upper Kalskag Bus Barn	Length (feet)	Width (feet)	Ceiling Height (feet)	Type of Existing Fixture	# of Existing Fixtures	Existing Fixture Wattage	**Total Existing Wattage**	Existing Foot-candles	New Foot-Candles	# of New Fixtures	New fixtures	New Fixture Wattage	**Total New Wattage**
	46.5	23	17	HPS 150 watt		160	**0**	twelve - 17	24	8	T-5 2 lamps	114	**912**
Color shade of walls				HPS 250 watt		260	**0**				T-5 3 lamps	171	**0**
Color shade of floor				Multi-Vapor 400 watt		415	**0**				T-5 4 lamps	228	**0**
				2-Lamp Fixture 4ft High Output	8	140	**1,120**				T-5 6 lamps	342	**0**
					Total Existing Watts		1,120				Total New Watts		912

Cost of Elect is **$0.6414/kWh** as of **11/13/08**. Request rates from AVEC at avec.org

Percent Savings Pre to Post Retrofit:	**18.57%**

Savings & Payback Calculation for Gym:

1750 New watts / old watts

Assume 1750 hrs / year for 250 days/year of use

neg 1 (New watts / Old watts x 100 - 100) / 100

Full cost of electricity: $0.64 /kWh

Watts of existing lighting: 1,120

New wattage for T5 fixtures: 912

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

Existing Cost: $1,257

Retrofitted Cost: $1,024

Annual Savings: $ 233

T5 Materials costs $ 1,203

T5 shipping costs $ 300

Material & shipping cost of Gym retrofit: $ 1,500

Simple Payback: Materials cost / annual savings = **6.42** years (for retrofit to pay for itself in materials)

Upper Kalskag - Alaska Building Science Network - T5 Lighting Upgrade Details

These retrofits were completed in October 2008.

Upper Kalskag High School Gym	Length (feet)	Width (feet)	Ceiling Height (feet)	Type of Existing Fixture	# of Existing Fixtures	Existing Fixture Wattage	**Total Existing Wattage**	Existing Foot-candles	New Foot-Candles	# of New Fixtures	New fixtures	New Fixture Wattage	**Total New Wattage**
George Morgan Sr. HS	100	64	27	HPS 150 watt		160	**0**		34		T-5 2 lamps	114	**0**
Color shade of walls				HPS 175 watt	4	185	**740**				T-5 3 lamps	171	**0**
Color shade of floor				Multi-Vapor 400 watt	12	415	**4,980**			9	T-5 4 lamps	228	**2052**
Ceiling height averages 22' at walls to 32 feet at peak. Peak runs (widthwise?)				Other School Gym (A)			**0**			7	T-5 6 lamps	342	**2394**
					Total Existing Watts		5,720				Total New Watts		4446

Cost of Elect is **$0.6414/kWh** as of **11/13/08**. Request rates from AVEC at avec.org

Percent Savings Pre to Post Retrofit:	**22.27%**

Savings & Payback Calculation for Gym:

1750

Assume 1750 hrs / year for 250 days/year of use

New watts / old watts
neg 1 (New watts / Old watts x 100 - 100) / 100

			# Lamps	Lumins/ lamp	Total Lumins	Av. Foot-candles
Full cost of electricity:	$0.64	/kWh				
Watts of existing lighting:	5,720		72	5000	360000	34 fc
New wattage for T5 fixtures:	4,446		96	5000	480000	45.22
					120000	122400
						11.22

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

Existing Cost: $6,420

Retrofitted Cost: $4,990

Annual Savings: $1,430

T5 Materials costs $ 2,610

T5 shipping costs $ 300

Material & shipping cost of Gym retrofit: $2,910

Simple Payback: Materials cost / annual savings = **2.03** years (for retrofit to pay for itself in materials)

Native Village of Kalskag
PO Box 50
Kalskag, Alaska 99607
(907) 471-2207

November 12, 2008

Alaska Building Science Network
PO Box 111097
Anchorage, Alaska 99511
(907) 562-3646
(907) 770-5412 fax

RE: Insulation Project

Dear Dan Lung,

The Native Village of Kalskag Traditional Council would like to thank ABSN on the Village Community Building Energy Efficiency Project done in our historical community hall. This community hall, has been our Tribal Office home since the beginning of time. The building is in need of repairs and energy lost is our concern in savings.

We are thankful, ABSN assisted us in the insulation of our Tribal Office roof. Before, the project was done the roof had no insulation or proper ventilation. We were loosing heat, which caused us to have drastic problems in the winter and high maintenance cost. The person hired for this project was reliable, dependable and show great interest in working on this type of projects.

Through this project completion, we are working with the City of Kalskag to proceed forward in energy savings in the building. Again, we thank ABSN in helping us out in our village in making our Town Hall energy efficient.

Sincerely,

Bonnie Persson
Tribal Administrator
kalskagtribal@yahoo.com
CC: Tribal Council

KUSPUK SCHOOL DISTRICT

P.O. Box 49
Aniak, Alaska 99557
(907) 675-4250
Fax (907) 675-4305

Brad Allen
SUPERINTENDENT OF SCHOOLS
(907) 675-4250, Ext. #103

Dan,

We just wanted to say "Thank You" to you for all your work in our district for helping out with the lighting upgrades as well as the environmental education programs that you've assisted with in Kalskag.

Your efforts are very appreciated by the students, staff and village in our district. The Kuspuk School District Board of Education also wanted to say thanks to you too – hence the enclosed certificate.

Thanks again for all your efforts on behalf of our kids!

Best Wishes,

Brad Allen
Superintendent – Kuspuk School District

Upper Kalskag, In-Kind Contribution Tracking Record - ABSN Energy Efficiency Projects:

In-Kind Item	Dates	Hours Contri-buted	Hourly Wage	Value / Amount	Notes
Staff time for project contact, introduction & review of intro materials		4.00	$15.00	$60.00	list number of entities (Number of entities x 1 hour each)
Staff time for Attending teleconference (TC/IRA)		1.00	$15.00	$15.00	list # of staff and wages if possible ($15/hr is an average wage designated for village entity staff).
Staff time for Attending teleconference		1.00	$15.00	$15.00	(City)
Staff time for Attending teleconference		1.00	$15.00	$15.00	(School)
Conservative village office administrative percentage of total project cost less ABSN Admin %. Total project cost = $37,775/village - (our admin percentage , (around 12%) Approx: $4,533) = $33,242 x 5.5% = $1,828 (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			$1,828.00	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, etc. Village expenses for phone charges, copying and fax costs, office supplies, etc are part of this amount.
Lodging for ABSN Field Managers - 1st site visit	3 days			$75.00	Lodging at school (KSD).
Transportation and fuel costs - 1st site-visit	2 days			$100.00	2 days truck rental KSD
Lodging for ABSN Field Managers - 2nd site visit	2 days			$100.00	Lodging at City
Transportation and fuel costs during 2nd Site-visit	12/18-12/20 2007			$225.00	3 days 4-wheeler rental + 2 days truck rental from Upper TC, (may get billed for this). (9-11-08, never did)
Lodging for ABSN Field Managers - 3rd site visit	3 days			$75.00	Lodging at school (KSD).
Transportation and fuel costs during 3rd Site-visit	2 days			$100.00	2 days truck rental KSD
Lodging for ABSN Field Managers - 4th site visit	3 days			$75.00	Lodging at school (KSD).
Transportation and fuel costs during 4th Site-visit	3 days			$150.00	2 days truck rental KSD, 1 day Upper TC truck rental
KSD-labor		58.00	$15.00	$ 870.00	School facility various T8 lighting upgrades
KSD-labor		35.00	$25.00	$ 875.00	Install 8, T-5 fixtures in Busbarn / bus barn retro kits
KSD-labor		90.00	$25.00	$ 2,250.00	Install 16, T-5 fixtures in HS gym
KSD-labor support for T5 and T8 lighting upgrades - Earl Morgan, local KSD Maint staff		40.00	$20.00	$ 800.00	Various lighting retrofit support
KSD notes:				$ (1,385.00)	KSD is providing all labor In-Kind for their **full time** maintenance staff however they invoiced us for $1,385.00 (92.3 hrs) in Nov '08 financial reporting for their on-call maint staff they had to hire specifically for the projects.
	TOTAL			$ 6,243.00	