

**ALASKA ENERGY AUTHORITY**  
**VILLAGE POWER SYSTEM ASSESSMENT**

Community: Egegik  
Evaluation Date: May 20, 2012 Time Started 9:00am Completed 5:00pm  
Evaluator(s): John Haase

**\* Indicates that only one from the group shall be chosen. Otherwise choose all that apply**

**Powerhouse Building**

**Site Location**

- ☒ Site suitable for powerhouse
- ☐ < 100 feet from a public well
- ☐ < 25 feet from an eroding bank or beach, or in a flood plain (runoff)

**\* Foundation**

- ☐ Powerhouse on acceptable foundation (pad & post, piling, concrete, etc.)
- ☒ Powerhouse directly on gravel pad or light timbers (raised timbers, on permeable gravel)
- ☐ Powerhouse directly on tundra or natural soils (no foundation)
- ☐ Powerhouse leaning considerably or unstable foundations (seismic hazard)

**\* Flooring**

- ☐ Welded steel deck plate or concrete (sealed)
- ☐ Steel deck plate or concrete (unsealed)
- ☐ Wood (sealed or painted)
- ☒ Wood (non-sealed or bare)

**\* Interior Walls**

- ☒ Concrete or metal skin
- ☐ Fiberglass reinforced paneling (FRP)
- ☐ Gypsum board
- ☐ Wood (painted or sealed)
- ☐ Wood (non-painted or bare)

**\* Exterior Walls**

- ☒ Concrete or metal siding
- ☐ Wood (painted or sealed)
- ☐ Wood (non-painted or bare)

\* Roof Penetration

- ☒ None
- ☐ Properly installed (rain tight)
- ☐ Minor leaks (repairable)
- ☐ Major leaks (not repairable)

\* Ventilation

- ☒ Proper ventilation (air intake & exhaust fans, louvers & hoods)
- ☐ Adequate ventilation (air intake & exhaust fans)
- ☐ Minimum ventilation (air intake)
- ☐ No ventilation (doors or windows have to be left open)

\* Lighting

- ☒ Excellent lighting
- ☐ Adequate lighting
- ☐ Poor lighting
- ☐ No lighting

Security

- ☐ Powerhouse fenced in & door locks
- ☐ Door locks
- ☒ No fence
- ☐ No door locks

**Generator Equipment and Installation**

Diesel Engines

	Unit #1	Unit #2	Unit #3	Unit #4	Unit # 5
kW	200kW	180kW			
Hours of Operation	6323	7660			

\* Generator Condition

	Unit #1	Unit #2	Unit #3	Unit #4	Unit #5
Good, like new	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poor, guards/covers missing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Load Sizing

- ☒ Properly sized generation to meet the community loads
- ☐ Undersized generation to meet the community loads
- ☐ Oversized generation to meet the community loads

\* Load Balance

- ☐ <10% Imbalance
- ☒ 10% to 25% Imbalance
- ☐ >25% Imbalance

\* Control Switchgear

- ☐ Fully automatic synchronizing switchgear
- ☒ Semi-automatic synchronizing switchgear
- ☐ Manually synchronizing switchgear
- ☐ Manual transfer switches
- ☐ Manual mounted breakers

\* Electrical

- ☒ Wiring appears appropriate
- ☐ Exposed wiring, improper grounding, missing covers etc.

\* Fuel System Inside Powerhouse

- ☐ Welded piping
- ☐ Welded & threaded piping
- ☒ Threaded piping
- ☐ Rubber hose

Fuel System Appurtenances

- ☐ No day-tank
- ☐ Additional for active leaks

Totalizing & Station Service Meter

- ☒ Properly installed and working totalizing & station service meter
- ☐ No totalizing meter
- ☐ No station service meter

**\* Fuel Meter**

- ☒ Properly installed & working fuel meter
- ☐ No fuel meter

**Environmental**

**Interior of Powerhouse**

- ☒ Clean, well-kept
- ☐ Old generator part stored inside facility
- ☐ Waste oil stored inside facility
- ☐ Apparent oil spills

**Under Facility**

- ☒ Clean, well-kept
- ☐ Old generator part stored under facility
- ☐ Waste oil stored under facility
- ☐ Apparent oil spills

**Surrounding of Powerhouse**

- ☒ Clean, well-kept
- ☐ Old generator part stored on site
- ☐ Waste oil stored on site
- ☐ Apparent oil spills

**\* Waste Oil Disposal**

- ☐ Waste oil blending system
- ☒ Waste oil incinerator
- ☐ Drum or tank storage for waste oils

**\* Life, Health, & Safety**

- ☒ Code Compliant
- ☐ Low risk
- ☐ Medium risk
- ☐ High risk
- ☐ Potential for loss of life

## Electrical Distribution Line Evaluation

### Overhead Distribution System

#### \* Pole type

- ☐ Fully treated poles
- ☒ Butt treated poles
- ☐ Native pole (trees)

#### \* Pole installation

- ☒ Proper depth (can be determined by the manufacture's mark or button on pole)
- ☐ Within 12 inches of recommended depth
- ☐ Within 24 inches of recommended depth
- ☐ Greater than 24 inches of recommended depth

#### \* Pole alignment

- ☐ Poles straight
- ☐ Poles leaning less than 10°
- ☒ Poles leaning greater than 10°

#### \* Distribution voltage

- ☒ =>7200 volts
- ☐ 2400 volts
- ☐ 480/277 volts
- ☐ 208/120 volts

#### \* Anchors

- ☒ Properly installed (<12 inches of the anchor rod exposed)
- ☐ 12 - 24 inches of the anchor rod exposed
- ☐ >24 inches of the anchor rod exposed

#### \* Primary conductor

- ☒ Appears properly installed (sag, conductor size, etc)
- ☐ Improperly installed (conductor needs resagging, etc)

#### \* Service conductor

- ☒ Appears properly installed (sag, conductor size, etc)
- ☐ Improperly installed (conductor needs resagging, etc)

**\* Meter installation**

- ☒ Appears to be properly installed (height, grounding, etc)
- ☐ Improperly installed (height, no ground, etc)

**\* Meter Condition Residential & Commercial**

- ☒ Good (appears in good condition)
- ☐ Fair (minor corrosion)
- ☐ Poor (major corrosion, needs replacing)

**\* Over all condition of the system**

- ☐ Excellent (no repairs needed)
- ☐ Good (minor repairs, re-sag guys, re-sag service drops, etc.)
- ☒ Poor (major repairs needed, pole, guy, conductor, meter replacement, etc)

**Underground Distribution System**

**\* Primary conductor**

- ☒ Appears to be properly installed
- ☐ Exposed conductor

**\* Transformers**

- ☒ Appears to be properly installed
- ☐ Improperly installed (no pad, leaning, etc)

**\* Service conductor**

- ☒ Appears to be properly installed
- ☐ Exposed conductor

## **Operator Proficiency**

### **\* Meter Reading**

- ☒ Excellent
- ☐ Good
- ☐ Acceptable
- ☐ Unacceptable

### **\* Daily Logs**

- ☒ Excellent
- ☐ Good
- ☐ Acceptable
- ☐ Unacceptable

### **\* Routine Maintenance**

- ☒ Excellent
- ☐ Good
- ☐ Acceptable
- ☐ Unacceptable

### **\* Scheduled Maintenance**

- ☒ Excellent
- ☐ Good
- ☐ Acceptable
- ☐ Unacceptable

### **\* Maintenance Planning**

- ☐ Excellent
- ☒ Good
- ☐ Acceptable
- ☐ Unacceptable

## Waste Heat Recovery

### \* Waste Heat Recovery Operational

☐ Yes

☒ No

List current users

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### \* BTU/Hr Meter

☐ Yes

☒ No

### \* Additional Waste Heat Available

☒ No

☐ Yes

List Potential New Users

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## System Information

Supply / Return Delta T **N/A**

Estimate of current annual heating fuel gallons displaced

**N/A**

Estimate of potential annual heating fuel gallons displaced

**N/A**

Existing Heat Sales Agreement(s)

**N/A**

## General Questions

*Use separate sheet(s) to answer these questions.*

1. If records are available, indicate the number, duration, and causes of all forced outages during the last 12 months. If records are not available, provide whatever reasonable estimates available from utility personnel regarding outages number, duration, and causes. **No Records or info available**



# ALASKA ENERGY AUTHORITY

## VILLAGE POWER SYSTEM INVENTORY

DATE	May 20, 2012	TIME START	9:00a	TIME END	5:00p
COMMUNITY	Egegik	UTILITY	City of Egegik		
OWNERSHIP	City of Egegik	CONTACT	Don Strand		
OPERATOR	Don Strand	PHONE	907-233-2213		

	G-1	G-2	G-3	G-4	G-5
ENGINE MAKE	Mitsubishi	John Deere			
ENGINE MODEL	6D24-TCEB	6068HF485			
ENGINE RPM	1800	1800			
SERIAL NUMBER	6D24-288459	PE6068L058199			
GOVERNOR TYPE	Woodward	JD Electronic			
MODEL ACTUATOR	1724	--			
MODEL SPEED CONTROL	8290-184	--			
DC VOLTAGE	24VDC	12VDC			
UNIT CIRCUIT BREAKER	GE Spectra RMS	GE Spectra RMS			
TYPE/AMP/VOLT	SGHA36AT0400 300A/ 600V	SGHA36AT0400 300A/ 600V			
CURRENT HOURS	6322.8	7659.8			
GENERATOR MAKE	Stamford	Marathon			
GENERATOR MODEL #	HCI444CI	431PSL5205			
GENERATOR SERIAL #	D0000084816	MX124140-0908			
GENERATOR CAPACITY (kW)	200kW	180kW			
GENERATOR VOLTAGE	277/480	277/480			
VOLTAGE REGULATOR, MAKE & MODEL	Newage SX440	Marathon DVR2000E			
PARALLEL SWITCH GEAR (Y or N)	Y	Y			
kWh METER(Yes or No)	Yes				
POWERHOUSE kWh METER TYPE	ABB				
CATALOG # or TYPE	Type A1D / P8200000-AB				
DEMAND ?	-				
CT RATIO	Unknown				
STATION SERVICE METER (Yes or No)	Yes				
STATION SERVICE METER TYPE	Itron				
CATALOG # or TYPE	CL200 / 240V / 3W / Type: C1S 30TA 1.0kh				
BATT. CHARGER/TYPE/MODEL	(#1): SENS / FC24-10 -2011U / (#2): SENS NRG22-10-HC				
FUEL DAY TANK TYPE	Tramont				
PUMP #	Oberdorfer N61K10G01				
MOTOR #	GE Cat: 4406 / Model: 5KH32FN5586X				
FUEL DAY TANK METER	ABB P/N: 92145				
FIRE PROTECTION	Yes				
TYPE/OPERATIONAL?	Fire Extinguisher				
ORIGINAL CONTRACTOR	Precision Power, LLC				