

Profiles

Lower Yukon Subregion

Alakanuk, Chevak, Emmonak, Hooper Bay, Kotlik, Marshall, Mountain Village, Nunam Iqua, Pilot Station, Pitkas Point, Russian Mission, Saint Mary's, Scammon Bay

Community Profile: Alakanuk



Incorporation 2nd Class City, 1969

Location
Part of the Lower Yukon Subregion. Located at the east entrance of Alakanuk Pass, the major southern channel of the Yukon River, 15 mi from the Bering Sea. Part of the Yukon Delta National Wildlife Refuge. It lies 162 air miles northwest of Bethel. It is the longest village on the lower Yukon. Approximately 25 homes are threatened by erosion.

Longitude -164.6153 **Latitude** 62.6889

ANCSA Region Calista Corporation

Borough/CA Wade Hampton

School District Lower Yukon School District

AEA Region Lower Yukon-Kuskokwim

Taxes Type (rate)	Per-Capita Revenue
Sales, 4%	\$160

Economy
Alakanuk is a Yup'ik Eskimo village active in commercial fishing and subsistence. The importation, sale and possession of alcohol is banned.

Climate	Avg. Temp.	Climate Zone	Heating Deg. Days
	79/-25	Subarctic	N/A

Natural Hazard Plan
Alakanuk Hazard Mitigation Plan, 2013

Community Plans	Year
N/A	N/A

Alaska Native Name (definition)

"Alakanuk," Wrong Way

Historical Setting / Cultural Resources

Alakanuk is a Yup'ik word meaning "wrong way," aptly applied to a village on this maze of watercourses. The village was first reported by G.R. Putnam of the U.S. Coast & Geodetic Survey in 1899. It was originally settled by a Yup'ik shaman named Anguksuar and his family. A Catholic mission school was built near the village. A post office was established in 1946. In 1948, the school was relocated to St. Mary's, and many families moved from the old school site to Alakanuk.

Local Contacts	Email	Phone	Fax
Alakanuk Native Corporation		907-238-3117	
Village of Alakanuk	clarence@avcp.org	907-238-3419	907-238-3429
City of Alakanuk	cityofauk@yahoo.com	907-238-3313	907-238-3620

Demographics	2000	2010	2013
Population	652	677	Percent of Residents Employed 74.59%
Median Age	21	27	Denali Commission Distressed Community Yes
Avg. Household Size	5	5	Percent Alaska Native/American Indian (2010) 94.98%
Median Household Income		\$33,750	Low and Moderate Income (LMI) Percent (201x) 87%

Electric Utility	Generation Sources	Interties	PCE?
AVEC	Diesel	No	Yes

Landfill	Class	III	Permitted?	No	Location	Near river
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Water/Wastewater System	Homes Served	System Volume
Water Circ	570	10,000-50,000
Sewer Vacuum	Water/Wastewater Energy Audit?	
Notes	Yes	

Access	Road	No
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Air Access	Alakanuk Airport, gravel, fair condition	Runway 1	4,000'x75'	Runway 2	N/A
	N/A	Runway 3	N/A	Runway 4	N/A

Dock/Port	Yes	Barge Access?	Yes	Ferry Service?	No
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Notes

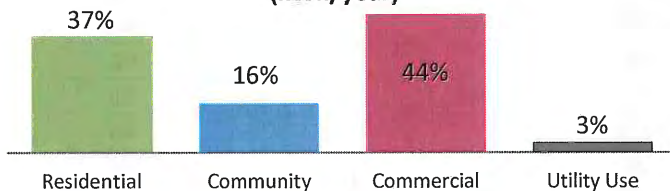
Energy Profile: Alakanuk

Diesel Power System

Utility	AVEC		
Engine	Make/Model	Condition/Hrs	Gen Capacity
Unit 1	Cummins	Fair/15,586	350
Unit 2	Cummins	Fair/19,209	499
Unit 3	Caterpillar	Fair/29,928	350
Unit 4			
Line Loss	3.9%		
Heat Recovery?	Yes; Plant Site Bldgs., Water Plant		
Upgrades	Priority	Projects	Status
RPSU Powerhouse	Med.		
RPSU Distribution	High	Gen., Storage	Planned
Outage History/Known Issues			
Periodic tank farm flooding; Intertie with Emmonak completed			
Operators	No. of Operators	Training/Certifications	
	13	PPO, BFO, APPO	

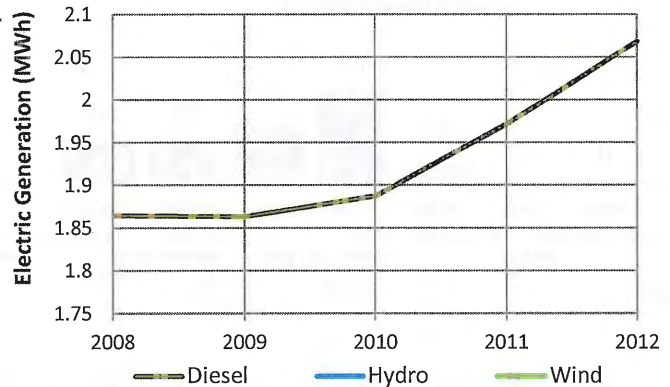
Maintenance Planning (RPSU)	Acceptable		
Electric Sales	No. of Customers	kWh/year	kWh/Customer
Residential	156	789,488	5,061
Community	9	336,933	37,437
Commercial	29	939,714	32,404
Utility Use		69,507	

Electric Sales by Customer Type (kWh/year)



Power Production

Diesel (kWh/yr)	2,222,913	Avg. Load (kW)	266
Wind (kWh/yr)	0	Peak Load (kW)	543
Hydro (kWh/yr)	0	Efficiency (kWh/gal)	13.47
Total (kWh/yr)	2,222,913	Diesel Used (gals/yr)	164,989



Electric Rates (\$/kWh)		Cost per kWh Sold (\$/kWh)	
Rate with PCE	\$0.20	Fuel Cost	\$0.31
Residential Rate	\$0.62	Non-fuel Cost	\$0.27
Commercial Rate		Total Cost	\$0.58
Fuel Prices (\$)	Utility/Wholesale	Retail	Month/Year
Diesel (1 gal)	\$3.84	\$7.08	6-13; 8-14
Other Fuel? (1 gal)			
Gasoline (1 gal)			
Propane (100#)			
Wood (1 cord)			
Pellets			
Discounts?			

Alternative Energy	Potential	Projects	Status
Hydroelectric	Low	None	
Wind Diesel	Medium	Intertie, Emmonak Wind & Transmission, 800kW	Operational
Biomass	Low	None	
Solar	Medium	None	
Geothermal	Low	None	
Oil and Gas	Low	None	
Coal	Low	None	
Emerging Tech	Not Rated	None	
Heat Recovery	Low	Water system & Power plant	Operational
Energy Efficiency	Medium	1) EECBG 2) Street light LED replacement	Both Complete

Bulk Fuel			
Tank Owner	Fuel Type(s)	Capacity	Age/Condition
Native Corp.	Heating Oil	150,000	Good
Native Corp.	Gasoline	150,000	Good
City	Heating Oil	40,000	Good
City	Gasoline	2,000	Good
Native Store	Gas/Diesel	24,000	Good
Bulk Fuel Upgrade	Priority	Project	Status

Purchasing	Deliveries/Year	Gallons/Delivery	Vendor(s)
By Barge			
By Air			
Cooperative Purchasing Agreements			

Notes

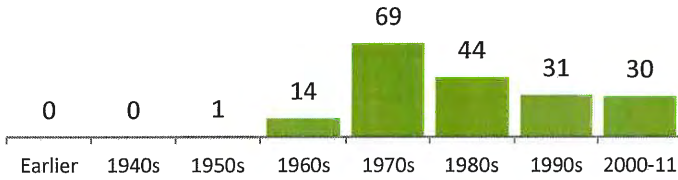
Barge delivery in Spring & Fall to Native Corp, Sept. for City.

Energy Profile: Alakanuk

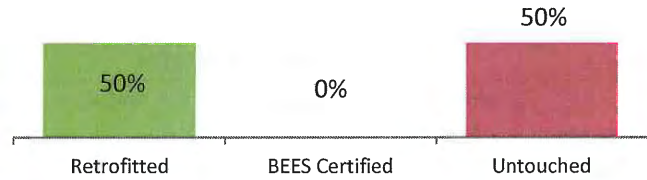
Housing Units	Occupied 144	Vacant 22	% Owner-Occup. 70%
Housing Need	Overcrowded 36.1%		1-star 11.4%
Data Quality	Medium		

Regional Housing Authority	AVCP		
Weatherization Service Provider	AVCP		
Energy Use	Average Home Energy Rating 2-star	Average Square Feet 776	Avg. EUI (kBtu/sf) 167

Age of Housing Stock



Energy Efficient Housing Stock



Lighting	Owner	Number/Type	Retrofitted?	Year	Notes
Street lights		33/HPS	Yes		All replaced with LEDs

Non-residential Building Inventory

Building Name or Location	Year Built	Square Feet	Audited?	Retrofits Done?	In ARIS?
Airport Electrical	2000	96			No
Annex Store	1980	1,600			No
Annex Store Garage	1960	600			No
Annex Store Warehouse	1980	720			No
City Hall		1,250	Yes		No
Corporation Office	1960	960			No
Elementary Classroom Building	1976	9,000	Yes		No
Garage/Maintenance Shop	1998	2,300	Yes		No
Garage/Wood Shop	2003	410			No
Health Clinic		1,737	Yes		No
Native Store	1980	3,128			No
Native Store Warehouse	1960	720			No
Police Dept.		1,200	Yes		Yes
Remote Classroom Building	1965	1,120			No
Sauna & Laundry		4,800			Yes
School	1974	20,000	Yes		No
SREB Bldg.	1993	1,104			Yes
Tribal Offices		4,092	Yes		No
Utility Building	1976	1,440			No
Village Corporation					No
Village Council					No
Washeteria		9,000	Yes		No
Water & Sewer		6,500			Yes
Water Treatment Plant		4,200	Yes		No

Community Profile: Chevak



Alaska Native Name (definition)

"Chevak," A Connecting Slough

Historical Setting / Cultural Resources

Eskimos have inhabited the region for thousands of years. The current location is also known as New Chevak, because residents inhabited another village called Chevak before 1950. "Old" Chevak, on the north bank of the Keoklevik River, 9 miles east of Hooper Bay, was abandoned because of flooding from high storm tides. The name Chevak refers to "a connecting slough," on which "Old" Chevak was situated. The new site was first reported by the U.S. Coast and Geodetic Survey in 1948. A post office was established in 1951. The city government was incorporated in 1967.

Incorporation 2nd Class City, 1967

Location

Part of the Lower Yukon Subregion. Chevak is located on the north bank of the Niglikfak River, 17 miles east of Hooper Bay in the Yukon-Kuskokwim Delta.

Longitude -165.5864 **Latitude** 61.5278

ANCSA Region Calista Corporation

Borough/CA Wade Hampton

School District Kashunamiut School District

AEA Region Lower Yukon-Kuskokwim

Taxes Type (rate) **Per-Capita Revenue**
 Sales, 3% \$150

Economy

Chevak is a Cup'ik Eskimo village. Commercial fishing and subsistence activities are an important part of the local culture.

Climate **Avg. Temp.** **Climate Zone** **Heating Deg. Days**
 79/-25 Maritime 11,568

Natural Hazard Plan

Chevak Hazard Mitigation Plan, 2011

Community Plans **Year**
 Chevak Community Plan, 2009 2009

Local Contacts	Email	Phone	Fax
Chevak Company		907-858-7920	907-858-7311
Chevak Native Village	chevaktc@gmail.com	907-858-7428	907-858-7812
City of Chevak	cityofchevak@yahoo.com	907-858-7128	907-858-7245

Demographics	2000	2010	2013
Population	765	938	Percent of Residents Employed 76.13%
Median Age	18	20	Denali Commission Distressed Community Yes
Avg. Household Size	5	5	Percent Alaska Native/American Indian (2010) 94.88%
Median Household Income		\$37,500	Low and Moderate Income (LMI) Percent (201x) 78%

Electric Utility	Generation Sources	Interties	PCE?
AVEC	Diesel, Wind	No	Yes

Landfill	Class	Permitted?	Location
	III	No	.75 mi west of village

Water/Wastewater System	Homes Served	System Volume
Water Circ	938	10,000-50,000
Sewer Vacuum	Water/Wastewater Energy Audit?	
Notes	Yes	

Access	Road	Air Access	Runway 1	Runway 2
	No	Chevak Airport, gravel, fair condition	3,220'x75'	2,000'x400'
		N/A	Runway 3 N/A	Runway 4 N/A
		Dock/Port No	Barge Access? Yes	Ferry Service? No

Notes

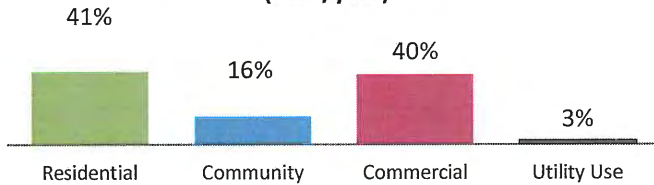
Energy Profile: Chevak

Diesel Power System

Utility	AVEC		
Engine	Make/Model	Condition/Hrs	Gen Capacity
Unit 1	Caterpillar	Good/8,210	505
Unit 2	Cummins	Good/18,123	499
Unit 3	Cummins	Good/11,694	824
Unit 4			
Line Loss	3.3%		
Heat Recovery?	Yes; Plant, AVEC Connex		
Upgrades	Priority	Projects	Status
RPSU Powerhouse	Low	Wind to HR	Planned
RPSU Distribution	Med.		
Outage History/Known Issues			
Only one peak load generator set			
Operators	No. of Operators	Training/Certifications	
	4	BFO, PPO, APPO, Itin BFO	

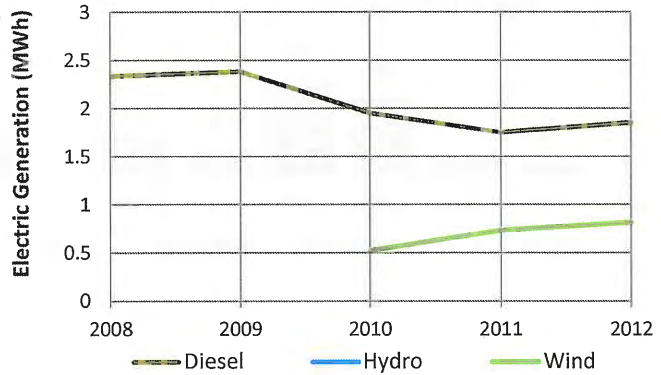
Maintenance Planning (RPSU)	Good		
Electric Sales	No. of Customers	kWh/year	kWh/Customer
Residential	212	1,043,413	4,922
Community	11	406,647	36,968
Commercial	28	1,001,670	35,774
Utility Use	79,386		

Electric Sales by Customer Type (kWh/year)



Power Production

Diesel (kWh/yr)	1,709,307	Avg. Load (kW)	295
Wind (kWh/yr)	908,019	Peak Load (kW)	610
Hydro (kWh/yr)		Efficiency (kWh/gal)	12.65
Total (kWh/yr)	2,617,326	Diesel Used (gals/yr)	136,808



Electric Rates (\$/kWh)		Cost per kWh Sold (\$/kWh)	
Rate with PCE	\$0.19	Fuel Cost	\$0.21
Residential Rate	\$0.53	Non-fuel Cost	\$0.27
Commercial Rate		Total Cost	\$0.48
Fuel Prices (\$)	Utility/Wholesale	Retail	Month/Year
Diesel (1 gal)	\$3.67	\$6.33	6/13; 8/14
Other Fuel? (1 gal)			
Gasoline (1 gal)			
Propane (100#)			
Wood (1 cord)			
Pellets			
Discounts?			

Alternative Energy	Potential	Projects	Status
Hydroelectric	Low	None	
Wind Diesel	High	Chevak Wind, Four 100 kW Turbines	Operational
Biomass	Low	None	
Solar	Medium	None	
Geothermal	Low	None	
Oil and Gas	Low	None	
Coal	Low	None	
Emerging Tech	Not Rated	None	
Heat Recovery	High	Wind to Heat for Chevak Water System	Construction
Energy Efficiency	High	1) Health Clinic EE, 2) VEEP	Both Completed

Bulk Fuel			
Tank Owner	Fuel Type(s)	Capacity	Age/Condition
AVEC	Diesel	310,000	4 yrs/active
Chevak Co. Corp.	Diesel	461,000	4 yrs/good
Water Treatment	unknown	10,000	17 yrs/active
Chevak Co. Corp.	Gasoline	50,000	4 yrs/good
Kashunamiut SD	Diesel	125,000	11 yrs/good
Chevak Co. Corp.	Diesel	27,000	44 yrs/active
Bulk Fuel Upgrade	Priority	Project	Status

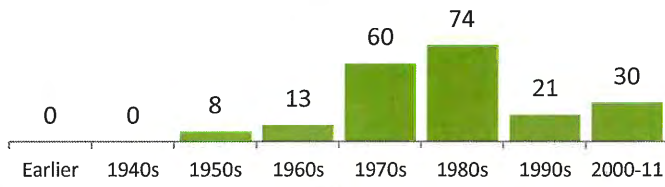
Purchasing	Deliveries/Year	Gallons/Delivery	Vendor(s)
By Barge	Spring & Fall		
By Air			
Cooperative Purchasing Agreements			
Notes			

Energy Profile: Chevak

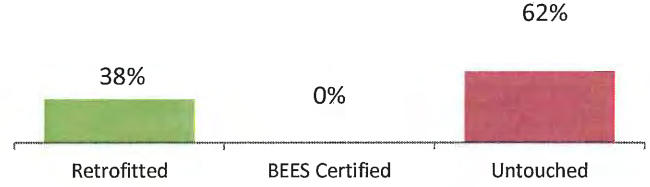
Housing Units	Occupied 182	Vacant 24	% Owner-Occup. 64%
Housing Need	Overcrowded 61.5%		1-star N/A
Data Quality	Low		

Regional Housing Authority	AVCP		
Weatherization Service Provider	AVCP		
Energy Use	Average Home Energy Rating N/A	Average Square Feet N/A	Avg. EUI (kBtu/sf) N/A

Age of Housing Stock



Energy Efficient Housing Stock



Lighting	Owner	Number/Type	Retrofitted?	Year	Notes
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Non-residential Building Inventory

Building Name or Location	Year Built	Square Feet	Audited?	Retrofits Done?	In ARIS?
CMTRS Building		920	No		Yes
Health Clinic		2,400	No		No
SRE Building #1 (Heated)			No		No
SRE Building #2	2007		No		No
Tribal Office Bldg		2,400	No		Yes
Vacuum Plant		816	No		Yes
Water Plant		1,768	No		No

Community Profile: Emmonak



Alaska Native Name (definition)

"Emmonak," Black Fish

Historical Setting / Cultural Resources

The village was originally called "Kwiguk." Villagers call themselves "Kuigpagmuit" or "people from the Yukon River." It has also been called "Emanguk" by the Census Bureau. The original settlement was 1.4 miles south of its present location and was first reported by the U.S. Coast and Geodetic Survey in 1899. Later, commercial fishing became a major industry in the village, and the Northern Commercial Company built a cannery. In 1964, the cannery was washed away by floods. Due to increasing flooding and erosion, the village was relocated 1.4 miles north of Kwiguk in 1964-65. The new location was renamed Emmonak, which means "blackfish."

Incorporation 2nd Class City, 1964

Location

Part of the Lower Yukon Subregion. Emmonak is located at the mouth of the Yukon River, 10 miles from the Bering Sea, on the north bank of Kwiguk Pass. It lies 120 air miles northwest of Bethel and 490 air miles from Anchorage, in the Yukon Delta National Wildlife Refuge.

Longitude -164.5231 **Latitude** 62.7778

ANCSA Region Calista Corporation

Borough/CA Wade Hampton

School District Lower Yukon School District

AEA Region Lower Yukon-Kuskokwim

Taxes Type (rate) **Per-Capita Revenue**
Sales, 3% \$290

Economy

Emmonak is a Yup'ik Eskimo village involved in commercial fishing, processing, and subsistence activities. The sale, importation, and possession of alcohol is banned.

Climate **Avg. Temp.** **Climate Zone** **Heating Deg. Days**
79/-25 Maritime N/A

Natural Hazard Plan

Local Hazards Mitgation Plan, 2008

Community Plans **Year**
N/A N/A

Local Contacts	Email	Phone	Fax
Emmonak Corporation		907-949-1129	907-949-1415
Emmonak Village	emktribal@hughes.net	907-949-1720	907-949-1384
City of Emmonak	emkcity@gmail.com	907-949-1227	907-949-1926

Demographics	2000	2010	2013
Population	767	762	Percent of Residents Employed 68.14%
Median Age	23	22	Denali Commission Distressed Community No
Avg. Household Size	5	5	Percent Alaska Native/American Indian (2010) 96.33%
Median Household Income		\$60,694	Low and Moderate Income (LMI) Percent (201x) 69%

Electric Utility	Generation Sources	Interties	PCE?
AVEC	Diesel	No	Yes

Landfill	Class	Permitted?	No	Location	380 feet from Yukon River bank
	III				

Water/Wastewater System	Homes Served	System Volume
Water Circ	820	50,0001-100,000
Sewer Vacuum	Water/Wastewater Energy Audit?	
Notes	Yes	

Access	Road	No	Air Access	Runway 1	4,601'x100'	Runway 2	N/A
			Emmonak Airport, gravel, good condition	Runway 3	N/A	Runway 4	N/A
			N/A	Barge Access?	Yes	Ferry Service?	No

Notes

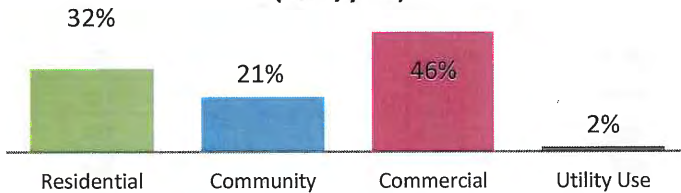
Energy Profile: Emmonak

Diesel Power System

Utility	AVEC		
Engine	Make/Model	Condition/Hrs	Gen Capacity
Unit 1	Caterpillar	Good/0	505
Unit 2	Caterpillar	Fair/7,194	505
Unit 3	Cummins	Fair/1,383	557
Unit 4	Caterpillar	Fair/8,001	908
Line Loss	17.9%		
Heat Recovery?	Yes; Water Plant, AVEC Facility		
Upgrades	Priority	Projects	Status
RPSU Powerhouse	In Progress		
RPSU Distribution	In Progress		
Outage History/Known Issues			
Intertie to Alakanuk			
Operators	No. of Operators	Training/Certifications	
	6	BFO	

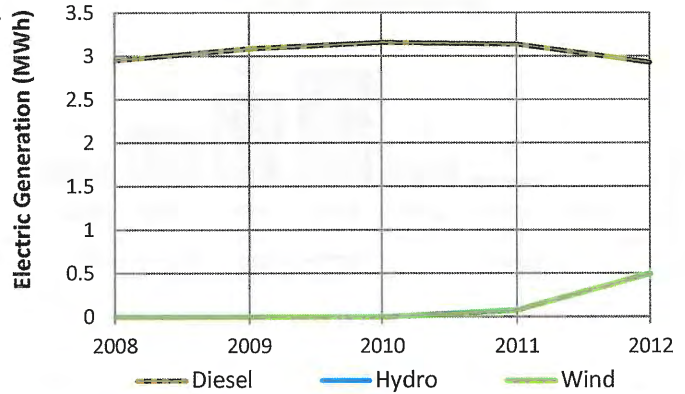
Maintenance Planning (RPSU)	Good		
Electric Sales	No. of Customers	kWh/year	kWh/Customer
Residential	218	1,117,335	5,125
Community	12	735,417	61,285
Commercial	59	1,610,920	27,304
Utility Use		68,834	

**Electric Sales by Customer Type
(kWh/year)**



Power Production

Diesel (kWh/yr)	3,046,790	Avg. Load (kW)	430
Wind (kWh/yr)	611,365	Peak Load (kW)	751
Hydro (kWh/yr)	0	Efficiency (kWh/gal)	13.04
Total (kWh/yr)	3,658,155	Diesel Used (gals/yr)	233,567



Electric Rates (\$/kWh)		Cost per kWh Sold (\$/kWh)	
Rate with PCE	\$0.35	Fuel Cost	\$0.35
Residential Rate	\$0.67	Non-fuel Cost	\$0.13
Commercial Rate		Total Cost	\$0.48
Fuel Prices (\$)	Utility/Wholesale	Retail	Month/Year
Diesel (1 gal)	\$3.84	\$6.14	6-13; 8-14
Other Fuel? (1 gal)			
Gasoline (1 gal)			
Propane (100#)		\$166.19	
Wood (1 cord)			
Pellets			
Discounts?			

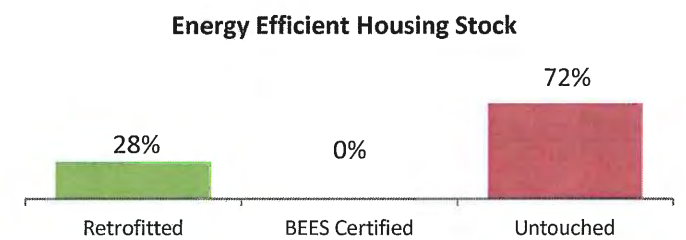
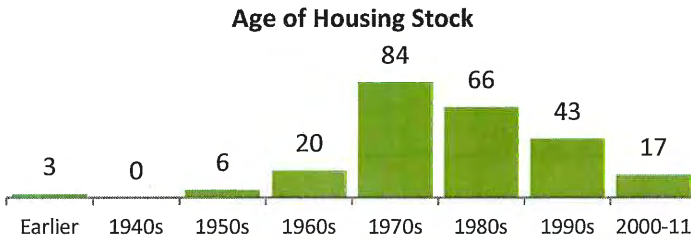
Alternative Energy	Potential	Projects	Status
Hydroelectric	Low	None	
Wind Diesel	Medium	Emmonak Wind & Transmission, 800kW	Operational
Biomass	Medium	None	
Solar	Medium	None	
Geothermal	Low	None	
Oil and Gas	Low	None	
Coal	Low	None	
Emerging Tech	Not Rated	None	
Heat Recovery	Low	Heat Recovery System	Construction
Energy Efficiency	High	1) EECSB 2) ANTHC Sanitation EE	1) Complete 2) Active

Bulk Fuel				Purchasing	Deliveries/Year	Gallons/Delivery	Vendor(s)
Tank Owner	Fuel Type(s)	Capacity	Age/Condition	By Barge			
City	Heating Oil	60,000	Good	By Air			
City	Gasoline	10,000	Good	Cooperative Purchasing Agreements			
Emmonak Corp.	Heating Oil	150,000	Good	Notes			
Emmonak Corp.	Gasoline	200,000	Good	Bulk fuel upgrades planned; Pump tank farm delivery in Fall for City, Spring and Fall for Corp.			
Bulk Fuel Upgrade	Priority	Project	Status				

Energy Profile: Emmonak

Housing Units	Occupied	Vacant	% Owner-Occup.
	199	40	71%
Housing Need		Overcrowded	1-star
		52.3%	3.8%
Data Quality	Medium		

Regional Housing Authority	Weatherization Service Provider		
AVCP	AVCP		
Energy Use	Average Home Energy Rating	Average Square Feet	Avg. EUI (kBtu/sf)
	2-star	760	181



Lighting	Owner	Number/Type	Retrofitted?	Year	Notes
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Non-residential Building Inventory

Building Name or Location	Year Built	Square Feet	Audited?	Retrofits Done?	In ARIS?
City Hall/Hotel/Community Center		4,210	Yes		No
Community Center		8,245			Yes
Emmonak Area Office	2005	1,161			Yes
Emmonak Armory					Yes
Emmonak Bunkhouse	2009	1,620			Yes
Emmonak Store	2001	11,200			Yes
Generator Building/Adjacent Container	1975				No
High School Building & Administration	1975				No
Native Village Office		2,400	Yes		No
Office/Bunkhouse		11,895			Yes
Old ADFG Bunkhouse	1970	750			No
Old ADFG Office	1970	400			No
Police Dept.		2,400	Yes		No
Post Office					No
Power Plant					No
Public Safety Bldg.		2,635			Yes
Public Works		2,400	Yes		No
School	1993	20,000	Yes		No
SREB Bldg	1984	1,600			Yes
Sub Gas Station 2 - Tank Facility	2001				No
Walk-in Freezer - High School	1988				No
Warm Storage 2	1987				No
Warm Storage	1985				No
Washeteria	1990	2,573	Yes		No
Water Treatment Plant		2,379	Yes		No

Community Profile: Hooper Bay



Alaska Native Name (definition)

N/A

Historical Setting / Cultural Resources

"Askinuk" or "Askinaghamiut" are the early Eskimo names for Hooper Bay. The village was first reported in 1878 by E.W. Nelson of the U.S. Signal Service. The 1890 Census found 138 persons living in 14 homes. The name Hooper Bay came into common usage after a post office with this name was established in 1934. The present-day Eskimo name "Naparyarmiut" is derived from the Napareayak slough - thus the Yupik village name Naparyarmiut means residents of Hooper Bay. The city government was incorporated in 1966.

Incorporation 2nd Class City, 1966

Location

Part of the Lower Yukon Subregion. Located 20 mi. south of Cape Romanzof and 25 mi. south of Scammon Bay in the Yukon-Kuskokwim Delta. The city is separated into two sections: a heavily built-up townsite on the hills and a newer section in the lowlands. Hooper Bay is located 500 miles west of Anchorage.

Longitude -166.6294 **Latitude** 61.5311

ANCSA Region Calista Corporation

Borough/CA Wade Hampton

School District Kashunamiut School District

AEA Region Lower Yukon-Kuskokwim

Taxes	Type (rate)	Per-Capita Revenue
Sales, 4%		\$220

Economy

Hooper Bay is a large traditional Yup'ik Eskimo community. Commercial fishing and subsistence activities are the primary means of support.

Climate	Avg. Temp.	Climate Zone	Heating Deg. Days
	79/-25	Maritime	11,061

Natural Hazard Plan

Local Hazards Mitgation Plan, 2007

Community Plans

	Year
Hooper Bay Community Plan, 2006	2006

Local Contacts	Email	Phone	Fax
Sea Lion Corporation		907-758-4415	907-758-4815
Native Village of Hooper Bay	nvhpbb@yahoo.com	907-758-4915	907-758-4066
City of Hooper Bay	cityhpbb@gmail.com	907-758-4311	907-758-4761

Demographics	2000	2010	2013
Population	1014	1093	
Median Age	19	21	
Avg. Household Size	5	5	
Median Household Income		\$37,159	
			Percent of Residents Employed 70.21%
			Denali Commission Distressed Community Yes
			Percent Alaska Native/American Indian (2010) 94.60%
			Low and Moderate Income (LMI) Percent (201x) 79%

Electric Utility	Generation Sources	Interties	PCE?
AVEC	Diesel	No	Yes

Landfill	Class	III	Permitted?	No	Location	Adjacent to sewage lagoon
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Water/Wastewater System		Homes Served	System Volume
Water	Washeteria	1200	50,001-100,000
Sewer	Honey Bucket		
Notes		Water/Wastewater Energy Audit?	
		Yes	

Access		Runway 1	3,300'x75'	Runway 2	N/A
Road	No	Runway 3	N/A	Runway 4	N/A
Air Access	Hooper Bay Airport, gravel, poor condition	Barge Access?	Yes	Ferry Service?	No
	N/A				
Dock/Port	Yes				

Notes

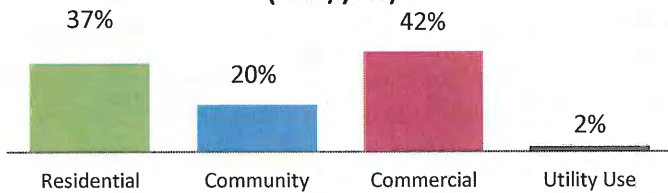
Energy Profile: Hooper Bay

Diesel Power System

Utility	AVEC		
Engine	Make/Model	Condition/Hrs	Gen Capacity
Unit 1	Caterpillar	Fair/24,866	350
Unit 2	Caterpillar	Fair/1,763	505
Unit 3	Cummins	Fair/1,969	557
Unit 4	Cummins	Fair/16,561	824
Line Loss	3.3%		
Heat Recovery?	Yes; AVEC Bunk House, Connexes, Plant		
Upgrades	Priority	Projects	Status
RPSU Powerhouse	High		
RPSU Distribution	High		
Outage History/Known Issues			
No fireproof control module, high station energy consumption			
Operators	No. of Operators	Training/Certifications	
	1	PPO	

Maintenance Planning (RPSU)	Good		
Electric Sales	No. of Customers	kWh/year	kWh/Customer
Residential	270	1,207,872	4,474
Community	15	640,195	42,680
Commercial	35	1,362,025	38,915
Utility Use		68,525	

Electric Sales by Customer Type (kWh/year)

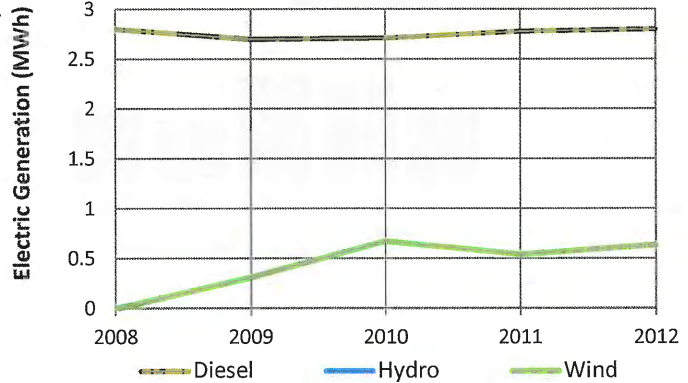


Alternative Energy	Potential	Projects	Status
Hydroelectric	Low	None	
Wind Diesel	High	1) Hooper Wind Farm 300kW 2) Expansion	1) Operational 2) Feasibility
Biomass	Low	None	
Solar	Medium	None	
Geothermal	Low	None	
Oil and Gas	Low	None	
Coal	Low	None	
Emerging Tech	Not Rated	None	
Heat Recovery	High	AVEC Buildings	Operational
Energy Efficiency	High	EECBG	Complete

Bulk Fuel			
Tank Owner	Fuel Type(s)	Capacity	Age/Condition
City Dillingham	Diesel & Gas	406,000	12 yrs/active
City Dillingham	unknown	27,000	4 yrs/active
AVEC	Diesel	211,644	44 yrs/active
Lower Yukon SD	unknown	135,000	9 yrs/active
Lower Yukon SD	unknown	16,000	44 yrs/abandoned
Bulk Fuel Upgrade	Priority	Project	Status

Power Production

Diesel (kWh/yr)	2,675,469	Avg. Load (kW)	380
Wind (kWh/yr)	713,768	Peak Load (kW)	715
Hydro (kWh/yr)		Efficiency (kWh/gal)	16.19
Total (kWh/yr)	3,389,237	Diesel Used (gals/yr)	199,573



Electric Rates (\$/kWh)		Cost per kWh Sold (\$/kWh)	
Rate with PCE	\$0.19	Fuel Cost	\$0.25
Residential Rate	\$0.57	Non-fuel Cost	\$0.27
Commercial Rate		Total Cost	\$0.53
Fuel Prices (\$)	Utility/Wholesale	Retail	Month/Year
Diesel (1 gal)	\$4.17	\$6.90	6/13; 8/14
Other Fuel? (1 gal)			
Gasoline (1 gal)			
Propane (100#)		\$13.88	8/14
Wood (1 cord)			
Pellets			
Discounts?			

Purchasing	Deliveries/Year	Gallons/Delivery	Vendor(s)
By Barge			
By Air			
Cooperative Purchasing Agreements			

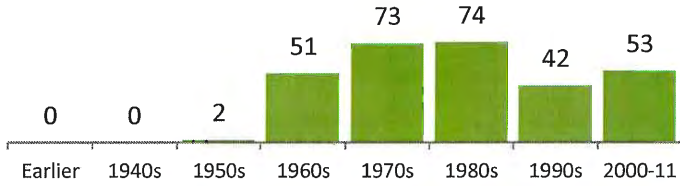
Notes

Energy Profile: Hooper Bay

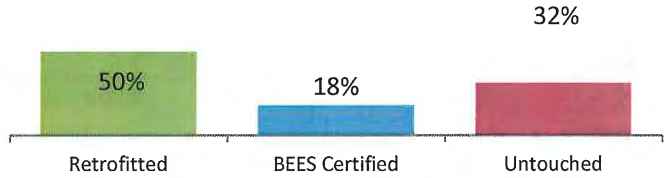
Housing Units	Occupied	Vacant	% Owner-Occup.
	253	12	72%
Housing Need	Overcrowded		1-star
	61.7%		21.1%
Data Quality	Medium		

Regional Housing Authority	Weatherization Service Provider		
AVCP	AVCP		
Energy Use	Average Home Energy Rating	Average Square Feet	Avg. EUI (kBtu/sf)
	2-star	679	124

Age of Housing Stock



Energy Efficient Housing Stock

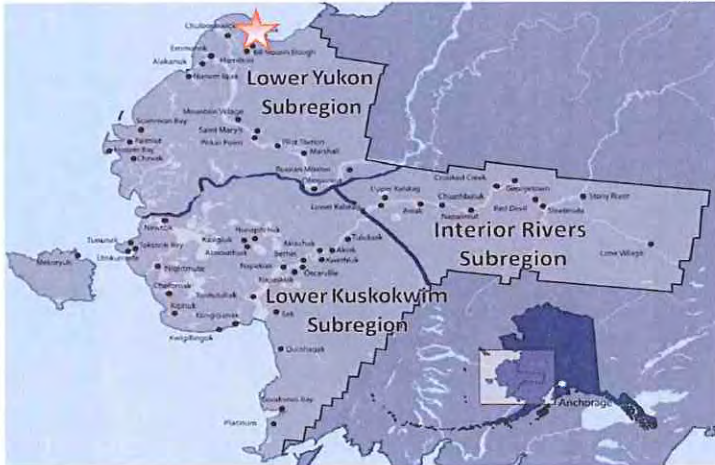


Lighting	Owner	Number/Type	Retrofitted?	Year	Notes

Non-residential Building Inventory

Building Name or Location	Year Built	Square Feet	Audited?	Retrofits Done?	In ARIS?
City of Hooper Bay Public Safety	1980s	2,200	Yes		Yes
City Office	1980	820			Yes
Hooper Bay K-12 School	2005	75,829	Yes, AHFC-C	No	Yes
Hooper Bay SRC		11,800			Yes
Maintenance Shop		19,360			Yes
Old Washeteria	1971	3,500		No	Yes
Public Safety Building	1982	2,570	Yes, AHFC-C	No	Yes
Rippie Rama	1983	1,000			Yes
Washeteria	2007	12,000		No	Yes
Youth and Elder Center		1,440			Yes

Community Profile: Kotlik



Incorporation 2nd Class City, 1970

Location

Part of the Lower Yukon Subregion. Kotlik is located on the east bank of the Kotlik Slough, 35 miles northeast of Emmonak in the Yukon-Kuskokwim Delta. It lies 165 air miles northwest of Bethel and 460 miles from Anchorage.

Longitude -163.5533 **Latitude** 63.0342

ANCSA Region Calista Corporation

Borough/CA Wade Hampton

School District Lower Yukon School District

AEA Region Lower Yukon-Kuskokwim

Taxes	Type (rate)	Per-Capita Revenue
Sales, 3%		\$160

Economy

It is a Yup'ik Eskimo village practicing a fishing, trapping, and subsistence lifestyle. The sale, importation, and possession of alcohol is banned. 276 residents employed: 148 in private sector, 126 in local government, and 2 in state government.

Climate	Avg. Temp.	Climate Zone	Heating Deg. Days
	87/-50	Subarctic	N/A

Natural Hazard Plan

N/A

Community Plans	Year
Kotlik Community Development Plan, 2010	2010

Alaska Native Name (definition)

N/A

Historical Setting / Cultural Resources

The community grew during the mid-1960s when a BIA school was constructed at Kotlik, and residents of the nearby villages of Channiliut, Hamilton, Bill Moore's Slough, and Pastolaik relocated. Due to its location with easy access by large riverboats and barges, Kotlik became one of the larger ports and commercial centers of the lower Yukon River. Many residents are descendants of Russian traders that settled in the area surrounding Saint Michael after 1867.

Local Contacts	Email	Phone	Fax
Kotlik Yupik Corporation		907-899-4014	907-899-4528
Village of Kotlik	rbmsroads@yahoo.com	907-899-4326	907-899-4790
City of Kotlik		907-899-4313	

Demographics	2000	2010	2013
Population	591	577	Percent of Residents Employed 77.92%
Median Age	19	23	Denali Commission Distressed Community Yes
Avg. Household Size	6	5	Percent Alaska Native/American Indian (2010) 97.23%
Median Household Income		\$35,417	Low and Moderate Income (LMI) Percent (201x) 73%

Electric Utility	Generation Sources	Interties	PCE?
AVEC	Diesel	No	Yes

Landfill	Class	Permitted?	Location
	III	No	.75 mi norhtwest of schools

Water/Wastewater System	Homes Served	System Volume
Water N/A	591	10,000-50,000
Sewer Vacuum	Water/Wastewater Energy Audit?	
Notes	No	

Access	Road	Air Access	Runway 1	Runway 2
Road	No	Kotlik Airport, gravel, fair condition	4,400'x100'	N/A
Air Access	N/A		N/A	N/A
Dock/Port	Yes	Barge Access? Yes	Ferry Service? No	

Notes

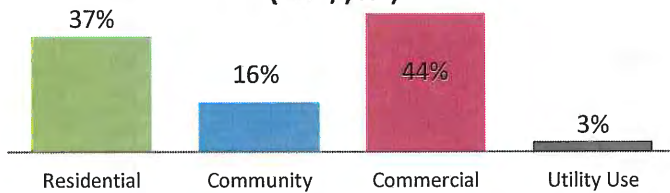
Energy Profile: Kotlik

Diesel Power System

Utility	AVEC		
Engine	Make/Model	Condition/Hrs	Gen Capacity
Unit 1	Cummins	Good/4,920	350
Unit 2	Cummins	Fair/5,575	350
Unit 3	Cummins	Poor/25,645	499
Unit 4	Cummins	Good/25,387	499
Line Loss	3.9%		
Heat Recovery?	Yes; School plant facility		
Upgrades	Priority	Projects	Status
RPSU Powerhouse	Med.		
RPSU Distribution	High		
Outage History/Known Issues	No operators available for routine maintenance according to RPSU.		
Operators	No. of Operators	Training/Certifications	
	12	PPO, Utility Clerk, BFO APPO	

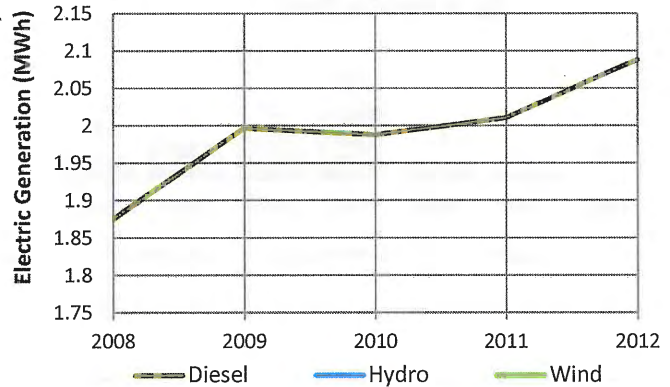
Maintenance Planning (RPSU)	Acceptable		
Electric Sales	No. of Customers	kWh/year	kWh/Customer
Residential	156	783,602	5,023
Community	9	336,933	37,437
Commercial	29	939,714	32,404
Utility Use		69,507	

Electric Sales by Customer Type (kWh/year)



Power Production

Diesel (kWh/yr)	2,222,913	Avg. Load (kW)	229
Wind (kWh/yr)	0	Peak Load (kW)	484
Hydro (kWh/yr)	0	Efficiency (kWh/gal)	13.47
Total (kWh/yr)	2,222,913	Diesel Used (gals/yr)	164,989



Electric Rates (\$/kWh)		Cost per kWh Sold (\$/kWh)	
Rate with PCE	\$0.20	Fuel Cost	\$0.31
Residential Rate	\$0.62	Non-fuel Cost	\$0.27
Commercial Rate		Total Cost	\$0.58
Fuel Prices (\$)	Utility/Wholesale	Retail	Month/Year
Diesel (1 gal)	\$3.73	\$5.40	6-13; 8-14
Other Fuel? (1 gal)			
Gasoline (1 gal)			
Propane (100#)		\$294.05	8-14
Wood (1 cord)			
Pellets			
Discounts?			

Alternative Energy	Potential	Projects	Status
Hydroelectric	Low	None	
Wind Diesel	Medium	None	
Biomass	Low	None	
Solar	Medium	None	
Geothermal	Low	None	
Oil and Gas	Low	None	
Coal	Low	None	
Emerging Tech	Not Rated	None	
Heat Recovery	Low	Heat Recovery to school	Operational
Energy Efficiency	High	VEEP	Complete

Bulk Fuel	Purchasing	Deliveries/Year	Gallons/Delivery	Vendor(s)
Tank Owner	Fuel Type(s)	Capacity	Age/Condition	
		187,542		

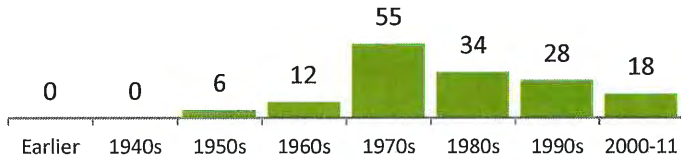
Bulk Fuel Upgrade	Priority	Project	Status	Notes

Energy Profile: Kotlik

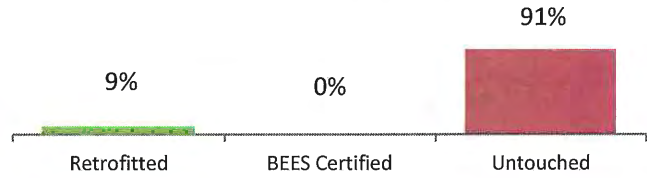
Housing Units	Occupied 145	Vacant 7	% Owner-Occup. 67%
Housing Need	Overcrowded 39.3%		1-star N/A
Data Quality	Low		

Regional Housing Authority	AVCP		
Weatherization Service Provider	AVCP		
Energy Use	Average Home Energy Rating N/A	Average Square Feet N/A	Avg. EUI (kBtu/sf) N/A

Age of Housing Stock



Energy Efficient Housing Stock



Lighting	Owner	Number/Type	Retrofitted?	Year	Notes

Non-residential Building Inventory

Building Name or Location	Year Built	Square Feet	Audited?	Retrofits Done?	In ARIS?
AC Company					No
Airport Maintenance Bldg.					No
Army National Guard					No
BMS Office					No
Cable System Bldg.					No
City Hall		5,000			No
City Lodge					No
Clinic					No
Community Center		4,000			No
Community Hall					No
Corporation Tank Farm Office		320			Yes
Corportation Store		4,966			Yes
Gen. Bldg.					No
Head Start					No
Kotlik K-12 School 1	2002	40,047	Yes		Yes
Kotlik Laufkak					No
Kwipak Inc.					No
Old City Shop					No
Old High School					No
Post Office					No
Public Safety Bldg.					No
Quarters					No
School Shop					No
SREB Bldg		2,200			Yes
Suana/Washeteria					No
Teacher Housing					No
Teen Center	1986	1,560			Yes
Utility Shop					No
Water Pump					No
Water Treatment Plant		4,200			No

Community Profile: Marshall



Alaska Native Name (definition)

N/A

Historical Setting / Cultural Resources

An expedition came upon an Eskimo village called "Uglovaia" at this site in 1880. Gold was discovered on nearby Wilson Creek in 1913. "Fortuna Ledge" became a placer mining camp. Its location on a channel of the Yukon River was convenient for riverboat landings. A post office was established in 1915, and the population grew to over 1,000. Later, the village was named for Thomas Riley Marshall, Vice President of the United States under Woodrow Wilson. The community became known as "Marshall's Landing." It was originally named Fortuna Ledge but was officially changed to Marshall in 1984.

Incorporation 2nd Class City, 1970

Location

Part of the Lower Yukon Subregion. Marshall is located on the north bank of Polte Slough, north of Arbor Island, on the east bank of the Yukon River in the Yukon-Kuskokwim Delta. It lies on the northeastern boundary of the Yukon Delta National Wildlife Refuge.

Longitude -162.0811 **Latitude** 61.8778

ANCSA Region Calista Corporation

Borough/CA Wade Hampton

School District Lower Yukon School District

AEA Region Lower Yukon-Kuskokwim

Taxes	Type (rate)	Per-Capita Revenue
Sales, 4%		\$260

Economy

Subsistence and fishing-related activities support most residents. The sale, importation and possession of alcohol is banned.

Climate	Avg. Temp.	Climate Zone	Heating Deg. Days
	N/A	Maritime	11,001

Natural Hazard Plan

N/A

Community Plans

N/A

Year

N/A

Local Contacts		Email	Phone	Fax
Maserculiq, Incorporated			907-679-6512	907-679-6740
Native Village of Marshall		john_andrewmlt@gci.net	907-679-6302	907-679-6187
City of Marshall		cityofmarshall@yahoo.com	907-679-8215	907-679-6220
Demographics		2000	2010	2013
Population		349	414	69.16%
Median Age		29	23	
Avg. Household Size		4	5	
Median Household Income			\$37,250	
Electric Utility		Generation Sources		Interties
AVEC		Diesel		No
				PCE?
				Yes
Landfill	Class	Permitted?	No	Location
	III			East bank of Yukon River
Water/Wastewater System			Homes Served	System Volume
Water	Washeteria		308	10,000-50,000
Sewer	Gravity			
Notes			Water/Wastewater Energy Audit?	
			Yes	
Access				
Road	No			
Air Access	Marshall Don Hunter Sr. Airport, gravel, fair condition		Runway 1	3,00'x100'
	N/A		Runway 3	N/A
			Runway 2	N/A
			Runway 4	N/A
Dock/Port	Yes		Barge Access?	Yes
			Ferry Service?	No
Notes				

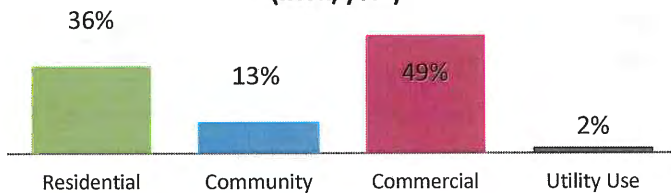
Energy Profile: Marshall

Diesel Power System

Utility	AVEC		
Engine	Make/Model	Condition/Hrs	Gen Capacity
Unit 1	Caterpillar	Fair/4,370	505
Unit 2	Detroit Diesel	Fair/51,066	363
Unit 3	Detroit Diesel	Fair/665	207
Unit 4			
Line Loss	3.1%		
Heat Recovery?	Yes; Water Treatment Plant		
Upgrades	Priority	Projects	Status
RPSU Powerhouse	Med.		
RPSU Distribution	High		
Outage History/Known Issues			
2 outages /year - mechanical reasons. Difficulty synching gen. 1.			
Operators	No. of Operators	Training/Certifications	
	1 (removed)	BFO	

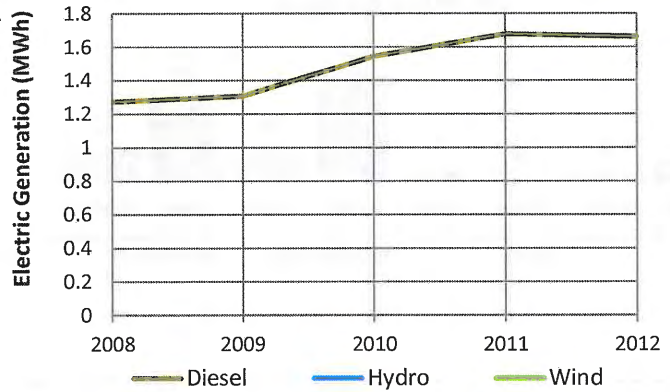
Maintenance Planning (RPSU)	Acceptable		
Electric Sales	No. of Customers	kWh/year	kWh/Customer
Residential	113	590,828	5,229
Community	15	211,618	14,108
Commercial	24	795,543	33,148
Utility Use		36,608	

Electric Sales by Customer Type (kWh/year)



Power Production

Diesel (kWh/yr)	1,687,602	Avg. Load (kW)	185
Wind (kWh/yr)	0	Peak Load (kW)	292
Hydro (kWh/yr)	0	Efficiency (kWh/gal)	12.82
Total (kWh/yr)	1,687,602	Diesel Used (gals/yr)	131,656



Electric Rates (\$/kWh)	Cost per kWh Sold (\$/kWh)		
Rate with PCE	\$0.19	Fuel Cost	\$0.30
Residential Rate	\$0.59	Non-fuel Cost	\$0.27
Commercial Rate		Total Cost	\$0.57

Fuel Prices (\$)	Utility/Wholesale	Retail	Month/Year
Diesel (1 gal)	\$3.59	\$6.65	6-13; 8-14
Other Fuel? (1 gal)			
Gasoline (1 gal)			
Propane (100#)		\$303.33	8-14
Wood (1 cord)			
Pellets			
Discounts?			

Alternative Energy	Potential	Projects	Status
Hydroelectric	Low	None	
Wind Diesel	Medium	MET tower installed 9-28-12, CDR submitted	Feasibility/Design
Biomass	Medium	None	
Solar	Medium	None	
Geothermal	Low	None	
Oil and Gas	Low	None	
Coal	Low	None	
Emerging Tech	Not Rated	None	
Heat Recovery	High	Water Treatment Plant	Operational
Energy Efficiency	High	1) Sanitation EE 2) Health Clinic EE	1) Funded, 2) Complete

Bulk Fuel			
Tank Owner	Fuel Type(s)	Capacity	Age/Condition
City	Heating Oil	15,000	
Village	Heating Oil	51,600	Good
Village	Gasoline	50,000	Good
Bulk Fuel Upgrade	Priority	Project	Status

Purchasing	Deliveries/Year	Gallons/Delivery	Vendor(s)
By Barge			
By Air			
Cooperative Purchasing Agreements			

Notes
Barge delivery in June & Sept.

Community Profile: Mountain Village



Alaska Native Name (definition)

Asa'carsarmiut

Historical Setting / Cultural Resources

Mountain Village was a summer fish camp until the opening of a general store in 1908. This prompted residents of Liberty Landing and Johnny's Place to immigrate. A Covenant Church missionary school was also built in that same year. A post office was established in 1923, followed by a salmon saltery in 1956 and a cannery in 1964. All three have since ceased operating. Mountain Village became a regional education center in 1976 when it was selected as headquarters for the Lower Yukon School District.

Incorporation 2nd Class City, 1967

Location

Part of the Lower Yukon Subregion. Mountain Village is on the north bank of the Yukon River, approximately 20 miles west of St. Mary's and 470 miles northwest of Anchorage. It is at the foot of the 500' Azachorok Mountain, the first mountain encountered by those traveling up the Yukon.

Longitude -163.7294 **Latitude** 62.0856

ANCSA Region Calista Corporation

Borough/CA Wade Hampton

School District Lower Yukon School District

AEA Region Lower Yukon-Kuskokwim

Taxes	Type (rate)	Per-Capita Revenue
Sales, 3%		N/A

Economy

It is a Yup'ik Eskimo community with traditional subsistence practices. Commercial fishing and fish processing provide income. The sale and importation of alcohol is banned. 368 residents employed: 150 in private sector, 215 in local government, and 3 in state government.

Climate	Avg. Temp.	Climate Zone	Heating Deg. Days
	80/-44	Continental	7,520

Natural Hazard Plan

N/A

Community Plans	Year
Comprehensive Community Development Plan, 2002	2002

Local Contacts	Email	Phone	Fax
Azachorok Incorporated; P.O. Box 322		907-591-2527	907-591-2127
Asa'carsarmiut Tribe	atcoperations@gci.net	907-591-2814	907-591-2811
City of Mountain Village	cityofmtn@yahoo.com	907-591-2929	907-591-2920

Demographics	2000	2010	2013
Population	755	813	Percent of Residents Employed 74.59%
Median Age	24	24	Denali Commission Distressed Community Yes
Avg. Household Size	5	5	Percent Alaska Native/American Indian (2010) 91.88%
Median Household Income		\$50,769	Low and Moderate Income (LMI) Percent (201x) 75%

Electric Utility	Generation Sources	Interties	PCE?
AVEC	Diesel	No	Yes

Landfill	Class	Permitted?	Location
	III	No	650 feet from Yukon River

Water/Wastewater System		Homes Served	System Volume
Water	Circ	850	N/A
Sewer	Gravity	Water/Wastewater Energy Audit?	
Notes		Yes	

Access	Road
	No

Air Access	Mountain Village Airport, gravel, fair condition	Runway 1	3,501'x75'	Runway 2	N/A
	N/A	Runway 3	N/A	Runway 4	N/A

Dock/Port	Yes	Barge Access?	Yes	Ferry Service?	No
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Notes

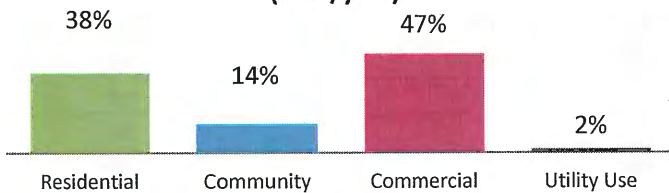
Energy Profile: Mountain Village

Diesel Power System

Utility	AVEC		
Engine	Make/Model	Condition/Hrs	Gen Capacity
Unit 1	Caterpillar	Fair/51,269	350
Unit 2	Caterpillar	Fair/9,162	505
Unit 3	Caterpillar	Fair/9,698	601
Unit 4	MTU	Fair/313	710
Line Loss	4.2%		
Heat Recovery?	Yes; Power House Bldgs.		
Upgrades	Priority	Projects	Status
RPSU Powerhouse	Med.		
RPSU Distribution	High		
Outage History/Known Issues			
1-2 outages /year. Gen. 1 becoming too small for use. Minor leaks			
Operators	No. of Operators	Training/Certifications	
	No record		

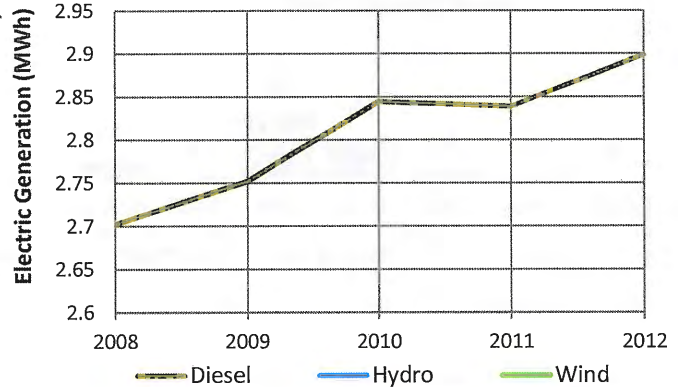
Maintenance Planning (RPSU)	Acceptable		
Electric Sales	No. of Customers	kWh/year	kWh/Customer
Residential	194	1,080,225	5,568
Community	19	390,640	20,560
Commercial	30	1,336,310	44,544
Utility Use		49,268	

Electric Sales by Customer Type
(kWh/year)



Power Production

Diesel (kWh/yr)	2,983,169	Avg. Load (kW)	338
Wind (kWh/yr)	0	Peak Load (kW)	600
Hydro (kWh/yr)	0	Efficiency (kWh/gal)	12.89
Total (kWh/yr)	2,983,169	Diesel Used (gals/yr)	231,402



Electric Rates (\$/kWh)		Cost per kWh Sold (\$/kWh)	
Rate with PCE	\$0.60	Fuel Cost	
Residential Rate	\$0.19	Non-fuel Cost	
Commercial Rate		Total Cost	\$0.00
Fuel Prices (\$)	Utility/Wholesale	Retail	Month/Year
Diesel (1 gal)	\$3.84	\$6.85	6-13; 8-14
Other Fuel? (1 gal)			
Gasoline (1 gal)			
Propane (100#)		\$251.43	8-14
Wood (1 cord)			
Pellets			
Discounts?			

Alternative Energy	Potential	Projects	Status
Hydroelectric	Low	None	
Wind Diesel	Medium	Wind Feasibility Study & MET Tower	Data collection underway
Biomass	Low	None	
Solar	Medium	None	
Geothermal	Low	None	
Oil and Gas	Low	None	
Coal	Low	None	
Emerging Tech	Not Rated	None	
Heat Recovery	Low	AVEC Buildings	Operational
Energy Efficiency	High	None	

Bulk Fuel			
Tank Owner	Fuel Type(s)	Capacity	Age/Condition
City	Heating Oil	30,000	Good
City	Gasoline	3,000	Good

Purchasing	Deliveries/Year	Gallons/Delivery	Vendor(s)
By Barge	1		
By Air			
Cooperative Purchasing Agreements			

Bulk Fuel Upgrade	Priority	Project	Status

Notes
Barge delivery Aug. 25-30.

Community Profile: Nunam Iqua



Alaska Native Name (definition)

"Nunam Iqua," End of the Tundra

Historical Setting / Cultural Resources

Nunam Iqua was historically the location of summer fish camps, due to its location near the Black River. In Yup'ik, the name means "end of the tundra." A man called Sheldon owned and operated a fish saltery at the site in the late 30s and early 40s. The saltery was later operated by Northern Commercial Company. The village was first measured in 1950 by the U.S. Census, which recorded a population of 43 residents. The City of Sheldon Point was formed in 1974. In November 1999, residents voted to change the city name to the City of Nunam Iqua.

Incorporation 2nd Class City, 1974

Location

Part of the Lower Yukon Subregion. Nunam Iqua is on a south fork of the Yukon River, about 9 miles south of Alakanuk and 18 miles southwest of Emmonak on the Yukon-Kuskokwim Delta. It lies 500 miles northwest of Anchorage.

Longitude -164.8411 **Latitude** 62.5336

ANCSA Region Calista Corporation

Borough/CA Wade Hampton

School District Lower Yukon School District

AEA Region Lower Yukon-Kuskokwim

Taxes Type (rate) **Per-Capita Revenue**
Sales, 4% \$0

Economy

Commercial fishing and subsistence activities are the means of support in this Yup'ik Eskimo village. The sale, importation and possession of alcohol is banned. 92 residents employed: 34 in private sector, 57 in local government, and 1 in state government.

Climate **Avg. Temp.** **Climate Zone** **Heating Deg. Days**
78/-25 Maritime N/A

Natural Hazard Plan

Nunam Iqua Hazard Mitigation Plan, 2008

Community Plans

N/A Year N/A

Local Contacts	Email	Phone	Fax
Swan Lake Corporation		907-498-4227	907-498-4242
Native Village of Nunam Iqua	nunamtribe@gmail.com	907-498-4184	907-498-4185
City of Nunam Iqua	cityofnunam@gmail.com	907-498-4226	907-498-4250

Demographics	2000	2010	2013
Population	164	187	
Median Age	18	22	
Avg. Household Size	5	5	
Median Household Income		\$49,000	
			Percent of Residents Employed 81.31%
			Denali Commission Distressed Community Yes
			Percent Alaska Native/American Indian (2010) 91.44%
			Low and Moderate Income (LMI) Percent (201x) 85%

Electric Utility	Generation Sources	Interties	PCE?
Nunam Iqua Electric Company	Diesel	No	Yes

Landfill	Class	III	Permitted?	No	Location	N/A
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Water/Wastewater System			Homes Served	System Volume
Water	Circ		213	10,000-50,000
Sewer	Vacuum			
Notes			Water/Wastewater Energy Audit? Yes	

Access	Road	No	Air Access	Sheldon Point Airport, gravel, fair condition	Runway 1	3,015'x60'	Runway 2	15,000'x2,000'
				N/A	Runway 3	15,000'x2,000'	Runway 4	N/A
			Dock/Port	Yes	Barge Access?	Yes	Ferry Service?	No

Notes

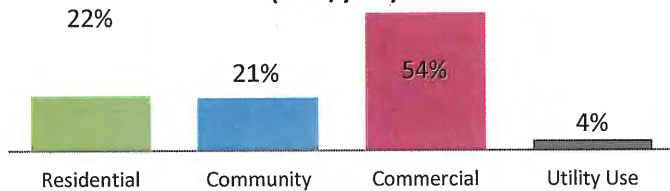
Energy Profile: Nunam Iqua

Diesel Power System

Utility	Nunam Iqua Electric Company		
Engine	Make/Model	Condition/Hrs	Gen Capacity
Unit 1	John Deere	Good/14,162	229
Unit 2	John Deere	Fair/25,084	250
Unit 3	John Deere	Good/13,313	229
Unit 4			
Line Loss	4.5%		
Heat Recovery?	Yes; Water Plant/Sewer Plant		
Upgrades	Priority	Projects	Status
RPSU Powerhouse	Med.		
RPSU Distribution	In Progress		
Outage History/Known Issues			
4 outages due to speed signal loss and breaker trips.			
Operators	No. of Operators	Training/Certifications	
	12	Clerk, PPO, BFO, APPO	

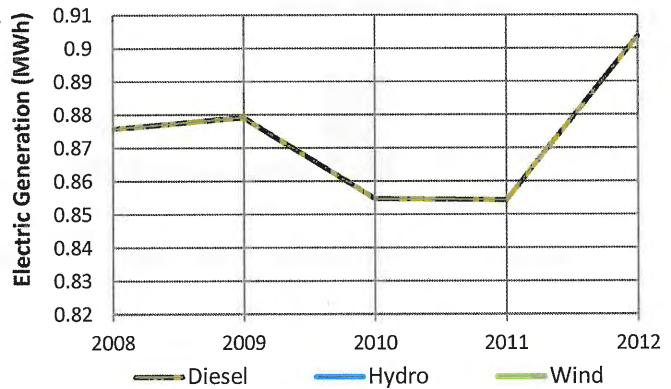
Maintenance Planning (RPSU)	Acceptable		
Electric Sales	No. of Customers	kWh/year	kWh/Customer
Residential	38	187,358	4,930
Community	5	179,262	35,852
Commercial	9	467,529	51,948
Utility Use	34,098		

Electric Sales by Customer Type (kWh/year)



Power Production

Diesel (kWh/yr)	909,433	Avg. Load (kW)	74
Wind (kWh/yr)	0	Peak Load (kW)	163
Hydro (kWh/yr)	0	Efficiency (kWh/gal)	13
Total (kWh/yr)	909,433	Diesel Used (gals/yr)	71,973



Electric Rates (\$/kWh)		Cost per kWh Sold (\$/kWh)	
Rate with PCE	\$0.20	Fuel Cost	\$0.33
Residential Rate	\$0.53	Non-fuel Cost	\$0.13
Commercial Rate		Total Cost	\$0.46
Fuel Prices (\$)	Utility/Wholesale	Retail	Month/Year
Diesel (1 gal)	\$3.81	\$6.76	6-13; 8-14
Other Fuel? (1 gal)			
Gasoline (1 gal)			
Propane (100#)		\$287.62	8-14
Wood (1 cord)			
Pellets			
Discounts?			

Alternative Energy	Potential	Projects	Status
Hydroelectric	Low	None	
Wind Diesel	Medium	Wind Power Assessment	Complete
Biomass	Low	None	
Solar	Medium	None	
Geothermal	Low	None	
Oil and Gas	Low	None	
Coal	Low	None	
Emerging Tech	Not Rated	None	
Heat Recovery	High	Heat Recovery Project	Construction
Energy Efficiency	High	ANTHC Sanitation Energy Efficiency	Active

Bulk Fuel			
Tank Owner	Fuel Type(s)	Capacity	Age/Condition
City		240,000	
City		10,000	
Power Plant	Diesel	17,000	
School Dist.		40,000	
School Dist.	Diesel	3,000	
Bulk Fuel Upgrade	Priority	Project	Status

Purchasing	Deliveries/Year	Gallons/Delivery	Vendor(s)
By Barge			
By Air			
Cooperative Purchasing Agreements			
Notes			

Community Profile: Pilot Station



Incorporation 2nd Class City, 1969

Location

Part of the Lower Yukon Subregion. Pilot Station is located on the northwest bank of the Yukon River, 11 miles east of St. Mary's and 26 miles west of Marshall on the Yukon-Kuskokwim Delta.

Longitude -162.875 **Latitude** 61.9389

ANCSA Region Calista Corporation

Borough/CA Wade Hampton

School District Lower Yukon School District

AEA Region Lower Yukon-Kuskokwim

Taxes	Type (rate)	Per-Capita Revenue
Sales, 4%		\$0

Economy

Pilot Station is a Yup'ik Eskimo village dependent upon a fishing and subsistence lifestyle. The sale and importation of alcohol is banned. 278 residents employed: 131 in private sector, 145 in local government, and 2 in state government.

Climate	Avg. Temp.	Climate Zone	Heating Deg. Days
	83/-44	Maritime	N/A

Natural Hazard Plan

The City of Pilot Station Hazard Mitigation Plan, 2010

Community Plans	Year
Pilot Station Community Development Plan, 2009	2009

Alaska Native Name (definition)

N/A

Historical Setting / Cultural Resources

The village was first called "Ankachak" and was later moved one-third of a mile upriver to a site called "Potiliuk." This village is a designated historic place -- it was occupied during the bow and arrow wars between the Yukon and Coastal Eskimos. According to locals, the Chevak and Pilot Station people periodically fought when the coastal people traveled up the Kashunak River. A Russian Orthodox church was built in the early 1900s and is one of the oldest structures in the region. R.H. Sargent of the U.S. Geological Survey first noted the village name of Pilot Station in 1916.

Local Contacts		Email	Phone	Fax
Pilot Station, Incorporated			907-549-3512	907-549-3234
Pilot Station Traditional Village		mpkelly_963@hotmail.com	907-549-3373	907-549-3301
City of Pilot Station		pqscityoffice@gci.net	907-549-3211	907-549-3014
Demographics		2000	2010	2013
Population		550	568	Percent of Residents Employed 70.20%
Median Age		20	22	Denali Commission Distressed Community Yes
Avg. Household Size		6	5	Percent Alaska Native/American Indian (2010) 98.06%
Median Household Income			\$41,250	Low and Moderate Income (LMI) Percent (201x) 78%
Electric Utility		Generation Sources		Interties
AVEC		Diesel		No
Landfill		Class	Permitted?	Location
		III	No	West end of town
Water/Wastewater System				System Volume
Water	Buried Circ		Homes Served	10,000-50,000
Sewer	N/A		Water/Wastewater Energy Audit?	
Notes				No
Access				
Road	No			
Air Access				
Pilot Station Airport, gravel, poor condition			Runway 1	2,540'x55'
N/A			Runway 3	N/A
N/A			Runway 4	N/A
Dock/Port				
Yes			Barge Access?	Yes
			Ferry Service?	No
Notes				

Energy Profile: Pilot Station

Diesel Power System

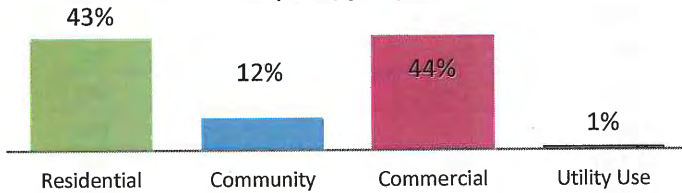
Utility	AVEC		
Engine	Make/Model	Condition/Hrs	Gen Capacity
Unit 1	Cummins	Fair/2,942	397
Unit 2	Cummins	Fair/22,161	499
Unit 3	Detroit Diesel	Fair/4,287	324
Unit 4			
Line Loss	3.5%		
Heat Recovery?	No		
Upgrades	Priority	Projects	Status
RPSU Powerhouse	Med.	Intertie	Planned
RPSU Distribution	Med.		
Outage History/Known Issues			
Plant subject to flooding, Leaking roof, 2-3 outages /year.			

Operators	No. of Operators	Training/Certifications
	10	BFO, PPO, APPO

Maintenance Planning (RPSU) Acceptable

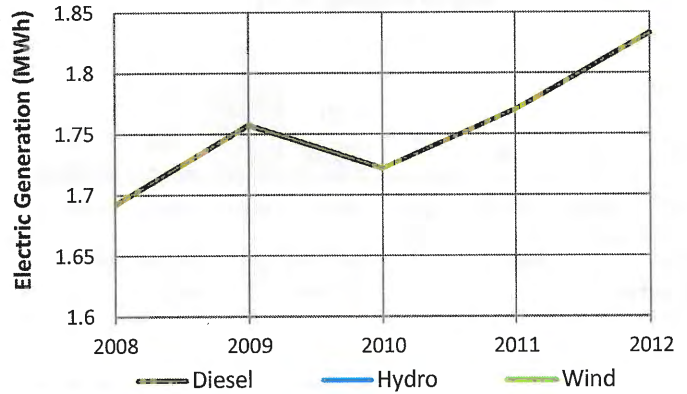
Electric Sales	No. of Customers	kWh/year	kWh/Customer
Residential	136	754,168	5,545
Community	11	219,403	19,946
Commercial	17	769,883	45,287
Utility Use		26,066	

Electric Sales by Customer Type (kWh/year)



Power Production

Diesel (kWh/yr)	1,834,048	Avg. Load (kW)	209
Wind (kWh/yr)	0	Peak Load (kW)	501
Hydro (kWh/yr)	0	Efficiency (kWh/gal)	13.43
Total (kWh/yr)	1,834,048	Diesel Used (gals/yr)	136,551



Electric Rates (\$/kWh)		Cost per kWh Sold (\$/kWh)	
Rate with PCE	\$0.19	Fuel Cost	\$0.28
Residential Rate	\$0.58	Non-fuel Cost	\$0.27
Commercial Rate		Total Cost	\$0.56

Fuel Prices (\$)	Utility/Wholesale	Retail	Month/Year
Diesel (1 gal)	\$3.59	\$7.32	6-13; 8-14
Other Fuel? (1 gal)			
Gasoline (1 gal)			
Propane (100#)		\$327.86	8-14
Wood (1 cord)			
Pellets			
Discounts?			

Alternative Energy	Potential	Projects	Status
Hydroelectric	Low	None	
Wind Diesel	Medium	None	
Biomass	Medium	None	
Solar	Medium	None	
Geothermal	Low	None	
Oil and Gas	Low	None	
Coal	Low	None	
Emerging Tech	Not Rated	None	
Heat Recovery	Medium	None	
Energy Efficiency	Medium	1) Sanitation EE 2) Clinic EE, VEEP, Streetlight LED	1) Active 2) Complete

Bulk Fuel			
Tank Owner	Fuel Type(s)	Capacity	Age/Condition
City	Heating Oil	18,000	
Pilot S. Inc.	Heating Oil	100,000	
AVEC	Diesel	128,529	
School Dist.	Diesel	63,310	
Bulk Fuel Upgrade	Priority	Project	Status

Purchasing	Deliveries/Year	Gallons/Delivery	Vendor(s)
By Barge			
By Air			
Cooperative Purchasing Agreements			

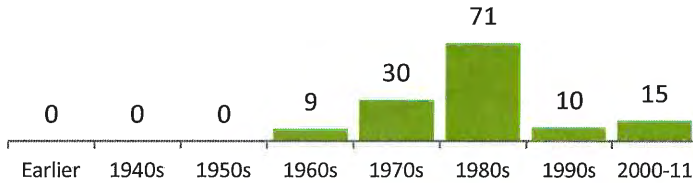
Notes

Energy Profile: Pilot Station

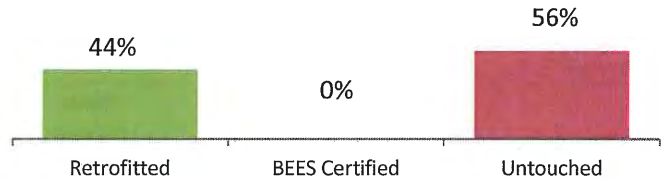
Housing Units	Occupied	Vacant	% Owner-Occup.
	118	13	68%
Housing Need	Overcrowded		1-star
	59.3%		N/A
Data Quality	Low		

Regional Housing Authority	Weatherization Service Provider		
AVCP	AVCP		
Energy Use	Average Home Energy Rating	Average Square Feet	Avg. EUI (kBtu/sf)
	N/A	N/A	N/A

Age of Housing Stock



Energy Efficient Housing Stock



Lighting	Owner	Number/Type	Retrofitted?	Year	Notes
Street lights		53/ HPS	Yes		All replaced with 47 LED lights

Non-residential Building Inventory

Building Name or Location	Year Built	Square Feet	Audited?	Retrofits Done?	In ARIS?
Airport Electrical	2000	96			No
All Bldgs.		9,250			Yes
ATCO Bldg.		1,210	Yes		No
City Office	2008	5,280	Yes		No
Community Center	1984	4,200			Yes
Dome	1982	2,025			Yes
Garage/Maintenance Shop		2,016	Yes		No
Pilot Station Health Clinic		2,295	Yes		Yes
Pilot Station IGAP/ICWA Bldg		600	Yes		Yes
Pilot Station Lift Station		128	Yes		Yes
Public Safety Bldg.	1982	2,025			Yes
School		36,150	Yes		No
SREB Bldg.	1981	1,104			Yes
Temp. Police Station	1970s	1,600	Yes		No
Tutalag Cablevision Office	1970s	144	Yes		No
Water & Sewer System/Water Plant	2005	800	Yes		Yes

Community Profile: Pitka's Point



Incorporation Unincorporated in the Wade Hampton Census Area

Location

Part of the Lower Yukon Subregion. Pitka's Point is located near the junction of the Yukon and Andreafsky Rivers, 5 miles northwest of St. Mary's on the Yukon-Kuskokwim Delta. It lies 3 miles by road from the St. Mary's airport.

Longitude -163.2878 **Latitude** 62.0328

ANCSA Region Calista Corporation

Borough/CA Wade Hampton

School District Lower Yukon School District

AEA Region Lower Yukon-Kuskokwim

Taxes Type (rate) **Per-Capita Revenue**
N/A N/A

Economy

Pitka's Point is a Yup'ik Eskimo village dependent upon a subsistence lifestyle. 43 residents employed, 18 in private sector, 25 in local government, and 0 in state government.

Climate **Avg. Temp.** **Climate Zone** **Heating Deg. Days**
83/-43 Continental/Mariti 12,885

Natural Hazard Plan

N/A

Community Plans

N/A

Year

N/A

Alaska Native Name (definition)

"Nigiklik," To the North

Historical Setting / Cultural Resources

Eskimos who first settled there called it "Nigiklik," a Yup'ik word meaning "to the north." It was first reported in 1898 by the U.S. Geological Survey. The village was later renamed for a trader who opened a general store that was a branch of Northern Commercial Company.

Local Contacts	Email	Phone	Fax
Pitka's Point Native Corporation		907-438-2953	907-438-2276
Native Village of Pitka's Point	pitkaspoint@yahoo.com	907-438-2833	907-438-2569

Demographics	2000	2010	2013
Population	125	109	Percent of Residents Employed 67.28%
Median Age	22	35	Denali Commission Distressed Community Yes
Avg. Household Size	5	4	Percent Alaska Native/American Indian (2010) 97.25%
Median Household Income		\$50,000	Low and Moderate Income (LMI) Percent (201x) N/A

Electric Utility	Generation Sources	Interties	PCE?
AVEC	Diesel	No	Yes

Landfill	Class	Permitted?	No	Location	Road between St. Mary's and Pitka's F
	III				

Water/Wastewater System	Homes Served	System Volume
Water Washeteria	N/A	N/A
Sewer Honey Bucket	Water/Wastewater Energy Audit?	
Notes	Yes	

Access	Road	Air Access	Runway 1	Runway 2	Runway 3	Runway 4	Barge Access?	Ferry Service?
	No	N/A	N/A	N/A	N/A	N/A	Yes	No
		N/A						
Dock/Port	Yes							

Notes

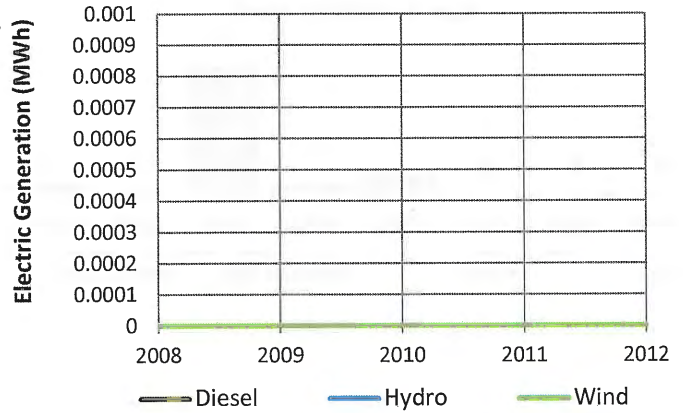
Energy Profile: Pitkas Point

Diesel Power System

Utility	AVEC		
Engine	Make/Model	Condition/Hrs	Gen Capacity
Unit 1	None		
Unit 2			
Unit 3			
Unit 4			
Line Loss	N/A		
Heat Recovery?	N/A		
Upgrades	Priority	Projects	Status
RPSU Powerhouse		Wind Intertie	Planned
RPSU Distribution			
Outage History/Known Issues			
Receives power from St. Mary's via intertie.			
Operators	No. of Operators	Training/Certifications	
	No record		

Power Production

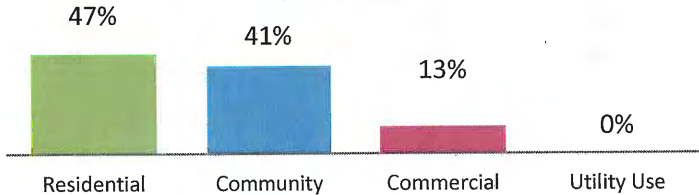
Diesel (kWh/yr)	0 Avg. Load (kW)	35
Wind (kWh/yr)	0 Peak Load (kW)	77
Hydro (kWh/yr)	0 Efficiency (kWh/gal)	N/A
Total (kWh/yr)	0 Diesel Used (gals/yr)	0



Maintenance Planning (RPSU)

Electric Sales	No. of Customers	kWh/year	kWh/Customer
Residential	29	130,482	4,499
Community	6	114,272	19,045
Commercial	4	35,391	8,848
Utility Use		0	

Electric Sales by Customer Type (kWh/year)



Electric Rates (\$/kWh)

Electric Rates (\$/kWh)		Cost per kWh Sold (\$/kWh)	
Rate with PCE	\$0.19	Fuel Cost	N/A
Residential Rate	\$0.59	Non-fuel Cost	\$0.27
Commercial Rate		Total Cost	\$0.27
Fuel Prices (\$)	Utility/Wholesale	Retail	Month/Year
Diesel (1 gal)	\$3.59	\$6.96	6-13; 8-14
Other Fuel? (1 gal)			
Gasoline (1 gal)			
Propane (100#)		\$225.95	8-14
Wood (1 cord)			
Pellets			
Discounts?			

Alternative Energy

Potential	Projects	Status
Hydroelectric	None	
Wind Diesel	Intertie to St. Mary's Wind Generation	Design
Biomass	None	
Solar	None	
Geothermal	None	
Oil and Gas	None	
Coal	None	
Emerging Tech	None	
Heat Recovery	None	
Energy Efficiency	Sanitation Energy Efficiency	Funded

Bulk Fuel

Tank Owner	Fuel Type(s)	Capacity	Age/Condition	Purchasing	Deliveries/Year	Gallons/Delivery	Vendor(s)
				By Barge			
				By Air			
Cooperative Purchasing Agreements							
Notes							

Bulk Fuel Upgrade	Priority	Project	Status

Community Profile: Russian Mission



Alaska Native Name (definition)

"Ikogmiut," People of the Point

Historical Setting / Cultural Resources

The first Russian American Company fur trading post on the Yukon River was established here in 1837. The settlement was recorded in 1842 by the Russian explorer Zagoskin. The first Russian Orthodox mission in Interior Alaska was established here in 1857 by the Russian-Aleut priest Jacob Netzuetov. The mission was called "Pokrovskaya Mission," and the village name was changed to Russian Mission in 1900. It was often confused with a village on the Kuskokwim that was also called "Russian Mission" but was renamed Chuathbaluk.

Incorporation 2nd Class City, 1970

Location

Part of the Lower Yukon Subregion. Russian Mission is located on the west bank of the Yukon River in the Yukon-Kuskokwim Delta, 25 miles southeast of Marshall. It lies 70 air miles northeast of Bethel and 376 miles west of Anchorage.

Longitude -161.3203 **Latitude** 61.7850

ANCSA Region Calista Corporation

Borough/CA Wade Hampton

School District Lower Yukon School District

AEA Region Lower Yukon-Kuskokwim

Taxes Type (rate)	Per-Capita Revenue
Sales, 0%	N/A

Economy

Subsistence is the focus of the culture. The sale and importation of alcohol is banned. 155 residents employed: 84 in private sector, 70 in local government, 1 in state government.

Climate	Avg. Temp.	Climate Zone	Heating Deg. Days
	86/-54	Maritime	11,304

Natural Hazard Plan

Russian Mission Hazard Mitigation Plan, 2013

Community Plans

	Year
Russian Mission Community Plan, 2010	2010

Local Contacts	Email	Phone	Fax
Russian Mission Native Corporation		907-584-5885	907-584-5311
Iqurmiut Traditional Council	iqurmiut71@yahoo.com	907-584-5511	907-584-5593
City of Russian Mission	russianmissioncityof@yahoo.com	907-584-5111	907-584-5476

Demographics	2000	2010	2013
Population	296	312	67.10%
Median Age	19	23	
Avg. Household Size	5	5	
Median Household Income		\$43,125	
Percent of Residents Employed			67.10%
Denali Commission Distressed Community			Yes
Percent Alaska Native/American Indian (2010)			95.83%
Low and Moderate Income (LMI) Percent (201x)			82%

Electric Utility	Generation Sources	Interties	PCE?
AVEC	Diesel	No	Yes

Landfill	Class	III	Permitted?	No	Location	150 feet from post office
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Water/Wastewater System			Homes Served	System Volume
Water	Circ		320	N/A
Sewer	Gravity			
Notes			Water/Wastewater Energy Audit?	
			Yes	

Access

Road	No					
Air Access	Russian Mission Airport, gravel, good condition		Runway 1	3,620'x100'	Runway 2	3,000'x500'
	Kako Airport		Runway 3	2,600'x75'	Runway 4	N/A
Dock/Port	Yes		Barge Access?	Yes	Ferry Service?	No

Notes

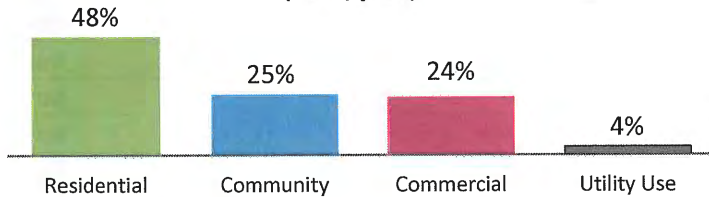
Energy Profile: Russian Mission

Diesel Power System

Utility	AVEC		
Engine	Make/Model	Condition/Hrs	Gen Capacity
Unit 1	Cummins	Fair/3,100	250
Unit 2	Detroit Diesel	Fair/501	363
Unit 3	Detroit Diesel	Fair/21,147	236
Unit 4			
Line Loss		5.7%	
Heat Recovery?		No	
Upgrades	Priority	Projects	Status
RPSU Powerhouse	Med.		
RPSU Distribution	Med.		
Outage History/Known Issues	Inadequate fuel storage capacity.		
Operators	No. of Operators	Training/Certifications	
	No record		

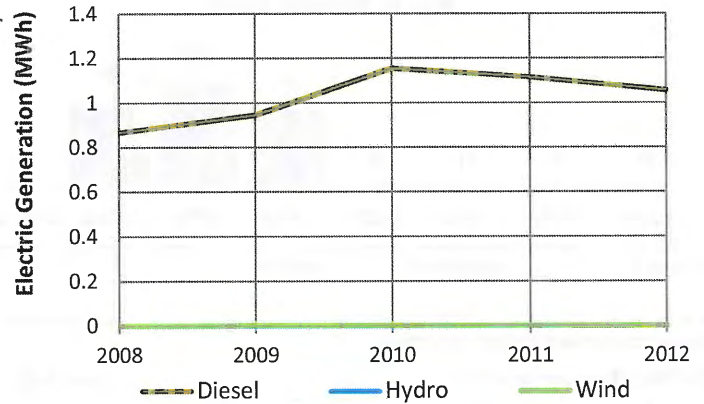
Maintenance Planning (RPSU)	Acceptable		
Electric Sales	No. of Customers	kWh/year	kWh/Customer
Residential	71	367,175	5,171
Community	6	85,079	14,180
Commercial	19	503,131	26,481
Utility Use		17,562	

Electric Sales by Customer Type (kWh/year)



Power Production

Diesel (kWh/yr)	1,031,366	Avg. Load (kW)	118
Wind (kWh/yr)	0	Peak Load (kW)	270
Hydro (kWh/yr)	0	Efficiency (kWh/gal)	14
Total (kWh/yr)	1,031,366	Diesel Used (gals/yr)	75,527



Electric Rates (\$/kWh)		Cost per kWh Sold (\$/kWh)	
Rate with PCE	\$0.19	Fuel Cost	\$0.29
Residential Rate	\$0.60	Non-fuel Cost	\$0.27
Commercial Rate		Total Cost	\$0.56
Fuel Prices (\$)	Utility/Wholesale	Retail	Month/Year
Diesel (1 gal)	\$4.01	\$5.80	6-13; 8-14
Other Fuel (1 gal)	N/A		
Gasoline (1 gal)	N/A		
Propane (100#)		\$205.24	8-14
Wood (1 cord)	N/A		
Pellets	N/A		
Discounts?			

Alternative Energy	Potential	Projects	Status
Hydroelectric	Low	None	
Wind Diesel	Low	None	
Biomass	High	None	
Solar	Medium	None	
Geothermal	Low	None	
Oil and Gas	Low	None	
Coal	Low	None	
Emerging Tech	Not Rated	None	
Heat Recovery	Low	Heat Recovery to WTP & Teacher Housing	Construction
Energy Efficiency	High	1) Sanitation EE 2) Clinic EE	1) Funded 2) Complete

Bulk Fuel			
Tank Owner	Fuel Type(s)	Capacity	Age/Condition
Native Corp.	Heating Oil	30,000	
DOT	Gasoline	5,000	

Purchasing	Deliveries/Year	Gallons/Delivery	Vendor(s)
By Barge			
By Air			
Cooperative Purchasing Agreements			

Bulk Fuel Upgrade	Priority	Project	Status

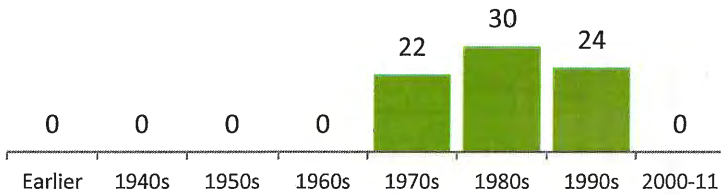
Notes
Barge delivery.

Energy Profile: Russian Mission

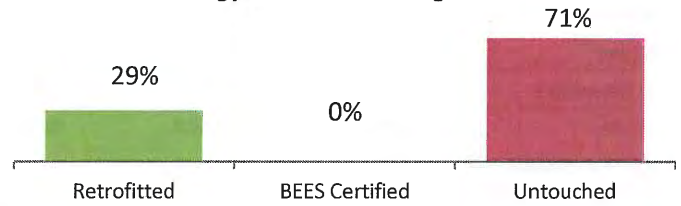
Housing Units	Occupied	Vacant	% Owner-Occup.
	65	11	65%
Housing Need		Overcrowded	1-star
		70.8%	N/A
Data Quality	Low		

Regional Housing Authority	Weatherization Service Provider		
AVCP	AVCP		
Energy Use	Average Home Energy Rating	Average Square Feet	Avg. EUI (kBtu/sf)
	N/A	N/A	N/A

Age of Housing Stock



Energy Efficient Housing Stock



Lighting	Upgraded?	Owner	Notes
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Non-residential Building Inventory

Building Name or Location	Year Built	Square Feet	Audited?	Retrofits Done?	In ARIS?
ANICA Store					No
AVEC Electric Power Plant					No
City Office					No
Clinic	2004	2,068	Yes		Yes
Fire Station					No
Gymnasium					No
K12 School	2010	34,800	Yes		Yes
Old Log Mission Building (vacant)					No
Old Mission					No
Old Post Office					No
Post Office					No
Public Safety/ Bingo Hall					No
Russian Mission Corp. Store					No
Russian Orthodox Church					No
Store					No
United Utilities Telephone					No
Washeteria					No
Water Treatment Plant	1978	944	Yes		Yes

Community Profile: St. Mary's



Alaska Native Name (definition)

"Akulurak ," In Between Place

Historical Setting / Cultural Resources

In 1899, Andreafsky was established as a supply depot and winter headquarters. In 1903, Jesuit missionaries set up a mission 90 miles downriver at "Akulurak." Akulurak was on an island in a slough connecting two arms of the Yukon River. Over the years, the slough surrounding Akulurak silted in severely. In 1948, the villagers decided to move to higher ground. During the 1950s, a number of Yup'ik families moved into the Andreafsky area, only a short distance from the mission. In 1967, the area adjacent to the mission incorporated as the City of St. Mary's, although Andreafsky chose to remain independent.

Incorporation 1st Class City, 1967

Location

Part of the Lower Yukon Subregion. St. Mary's is located on the north bank of the Andreafsky River, 5 miles from its confluence with the Yukon River. It lies 450 air miles west-northwest of Anchorage. The City of St. Mary's encompasses the Yup'ik villages of St. Mary's and Andreafsky.

Longitude -163.1658 **Latitude** 62.0531

ANCSA Region Calista Corporation

Borough/CA Wade Hampton

School District Lower Yukon School District

AEA Region Lower Yukon-Kuskokwim

Taxes Type (rate) **Per-Capita Revenue**
Sales, 3% N/A

Economy

St. Mary's is a Yup'ik Eskimo community that maintains a fishing and subsistence lifestyle. The sale of alcohol is banned. 277 residents employed: 155 in private sector, 115 in local government, and 7 in state government.

Climate **Avg. Temp.** **Climate Zone** **Heating Deg. Days**
83/-44 Continental 12,007

Natural Hazard Plan

City of Saint Mary's Local Multi-Hazard Mitigation Plan

Community Plans

N/A Year N/A

Local Contacts	Email	Phone	Fax
St. Mary's Native Corporation		907-438-2315	907-438-2918
Algaaciq Native Village	algaaciq@yahoo.com	907-438-2932	907-438-2227
City of St. Marys	ksmaccounting@gci.net	907-438-2515	907-438-2716
Demographics	2000	2010	2013
Population	500	507	Percent of Residents Employed 73.52%
Median Age	26	24	Denali Commission Distressed Community No
Avg. Household Size	4	4	Percent Alaska Native/American Indian (2010) 91.52%
Median Household Income		\$40,655	Low and Moderate Income (LMI) Percent (201x) 59%
Electric Utility	Generation Sources	Interties	PCE?
AVEC	Diesel	No	Yes
Landfill	Class	Permitted?	Location
	III	No	Road between St. Mary's and Pitka's F
Water/Wastewater System	Homes Served	System Volume	
Water	Circ	521	50,001-100,000
Sewer	Gravity	Water/Wastewater Energy Audit?	
Notes		Yes	
Access			
Road	No		
Air Access	St. Mary's Airport, gravel, good condition	Runway 1	1,520'x60'
	N/A	Runway 2	6,008'x150'
		Runway 3	N/A
		Runway 4	N/A
Dock/Port	Yes	Barge Access?	Yes
		Ferry Service?	No
Notes			

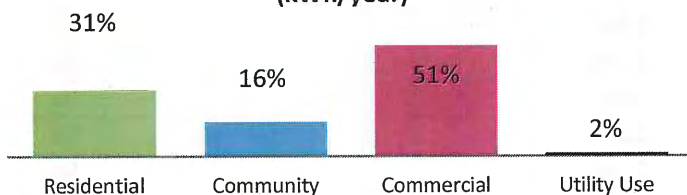
Energy Profile: St. Mary's

Diesel Power System

Utility	AVEC		
Engine	Make/Model	Condition/Hrs	Gen Capacity
Unit 1	Cummins	Fair/28,739	499
Unit 2	Caterpillar	Fair/19,473	611
Unit 3	Caterpillar	Fair/5,480	908
Unit 4			
Line Loss	11.6%		
Heat Recovery?	Yes; City Bldg.		
Upgrades	Priority	Projects	Status
RPSU Powerhouse	Med.		
RPSU Distribution	Med.		
Outage History/Known Issues			
Gen. #3 "sinking". Outages apx. 1-2 times per day. Leaks in bldg.			
Operators	No. of Operators	Training/Certifications	
	2	APPO, PPO	

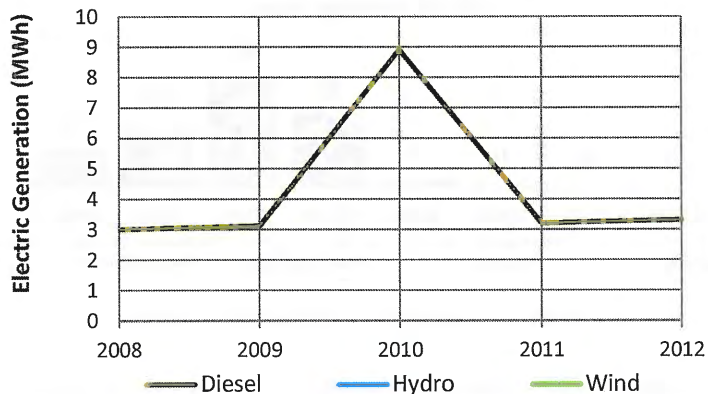
Maintenance Planning (RPSU)	Acceptable		
Electric Sales	No. of Customers	kWh/year	kWh/Customer
Residential	182	892,744	4,905
Community	17	471,804	27,753
Commercial	50	1,481,777	29,636
Utility Use		46,461	

**Electric Sales by Customer Type
(kWh/year)**



Power Production

Diesel (kWh/yr)	3,272,505	Avg. Load (kW)	367
Wind (kWh/yr)	0	Peak Load (kW)	669
Hydro (kWh/yr)	0	Efficiency (kWh/gal)	13
Total (kWh/yr)	3,272,505	Diesel Used (gals/yr)	251,812



Electric Rates (\$/kWh)		Cost per kWh Sold (\$/kWh)	
Rate with PCE	\$0.19	Fuel Cost	\$0.30
Residential Rate	\$0.59	Non-fuel Cost	\$0.27
Commercial Rate		Total Cost	\$0.57
Fuel Prices (\$)	Utility/Wholesale	Retail	Month/Year
Diesel (1 gal)	\$3.59	\$7.17	6-13; 8-14
Other Fuel? (1 gal)			
Gasoline (1 gal)			
Propane (100#)		\$232.62	8-14
Wood (1 cord)			
Pellets			
Discounts?			

Alternative Energy	Potential	Projects	Status
Hydroelectric	Low	None	
Wind Diesel	High	Wind Generation	Final Design
Biomass	Low	None	
Solar	Medium	None	
Geothermal	Low	None	
Oil and Gas	Low	None	
Coal	Low	None	
Emerging Tech	Not Rated	None	
Heat Recovery	Low	Heat Recovery System	Construction
Energy Efficiency	High	None	

Bulk Fuel			
Tank Owner	Fuel Type(s)	Capacity	Age/Condition
City	Heating Oil	12,000	Good
City	Gasoline	4,000	Good
School Dist.	Heating Oil	75,000	
School Dist.	Gasoline	10,000	
Bulk Fuel Upgrade	Priority	Project	Status

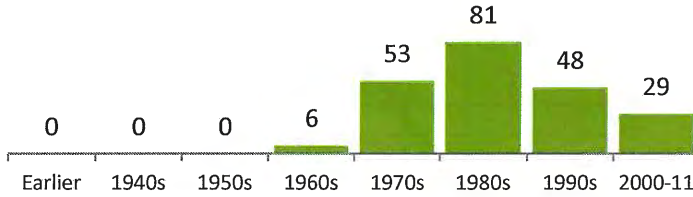
Purchasing	Deliveries/Year	Gallons/Delivery	Vendor(s)
By Barge	3		
By Air			
Cooperative Purchasing Agreements			
Notes			
Barge delivery in June, Sept., Oct.			

Energy Profile: St. Mary's

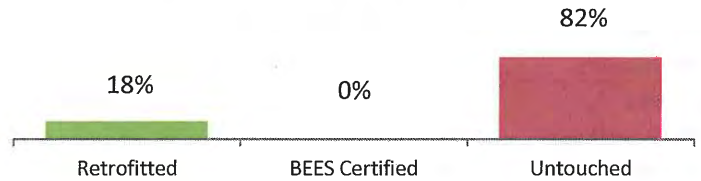
Housing Units	Occupied	Vacant	% Owner-Occup.
	149	54	64%
Housing Need	Overcrowded		1-star
	28.9%		N/A
Data Quality	Medium		

Regional Housing Authority	Weatherization Service Provider		
AVCP	AVCP		
Energy Use	Average Home Energy Rating	Average Square Feet	Avg. EUI (kBtu/sf)
	N/A	N/A	N/A

Age of Housing Stock



Energy Efficient Housing Stock



Lighting	Owner	Number/Type	Retrofitted?	Year	Notes
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Non-residential Building Inventory

Building Name or Location	Year Built	Square Feet	Audited?	Retrofits Done?	In ARIS?
Airport Electrical	2000	96			No
Algaaciq Tribal Office	1980	650	Yes		Yes
ARFF Building	1994	3,200			No
Bunkhouse		2,720			Yes
City Office/Community Center	1970	2,200			No
Cold Storage Building	1980	12,800			No
Equip Storage	1986	2,400			No
Fire/Police Station	1970	1,800			No
Headstart Daycare	1980	2,000			No
Heat Recovery Building	1980	225			No
Living Quarters	1980	1,530			No
Maintenance Shop	1970	2,260			No
Maintenance Shop	1964	2,720			No
Old Library	1980	360			No
Old Post Office	1970	1,800			No
SREB Bldg		3,200			Yes
St. Mary's 3-Bay Shop		2,720			Yes
St. Mary's SRC		10,800			Yes
Town Shop	1992	2,400			No
Utility Pump Station	1995	300			No
Water Treatment Plant/Washeteria	1995	2,160			Yes
Yupiit of Andreafsky	1976	1,920	Yes		No

Community Profile: Scammon Bay



Incorporation 2nd Class City, 1967

Location
Part of the Lower Yukon Subregion. Scammon Bay is on the south bank of the Kun River, one mile from the Bering Sea. It lies to the north of the 2,300-foot Askinuk Mountains on the Yukon-Kuskokwim Delta.

Longitude -165.5817 **Latitude** 61.8428

ANCSA Region Calista Corporation

Borough/CA Wade Hampton

School District Kashunamiut School District

AEA Region Lower Yukon-Kuskokwim

Taxes	Type (rate)	Per-Capita Revenue
Sales, 2%		\$100

Economy
Scammon Bay is a Yup'ik Eskimo community that relies on fishing and subsistence activities. Most residents travel 50 miles to the north to the Black River each summer for fish camp.

Climate	Avg. Temp.	Climate Zone	Heating Deg. Days
	79/-25	Maritime	11,758

Natural Hazard Plan
Scammon Bay Hazard Mitigation Plan, 2013

Community Plans	Year
N/A	N/A

Alaska Native Name (definition)

N/A

Historical Setting / Cultural Resources

It was known in Eskimo as "Maraayaq," and its residents were called "Maraayarmiut." The nearby bay was named after Capt. Charles Scammon, who served as the marine chief of the Western Union Telegraph Expedition from 1856 to 67. The name came into use when the Scammon Bay Post Office was established in 1951. The city government was incorporated in 1967.

Local Contacts	Email	Phone	Fax
Marayarmiut, Inc.			
Native Village of Scammon Bay	admin@marayarmiut.com	907-558-5425	907-558-5134
City of Scammon Bay	cityofscammon@marayarmiut.com	907-558-5529	907-558-5626

Demographics	2000	2010	2013
Population	465	465	Percent of Residents Employed 77.50%
Median Age	19	19	Denali Commission Distressed Community Yes
Avg. Household Size	5	5	Percent Alaska Native/American Indian (2010) 99.37%
Median Household Income		\$36,000	Low and Moderate Income (LMI) Percent (201x) 80%

Electric Utility	Generation Sources	Interties	PCE?
AVEC	Diesel	No	Yes

Landfill	Class	III	Permitted?	No	Location	1/2 mi east of school
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Water/Wastewater System	Homes Served	System Volume
Water Circ	484	10,000-50,000
Sewer Gravity	Water/Wastewater Energy Audit?	
Notes	Yes	

Access	Road	No	Air Access	Scammon Bay Airport, dirt, good condition	Runway 1	3,001'x75'	Runway 2	10,000'x500'
				N/A	Runway 3	N/A	Runway 4	N/A
	Dock/Port	Yes	Barge Access?	Yes	Ferry Service?	No		

Notes

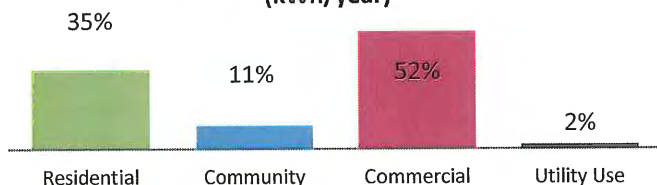
Energy Profile: Scammon Bay

Diesel Power System

Utility	AVEC		
Engine	Make/Model	Condition/Hrs	Gen Capacity
Unit 1	Detroit Diesel	Good/18,903	363
Unit 2	Cummins	Fair/10,628	350
Unit 3	Cummins	Good/65	499
Unit 4			
Line Loss	5.1%		
Heat Recovery?	Yes; AVEC Bunk House and Connex		
Upgrades	Priority	Projects	Status
RPSU Powerhouse	Med.	Bulk Fuel	Planned
RPSU Distribution	High		
Outage History/Known Issues			
Efficiency decreasing & energy consumption increasing			
Operators	No. of Operators	Training/Certifications	
	7	BFO, PPO, APPO, Itin BFO	

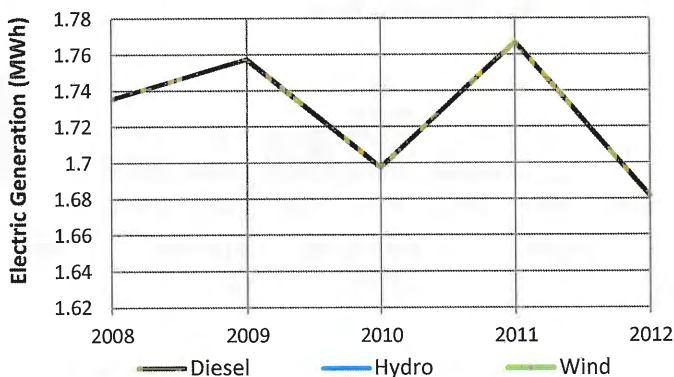
Maintenance Planning (RPSU)	Good		
Electric Sales	No. of Customers	kWh/year	kWh/Customer
Residential	122	561,857	4,605
Community	8	169,622	21,203
Commercial	37	828,934	22,404
Utility Use	31,504		

Electric Sales by Customer Type (kWh/year)



Power Production

Diesel (kWh/yr)	1,676,629	Avg. Load (kW)	185
Wind (kWh/yr)		Peak Load (kW)	363
Hydro (kWh/yr)		Efficiency (kWh/gal)	13.35
Total (kWh/yr)	1,676,629	Diesel Used (gals/yr)	125,610



Electric Rates (\$/kWh)		Cost per kWh Sold (\$/kWh)	
Rate with PCE	\$0.20	Fuel Cost	\$0.29
Residential Rate	\$0.64	Non-fuel Cost	\$0.27
Commercial Rate		Total Cost	\$0.56
Fuel Prices (\$)	Utility/Wholesale	Retail	Month/Year
Diesel (1 gal)	\$4.17	\$7.40	6/13; 8/14
Other Fuel? (1 gal)			
Gasoline (1 gal)			
Propane (100#)		\$355.95	8/14
Wood (1 cord)			
Pellets			
Discounts?			

Alternative Energy Potential	Projects	Status
Hydroelectric	Run of River Hydro, 331 kW	Final Design
Wind Diesel	Medium	Met Tower installed 9-22-12
Biomass	Low	None
Solar	Medium	None
Geothermal	Low	None
Oil and Gas	Low	None
Coal	Low	None
Emerging Tech	Not Rated	None
Heat Recovery	High	AVEC Buildings
Energy Efficiency	Medium	EECBG

Bulk Fuel	Fuel Type(s)	Capacity	Age/Condition
Tank Owner			
Askinuk Corp	Diesel	69,372	30-40 yrs
Askinuk Corp	Gasoline	72,849	30-40 yrs
AVEC	Unknown	60,000	40 yrs/active
Askinuk Corp	Unknown	Unknown	16 yrs/active
Lower Yukon SD	Diesel	60,000	9 yrs/active
Lower Yukon SD	Jet Fuel	18,000	9 yrs/active
Bulk Fuel Upgrade	Priority	Project	Status

Purchasing	Deliveries/Year	Gallons/Delivery	Vendor(s)
By Barge	June-September		
By Air			
Cooperative Purchasing Agreements			

Notes
Tank farm is 30-40 years old; Bulk fuel upgrades planned

Energy Profile: Scammon Bay

Housing Units	Occupied	Vacant	% Owner-Occup.
	108	11	67%

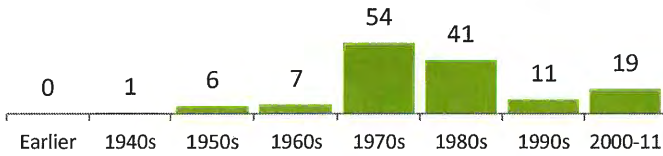
Regional Housing Authority	Weatherization Service Provider
AVCP	AVCP

Housing Need	Overcrowded	1-star
	64.8%	33.0%

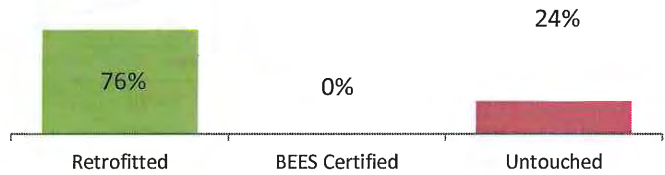
Energy Use	Average Home Energy Rating	Average Square Feet	Avg. EUI (kBtu/sf)
	2-star	718	198

Data Quality	High
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Age of Housing Stock



Energy Efficient Housing Stock



Lighting	Owner	Number/Type	Retrofitted?	Year	Notes
Street lights		32/HPS	Yes		

Non-residential Building Inventory

Building Name or Location	Year Built	Square Feet	Audited?	Retrofits Done?	In ARIS?
Askinuk Corporation Office	1980	480			No
City Office	1980	4,000	Yes, EECBG	No	No
Police Station	1980	2,400			No
Scammon Bay K-12 School	2003 or 2010	54,247	Yes, AHFC-C	No	Yes
SRE Building #1	1992	800			No
SRE Building #2 (Heated)					No