ATTACHMENT A

BULK FUEL ASSESSMENT REPORT

Venetie, Alaska

May 2015

Prepared for:

Alaska Energy Authority

Prepared by:

ERM Alaska, Inc.
825 West 8th Avenue
Anchorage, Alaska 99501

ERM

Date: May 12/13, 2015

Assessor: Will Rhodes (ERM)

Community Name: Venetie, AK

Population: 181

Local Government(s): Village of Venetie, Venetie Tribal Government

Contact Info: Mary Gamboa, Chief, 907-849-8212
Julian Roberts, 907-849-8165

Fuel Suppliers: Everts Air Fuel

Bulk Fuel Storage Facility Info:

When the previous assessment was performed in 1998 three bulk fuel facilities, TF1 through TF3, in the list below were identified and evaluated. TF4 is a new tank farm identified in this assessment. All facilities listed below are eligible for assistance and are included in this report.

TF1. Yukon Flats School District – Venetie School
TF2. Village of Venetie – Electric Power Plant
TF3. Village of Venetie – Retail Sales
TF4. Village of Venetie – Airstrip Fuel Storage

Venetie is located along the Chandalar River approximately 100 miles northwest of Fort Yukon, Alaska. The Village of Venetie produces electricity for the community with diesel-fueled electric generators. The John Fredson School (Venetie School) maintains two emergency backup generators. A heat recovery system is utilized to supply waste heat to the washeteria from the village electric power plant.

Fuel is delivered to Venetie by Everts Air Cargo. No piping exists from the new airstrip to the tank farms within the village. The school receives fuel at the airstrip in an antiquated tank truck in approximately 5,000 gallon increments, and transfers it to the school tank far (TF1). The Village of Venetie has a 5,300 gallon tank (TF4) staged at the airstrip to receive fuel from Everts Air Cargo. The Village transfers fuel with a gas-powered transfer pump from TF4 into a 1,500 gallon tank that loosely rests in the bed of a dump truck and delivers it to TF2 and TF3.

Retail heating fuel is available at the power plant tank (TF2) and retail gasoline is available at the Village of Venetie office building (TF3).

Tank Farm #1 – School Tank Farm

Owner/Phone #: Yukon Flats School District / 907-662-2515

Owner Type: School

Location: Adjacent to School to the West

Total Evaluation Score (See Scoring Sheet): 130 (240 max)

Regulatory Plans Available: ☒ No ☐ Yes

Spill Response Equipment: ☐ No ☒ Yes; sorbent pads in maintenance garage

Operator/Training/ Years on the Job: Lawrence Roberts/None/less than 1 year

Distance from Moorage to Barge Header: No Barge Header

Facility Description:

There are five heating fuel storage tanks at the Venetie School tank farm. The fuel at this facility is used primarily for space and water heating. The school normally purchases its electricity from the village but does have the capability to provide back-up electrical power generation from its own diesel generators. Fuel for this facility is delivered to the Venetie airstrip by Everts Air Fuel, where it is received by a tanker truck in approximately 5,000 gallon increments and is subsequently transported and transferred to the tank farm.

All tanks are single wall, vertical, welded steel tanks supported on a 1-foot high light wood framed platform. There are normal vents and 20-inch top mounted manholes but no emergency vents. Tank 5 also has a bottom mounted 20-inch manhole. Tanks 1-4 have threaded, bottom fill/draw and water draw connections. Tank 5 has a single threaded, bottom mounted fill/draw connection. The tanks are contained in a 4-foot high earthen berm dike that has no liner.

Facility piping consists of 1.5-inch to 3-inch steel pipe with threaded and victaulic fittings. There is no check valve or spill container at the fill point. The valves are ¾-inch to 3-inch threaded steel gate valves. There are no pressure relief valves. A 1.5-inch threaded steel pipeline runs from the tank manifold to the school boiler/generator building approximately 125-feet to the east, above and below-ground.

The school tanks have severely peeling paint and are in need of scraping and painting. Many of the victaulic fittings are weeping and should be replaced.

Tank Farm 1 - Venetie Alaska										
Tank No.	Dia.	Height/ Length	Vertical/ Horizontal	Tank Type	Product	Tank Penetration Below Fuel Level	Tank Function	Approx Age (Years)	Listing	Gross Capacity (Gallons)
1	8'6"	15'	V	SW	D1	Y	BF	33+	UNK	6,300
2	8'6"	15'	V	SW	D1	Y	BF	33+	UNK	6,300
3	8'6"	15'	V	SW	D1	Y	BF	33+	UNK	6,300
4	8'6"	15'	V	SW	D1	Y	BF	33+	UNK	6,300
5	15'	18'	V	SW	D1	Y	BF	33+	UNK	23,700
									Total Gallons	**48,900**

TANK TYPE: SW = Single Wall, **DW** = Double Wall, **SD** = Self Diked, **PR** = Protected. **PRODUCT: D1** = Diesel #1/Heating Fuel, **D2** = Diesel #2, **ULSD** = Ultra Low Sulfur Diesel, **G** = Gasoline, **AV** = Avgas. **TANK FUNCTION: FD** = Fleet Dispensing, **RD** = Retail Dispensing, **BF** = Bulk Fuel. **LISTING**: **UL** = Underwriters Laboratories, **STI** = Steel Tank Institute, **API** = American Petroleum Institute, **UNK** = Unknown.

Tank Farm 1 - Deficiencies & Recommendations:

Site Location

☐ Tank farm in flood plain
☐ Facility threatened by coastal erosion/avalanche/river erosion/other
☐ Tank Farm within 100-feet of a well

Secondary Containment

☐ No containment
☒ Inadequate containment

Foundations

☐ Belly of tank more than 12” above grade
☐ Insufficient foundation (Logs or < 6-inch timbers)
☐ No foundation (tank shell directly on ground)
☐ Failing foundation (leaning tank)

Tanks

☒Tanks not numbered and labeled
☒ Missing or improper emergency venting
☐ Missing or improper normal venting
☒ Excessive tank corrosion
☒ Tanks not listed or designed to current bulk fuel standards (riveted, water tanks, etc.)
☒ No overfill protection

Piping

☒ No check valve at fill point
☒ Missing or inadequate drip pan at fill point
☒ Missing pressure relief
☐ Improper valve material (brass, bronze)
☒ Active leaks
☒ Evidence of past leaks
☒ Damaged or stressed flex connector(s)
☒ Inadequate pipe supports

Electrical

☐ Exposed or improper wiring
☐ Electrical conduit not supported at code-required intervals (10’ or less)
☒ No evidence of grounding

Life, Health & Safety

☒ No fence
☒ Insufficient Egress
☒ Missing or insufficient regulatory signs
☒ Missing or insufficient fire extinguishers
☒ Missing Regulatory Plans
☐ Dispenser too close to tanks
☐ Inadequate separation from buildings
☐ Inadequate tank spacing
☐ No locks on gates
☒ No locks on closed tank issue valves
☐ Gravity dispensing
☐ Spill response equipment not available

☐ Other (specify):_____

_____

Recommend facility replacement.

Tank Farm 1 - Evaluation Score:

Facility Category	Possible Points	Awarded Points
Site Location		
Site suitable for tank farm	0 points	0
< 100 feet from a public well	10 points	
< 25 feet from an eroding bank or beach, or history of flooding	10 points	
Gasoline tanks < 25 feet from an important building	10 points	
	30 points max.	**0**
Secondary Containment		
*Liquid-tight, lined dike of proper volume and construction, or double wall or self diked tanks	0 points	0
*Liquid-tight, lined dike of improper volume or construction	10 points	
*Fully diked but not liquid-tight (sand bag dike, gravel, torn or missing liner)	20 points	20
*Partial or no dike	30 points	
	30 points max	**20**
Foundations		
*Tanks on stable foundations (steel skids, min. 6" timbers, no cribbing)	0 points	0
*Tanks directly on gravel pad or light timbers	5 points	
*Tanks directly on tundra or natural soils (no dike or liner, subject to erosion)	10 points	
Tanks leaning considerably or unstable foundations (seismic hazard)	10 points	
	20 points max.	**0**
Tanks		
*Tanks in fair to good condition (no dents, min. rust, no major repairs needed)	0 points	
*Immediate need of cleaning and painting	10 points	10
*Rusted or dented beyond repair or riveted, bolted or other	30 points	
	30 points max.	**10**
Piping (choose most likely to leak, i.e., victaulic, threaded or welded, only)		
*No piping or welded piping above grade	0 points	
*Welded piping below grade	5 points	
*Threaded piping above grade	10 points	
*Threaded piping below grade	20 points	
*Victaulic piping above grade	30 points	
*Victaulic piping below grade	40 points	40
Rubber hose	20 points	
Additional for active leaks	20 points	20
	80 points max.	**60**
Electrical		
Wiring appears appropriate or there is no wiring.	0 points	0
Exposed wiring, improper grounding, etc.	10 points	
	10 points max.	**0**
Life, Health & Safety		
*Appears code compliant (No extraordinary factors observed)	0 points	
***Low risk** (Minor code violations that could result in personal injury to non-vigilant employees, such as tripping hazards, limited lighting, etc.)	10 points	
***Medium risk** (More severe code violations that increase risk such as lack of security fence, falling hazards, unlocked valves, gravity dispensing, etc.)	20 points	
***High risk** (Situations that pose an immediate threat to safety such as Fire hazards, gas leaks, failing tanks, unstable foundations, etc.)	40 points	40
	40 points max.	**40**
Facility Total	**240 points max.**	**130**

*Indicates that only one of the group should be chosen.

Tank Farm 1 - Photos:

Photo 1 –Venetie School Tank Farm

Photo 2 – Venetie School Tank Farm Truck Fill Header

Tank Farm 1 - Photos:

Photo 3 – Weeping Victaulic Fittings in Manifold

Photo 4 – Fuel Staining Emanating from Threaded Water Drain Fitting

Tank Farm #2 – Electric Power Plant

Owner/Phone #: Village of Venetie / 907-849-8212

Owner Type: Tribal Council

Location: Adjacent to washeteria, and water plant

Total Evaluation Score (See Scoring Sheet): 100 (240 Max)

Regulatory Plans Available: ☒ No ☐ Yes

Spill Response Equipment: ☒ No ☐ No; Spill kit container was present but empty.

Operator/Training/ Years on the Job: Brent Peter / No formal training / 5 yrs

Distance from Moorage to Barge Header: No Barge Header

Facility Description:

The Village of Venetie owns these three tanks for diesel fuel storage. Originally Tank 1 and Tank 2 were used to store bulk fuel for distribution to the intermediate tank, Tank 3. Tank 1 and Tank 2 have not been in service for at least five years and transfer piping and wiring is disconnected. Currently Tank 3 receives fuel via a gas-powered transfer pump from a 1,500 gallon tank that rests in the bed of a dump truck.

Tank 3 is a double wall, horizontal, skid mounted, welded steel tank. It has normal and emergency vents on the primary tank as well as the interstitial space. The tank is over-fill protected with a fill line solenoid valve; however this feature is currently not in use as fuel is transferred directly into a threaded, top-mounted fill port using a rubber transfer hose. There are top mounted, threaded fuel withdrawal connections. A combination 1-inch/2-inch welded/threaded steel pipeline with a flanged steel gate valve and flex connector runs to the power plant day tank. There are no check or pressure relief valves.

There is also a top mounted dispensing pump on Tank 3 used for equipment fueling and retail dispensing. The dispensing pump is jury-rigged with exposed wiring, rubber hose connected with hose clamps and bronze ball valves. No shear, fusible link, anti-siphon, or solenoid valves are present.

Tank Farm 2 – Venetie Alaska										
Tank No.	Dia.	Height/ Length	Vertical/ Horizontal	Tank Type	Product	Tank Penetration Below Fuel Level	Tank Function	Approx Age (Years)	Listing	Gross Capacity (Gallons)
1	9'6"	12'	V	SW	D1	Y	NIS	33+	UNK	6,300
2	9'6"	12'	V	SW	D1	Y	NIS	33+	UNK	6,300
3	5'4"	10'	H	DW	D1	N	BF/FD/RD	18	UL	1,500
									Total Gallons	**14,100**

TANK TYPE: SW = Single Wall, **DW** = Double Wall, **SD** = Self Diked, **PR** = Protected. **PRODUCT: D1** = Diesel #1/Heating Fuel, **D2** = Diesel #2, **ULSD** = Ultra Low Sulfur Diesel, **G** = Gasoline, **AV** = Avgas. **TANK FUNCTION: FD** = Fleet Dispensing, **RD** = Retail Dispensing, **BF** = Bulk Fuel, NIS = Not in Service. **LISTING**: **UL** = Underwriters Laboratories, **STI** = Steel Tank Institute, **API** = American Petroleum Institute, **UNK** = Unknown.

Tank Farm 2 - Deficiencies & Recommendations:

Site Location

☐ Tank farm in flood plain
☐ Facility threatened by coastal erosion/avalanche/river erosion/other
☐ Tank Farm within 100-feet of a well

Secondary Containment

☐ No containment
☐ Inadequate containment

Foundations

☐ Belly of tank more than 12” above grade
☐ Insufficient foundation (Logs or < 6-inch timbers)
☐ No foundation (tank shell directly on ground)
☐ Failing foundation (leaning tank)

Tanks

☒ Tanks not numbered and labeled
☐ Missing or improper emergency venting
☐ Missing or improper normal venting
☐ Excessive tank corrosion
☐ Tanks not listed or designed to current bulk fuel standards (riveted, water tanks, etc.)
☒ No overfill protection

Piping

☒ No check valve at fill point
☒ Missing or inadequate drip pan at fill point
☒ Missing pressure relief
☒ Improper valve material (brass, bronze)
☐ Active leaks
☒ Evidence of past leaks
☐ Damaged or stressed flex connector(s)
☐ Inadequate pipe supports

Electrical

☒ Exposed or improper wiring
☐ Electrical conduit not supported at code-required intervals (10’ or less)
☒ No evidence of grounding

Life, Health & Safety

☒ No fence
☐ Insufficient Egress
☒ Missing or insufficient regulatory signs
☒ Missing or insufficient fire extinguishers
☒ Missing Regulatory Plans
☒ Dispenser too close to tanks
☐ Inadequate separation from buildings
☐ Inadequate tank spacing
☐ No locks on gates
☒ No locks on closed tank issue valves
☐ Gravity dispensing
☒ Spill response equipment not available

☒ Other (specify): The fuel transfer process was observed (Photo 3). No spill containment was used and fuel actively leaked onto the ground emanating from cam-lock fittings.

Recommend resolving above issues. Facility is in overall poor condition.

Tank Farm 2 - Evaluation Score:

Facility Category	Possible Points	Awarded Points
Site Location		
Site suitable for tank farm	0 points	0
< 100 feet from a public well	10 points	
< 25 feet from an eroding bank or beach, or history of flooding	10 points	
Gasoline tanks < 25 feet from an important building	10 points	
	30 points max.	**0**
Secondary Containment		
*Liquid-tight, lined dike of proper volume and construction, or double wall or self diked tanks	0 points	0
*Liquid-tight, lined dike of improper volume or construction	10 points	
*Fully diked but not liquid-tight (sand bag dike, gravel, torn or missing liner)	20 points	
*Partial or no dike	30 points	
	30 points max	**0**
Foundations		
*Tanks on stable foundations (steel skids, min. 6" timbers, no cribbing)	0 points	0
*Tanks directly on gravel pad or light timbers	5 points	
*Tanks directly on tundra or natural soils (no dike or liner, subject to erosion)	10 points	
Tanks leaning considerably or unstable foundations (seismic hazard)	10 points	
	20 points max.	**0**
Tanks		
*Tanks in fair to good condition (no dents, min. rust, no major repairs needed)	0 points	0
*Immediate need of cleaning and painting	10 points	
*Rusted or dented beyond repair or riveted, bolted or other	30 points	
	30 points max.	**0**
Piping (choose most likely to leak, i.e., victaulic, threaded or welded, only)		
*No piping or welded piping above grade	0 points	
*Welded piping below grade	5 points	
*Threaded piping above grade	10 points	10
*Threaded piping below grade	20 points	
*Victaulic piping above grade	30 points	
*Victaulic piping below grade	40 points	
Rubber hose	20 points	20
Additional for active leaks	20 points	20
	80 points max.	**50**
Electrical		
Wiring appears appropriate or there is no wiring.	0 points	
Exposed wiring, improper grounding, etc.	10 points	10
	10 points max.	**10**
Life, Health & Safety		
*Appears code compliant (No extraordinary factors observed)	0 points	
***Low risk** (Minor code violations that could result in personal injury to non-vigilant employees, such as tripping hazards, limited lighting, etc.)	10 points	
***Medium risk** (More severe code violations that increase risk such as lack of security fence, falling hazards, unlocked valves, gravity dispensing, etc.)	20 points	
***High risk** (Situations that pose an immediate threat to safety such as Fire hazards, gas leaks, failing tanks, unstable foundations, etc.)	40 points	40
	40 points max.	**40**
Facility Total	**240 points max.**	**100**

*Indicates that only one of the group should be chosen.

Tank Farm 2 - Photos:

Photo 1 – Tank 3

Photo 2 – Jury-Rigged Dispensing Pump on Tank 3

Tank Farm 2 - Photos:

Photo 3 – Fuel Transfer Process at Tank 3

Photo 4 – Tank 1 and Tank 2 (Not in Service)

Tank Farm #3 – Village of Venetie Retail Fuel Sale

Owner/Phone #: Village of Venetie / 907-849-8212

Owner Type: Tribal Council

Location: Adjacent to village council office building

Total Evaluation Score (See Scoring Sheet): 80 (240 Max)

Regulatory Plans Available: ☒ No ☐ Yes

Spill Response Equipment: ☒ No ☐ No

Operator/Training/ Years on the Job: Brent Peter / No formal training / 5 yrs

Distance from Moorage to Barge Header: No Barge Header

Facility Description:

The Village of Venentie owns these two tanks for gasoline/diesel storage and dispensing. Currently Tank 2 is not in service and retail diesel is purchased from Tank 3 at Tank Farm 2. Currently Tank 1 receives fuel via a gas-powered transfer pump from a 1,500 gallon tank that rests in the bed of a dump truck, which is the same process used for Tank 3 at Tank Farm 2.

The tanks are single wall, horizontal, welded steel, and skid-mounted. No normal or emergency vents are present. There are bottom mounted threaded fuel withdrawal connections and top-mounted, thread-coupled Fill-Rite dispensing pumps. The dispensing pumps are connected to fuel filters and 1-inch rubber hose with dispensing nozzles via 1-inch threaded steel pipe. There are no shear, anti-siphon, fusible link, pressure relief, or solenoid valves. The tanks are improperly wired with extension cords running from the council office building. The tanks are situated on loosely installed liners within gravel dikes. The containment for Tank 1 was full of water and appeared liquid tight. No active leaks were observed.

Tank Farm 3 – Venetie Alaska										
Tank No.	Dia.	Height/ Length	Vertical/ Horizontal	Tank Type	Product	Tank Penetration Below Fuel Level	Tank Function	Approx Age (Years)	Listing	Gross Capacity (Gallons)
1	6'	9'	H	SW	G	Y	RD	20+	UNK	2,000
2	6'	9'	H	SW	D1	Y	NIS	20+	UNK	2,000
									Total Gallons	**4,000**

TANK TYPE: SW = Single Wall, **DW** = Double Wall, **SD** = Self Diked, **PR** = Protected. **PRODUCT: D1** = Diesel #1/Heating Fuel, **D2** = Diesel #2, **ULSD** = Ultra Low Sulfur Diesel, **G** = Gasoline, **AV** = Avgas. **TANK FUNCTION: FD** = Fleet Dispensing, **RD** = Retail Dispensing, **BF** = Bulk Fuel, NIS = Not in Service. **LISTING**: **UL** = Underwriters Laboratories, **STI** = Steel Tank Institute, **API** = American Petroleum Institute, **UNK** = Unknown.

Tank Farm 3 - Deficiencies & Recommendations:

Site Location
- ☐ Tank farm in flood plain
- ☐ Facility threatened by coastal erosion/avalanche/river erosion/other
- ☐ Tank Farm within 100-feet of a well

Secondary Containment
- ☐ No containment
- ☐ Inadequate containment

Foundations
- ☐ Belly of tank more than 12” above grade
- ☐ Insufficient foundation (Logs or < 6-inch timbers)
- ☐ No foundation (tank shell directly on ground)
- ☐ Failing foundation (leaning tank)

Tanks
- ☒ Tanks not numbered and labeled
- ☒ Missing or improper emergency venting
- ☒ Missing or improper normal venting
- ☒ Excessive tank corrosion
- ☒ Tanks not listed or designed to current bulk fuel standards (riveted, water tanks, etc.)
- ☒ No overfill protection

Piping
- ☐ No check valve at fill point
- ☒ Missing or inadequate drip pan at fill point
- ☒ Missing pressure relief
- ☐ Improper valve material (brass, bronze)
- ☐ Active leaks
- ☐ Evidence of past leaks
- ☐ Damaged or stressed flex connector(s)
- ☒ Inadequate pipe supports

Electrical
- ☒ Exposed or improper wiring
- ☐ Electrical conduit not supported at code-required intervals (10’ or less)
- ☐ No evidence of grounding

Life, Health & Safety
- ☒ No fence
- ☐ Insufficient Egress
- ☒ Missing or insufficient regulatory signs
- ☒ Missing or insufficient fire extinguishers
- ☒ Missing Regulatory Plans
- ☒ Dispenser too close to tanks
- ☐ Inadequate separation from buildings
- ☐ Inadequate tank spacing
- ☐ No locks on gates
- ☒ No locks on closed tank issue valves
- ☐ Gravity dispensing
- ☒ Spill response equipment not available

☐ Other (specify):_____

_____

Recommend resolving above issues. Tank farm is in relatively poor condition.

Tank Farm 3 - Evaluation Score:

Facility Category	Possible Points	Awarded Points
Site Location		
Site suitable for tank farm	0 points	0
< 100 feet from a public well	10 points	
< 25 feet from an eroding bank or beach, or history of flooding	10 points	
Gasoline tanks < 25 feet from an important building	10 points	
	30 points max.	**0**
Secondary Containment		
*Liquid-tight, lined dike of proper volume and construction, or double wall or self diked tanks	0 points	
*Liquid-tight, lined dike of improper volume or construction	10 points	10
*Fully diked but not liquid-tight (sand bag dike, gravel, torn or missing liner)	20 points	
*Partial or no dike	30 points	
	30 points max	**10**
Foundations		
*Tanks on stable foundations (steel skids, min. 6" timbers, no cribbing)	0 points	0
*Tanks directly on gravel pad or light timbers	5 points	
*Tanks directly on tundra or natural soils (no dike or liner, subject to erosion)	10 points	
Tanks leaning considerably or unstable foundations (seismic hazard)	10 points	
	20 points max.	**0**
Tanks		
*Tanks in fair to good condition (no dents, min. rust, no major repairs needed)	0 points	
*Immediate need of cleaning and painting	10 points	10
*Rusted or dented beyond repair or riveted, bolted or other	30 points	
	30 points max.	**10**
Piping (choose most likely to leak, i.e., victaulic, threaded or welded, only)		
*No piping or welded piping above grade	0 points	
*Welded piping below grade	5 points	
*Threaded piping above grade	10 points	10
*Threaded piping below grade	20 points	
*Victaulic piping above grade	30 points	
*Victaulic piping below grade	40 points	
Rubber hose	20 points	20
Additional for active leaks	20 points	
	80 points max.	**30**
Electrical		
Wiring appears appropriate or there is no wiring.	0 points	
Exposed wiring, improper grounding, etc.	10 points	10
	10 points max.	**10**
Life, Health & Safety		
*Appears code compliant (No extraordinary factors observed)	0 points	
***Low risk** (Minor code violations that could result in personal injury to non-vigilant employees, such as tripping hazards, limited lighting, etc.)	10 points	
***Medium risk** (More severe code violations that increase risk such as lack of security fence, falling hazards, unlocked valves, gravity dispensing, etc.)	20 points	20
***High risk** (Situations that pose an immediate threat to safety such as Fire hazards, gas leaks, failing tanks, unstable foundations, etc.)	40 points	
	40 points max.	**20**
Facility Total	**240 points max.**	**80**

*Indicates that only one of the group should be chosen.

Tank Farm 3 - Photos:

Photo 1 – Tank Farm 3

Photo 2 – Tank 1 Dispensing Pump

Tank Farm 4 – Airstrip Fuel Storage

Owner/Phone #: Village of Venetie / 907-849-8212

Owner Type: Tribal Council

Location: Airstrip

Total Evaluation Score (See Scoring Sheet): 120 (240 Max)

Regulatory Plans Available: ☒ No ☐ Yes

Spill Response Equipment: ☒ No ☐ No

Operator/Training/ Years on the Job: Brent Peter / No formal training / 5 yrs

Distance from Moorage to Barge Header: No Barge Header

Facility Description:

This single tank is owned by the Village of Venetie. The tank is used to store diesel fuel at the airstrip. Fuel is received from Everts Air Cargo. The Village transfers fuel with a gas-powered transfer pump from Tank 1 at TF4 into a 1,500 gallon tank that loosely rests in the bed of a dump truck, and delivers it to and TF3.

The tank is single wall, horizontal, welded steel, and skid-mounted. The tank has a clock-type level gauge and normal vent, but no emergency vent. There are bottom-mounted threaded fuel fill/withdrawal and water draw connections. The fill/withdrawal system consists of blue hose and ecliptic valves with a cam-lock fitting. There is no overfill protection, pressure relief valve, or check valve. No secondary containment or drip pan is present. Soil is stained from active leaks that occur during the fuel transfer process.

Tank Farm 4 – Venetie Alaska										
Tank No.	Dia.	Height/ Length	Vertical/ Horizontal	Tank Type	Product	Tank Penetration Below Fuel Level	Tank Function	Approx Age (Years)	Listing	Gross Capacity (Gallons)
1	8'	14'	H	SW	D1	Y	BF	20+	UNK	5,300
									Total Gallons	

TANK TYPE: SW = Single Wall, **DW** = Double Wall, **SD** = Self Diked, **PR** = Protected. **PRODUCT: D1** = Diesel #1/Heating Fuel, **D2** = Diesel #2, **ULSD** = Ultra Low Sulfur Diesel, **G** = Gasoline, **AV** = Avgas. **TANK FUNCTION: FD** = Fleet Dispensing, **RD** = Retail Dispensing, **BF** = Bulk Fuel. **LISTING**: **UL** = Underwriters Laboratories, **STI** = Steel Tank Institute, **API** = American Petroleum Institute, **UNK** = Unknown.

Tank Farm 4 - Deficiencies & Recommendations:

Site Location
- ☐ Tank farm in flood plain
- ☐ Facility threatened by coastal erosion/avalanche/river erosion/other
- ☐ Tank Farm within 100-feet of a well

Secondary Containment
- ☒ No containment
- ☐ Inadequate containment

Foundations
- ☐ Belly of tank more than 12” above grade
- ☐ Insufficient foundation (Logs or < 6-inch timbers)
- ☐ No foundation (tank shell directly on ground)
- ☐ Failing foundation (leaning tank)

Tanks
- ☒Tanks not numbered and labeled
- ☒ Missing or improper emergency venting
- ☐ Missing or improper normal venting
- ☐ Excessive tank corrosion
- ☒ Tanks not listed or designed to current bulk fuel standards (riveted, water tanks, etc.)
- ☒ No overfill protection

Piping
- ☒ No check valve at fill point
- ☒ Missing or inadequate drip pan at fill point
- ☒ Missing pressure relief
- ☐ Improper valve material (brass, bronze)
- ☒ Active leaks
- ☒ Evidence of past leaks
- ☐ Damaged or stressed flex connector(s)
- ☐ Inadequate pipe supports

Electrical
- ☐ Exposed or improper wiring
- ☐ Electrical conduit not supported at code-required intervals (10’ or less)
- ☐ No evidence of grounding

Life, Health & Safety
- ☒ No fence
- ☐ Insufficient Egress
- ☒ Missing or insufficient regulatory signs
- ☒ Missing or insufficient fire extinguishers
- ☒ Missing Regulatory Plans
- ☐ Dispenser too close to tanks
- ☐ Inadequate separation from buildings
- ☐ Inadequate tank spacing
- ☐ No locks on gates
- ☐ No locks on closed tank issue valves
- ☒ Gravity dispensing
- ☒ Spill response equipment not available

☒ Other (specify): Active leaks occur during fuel transfer process using gas-powered transfer pump.

Recommend resolving above issues. Tank farm is in poor condition.

Tank Farm 4 - Evaluation Score:

Facility Category	Possible Points	Awarded Points
Site Location		
Site suitable for tank farm	0 points	0
< 100 feet from a public well	10 points	
< 25 feet from an eroding bank or beach, or history of flooding	10 points	
Gasoline tanks < 25 feet from an important building	10 points	
	30 points max.	**0**
Secondary Containment		
*Liquid-tight, lined dike of proper volume and construction, or double wall or self diked tanks	0 points	
*Liquid-tight, lined dike of improper volume or construction	10 points	
*Fully diked but not liquid-tight (sand bag dike, gravel, torn or missing liner)	20 points	
*Partial or no dike	30 points	30
	30 points max	**30**
Foundations		
*Tanks on stable foundations (steel skids, min. 6" timbers, no cribbing)	0 points	0
*Tanks directly on gravel pad or light timbers	5 points	
*Tanks directly on tundra or natural soils (no dike or liner, subject to erosion)	10 points	
Tanks leaning considerably or unstable foundations (seismic hazard)	10 points	
	20 points max.	**0**
Tanks		
*Tanks in fair to good condition (no dents, min. rust, no major repairs needed)	0 points	
*Immediate need of cleaning and painting	10 points	10
*Rusted or dented beyond repair or riveted, bolted or other	30 points	
	30 points max.	**10**
Piping (choose most likely to leak, i.e., victaulic, threaded or welded, only)		
*No piping or welded piping above grade	0 points	
*Welded piping below grade	5 points	
*Threaded piping above grade	10 points	
*Threaded piping below grade	20 points	
*Victaulic piping above grade	30 points	
*Victaulic piping below grade	40 points	
Rubber hose	20 points	20
Additional for active leaks	20 points	20
	80 points max.	**40**
Electrical		
Wiring appears appropriate or there is no wiring.	0 points	0
Exposed wiring, improper grounding, etc.	10 points	
	10 points max.	**0**
Life, Health & Safety		
*Appears code compliant (No extraordinary factors observed)	0 points	
***Low risk** (Minor code violations that could result in personal injury to non-vigilant employees, such as tripping hazards, limited lighting, etc.)	10 points	
***Medium risk** (More severe code violations that increase risk such as lack of security fence, falling hazards, unlocked valves, gravity dispensing, etc.)	20 points	
***High risk** (Situations that pose an immediate threat to safety such as Fire hazards, gas leaks, failing tanks, unstable foundations, etc.)	40 points	40
	40 points max.	**40**
Facility Total	**240 points max.**	**120**

*Indicates that only one of the group should be chosen.

Tank Farm 4 - Photos:

Photo 1 – Tank Farm 4

Photo 2 – Tank Farm 4