

# TRIP REPORT



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LLC**

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**Projects:** Oscarville Bulk Fuel Upgrade (30401.38)  
Napakiak Bulk Fuel Upgrades (30401.39)

**Purpose:** Initial Site Visits / Information gathering

**Date:** September 12, 2007

**People Traveling:** Ron Brown of AEA, Jeff Stanley of CRW

**Location:** Oscarville and Napakiak, Alaska

**Reporter:** Jeff Stanley

## ***Travel Arrangements:***

Arrived in Bethel on the Alaska Airlines morning Jet and proceeded to the port area to meet Ron Brown for our trip to Oscarville and Napakiak. Peter Nick was hired to transport us by skiff to Oscarville and Napaskiak. We departed Bethel shortly after 9 AM and arrived in Oscarville about 9:30 AM. Departed Oscarville about 10:30 AM and arrived in Napakiak about 11:30. Departed Napakiak about 2 PM, arrive back in Bethel about 3 PM and returned to Anchorage on the 5 pm Era Aviation Flight.

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## ***Oscarville:***

### **Primary Contacts:**

- School Principal – Chris Meier
- School Maintenance Person – Alexie Nicholai Sr.
- Tribal Council Environmental Officer – Jimmy Andrew Larsen Jr.
- Native Corporation President – Nicholai Steven
- Ignati Jacob – Person that built the community tank farm.

### **Observations /Findings:**

#### **School (Operated by LKSD)**

- The school generates it's own power as the rates charged by the local utility are reportedly exorbitant (\$9/kwh). The school's power system includes two Cummins Onan 60 kw generators (Model 60 DGBC) which per the principal are planned to be replaced. There is no heat recovery system.
- The school also has it's own water well and treatment system. The well is within 100 ft of the school's tank farm.

- The existing bulk fuel facility includes 5 BIA style vertical tanks for a total volume of approximately 28,000 gallons. The tanks are filled and drawn through a single bottom penetration with lockable steel valve, flanged flex connection, and welded steel pipe manifold. The valves were locked at the time of our visit. The manifold includes a PRV which discharges into the top of one of the tanks. The tanks have normal vents, manholes and level gages but no emergency vents.
- The facility was fenced, the access gate was locked, and school maintenance personnel were in the process of repairing the existing stairs and access deck for the tanks.
- Distribution piping to the school and teacher housing consists of 2-inch welded steel pipe. The transfer pump for these lines is located in the same room as the School generators.
- The school reportedly uses about 20,000 gallons of diesel per year to heat and power the school and adjacent teacher housing.
- The tanks are filled once a year by barge via hose and fill connection inside the secondary containment area.

#### Community Tank Farm (Operated by the Traditional Council)

- The tank farm includes two fuel tanks within a lined timber dike impoundment. No tears in the liner were observed from the exterior of the facility and the impoundment was holding water at the time of the site visit. The facility appeared to be in fair condition although access could not be gained to exam the piping, valves and dispensing equipment. Tanks at the facility include one 10,000-gallon vertical gasoline tank, and one 10,000-gallon horizontal stove oil tank. Both tanks had a manhole and normal vent, but neither tank appeared to have an emergency vent.
- Fuel is dispensed directly from the two storage tanks, there is no dispensing tank.
- Fuel is delivered to the tank farm by barge or truck hauled from Bethel in the winter.
- The tank farm, although not code compliant, is reportedly in good condition with no operational problems.
- The cost of fuel at the time of the site visit was \$4.25/gallon for heating oil and \$4.75/gallon for gasoline.
- The Council does not have an SPCC plan or Operation Manual for the tank farm.
- No fuel delivery or consumption data was available at the time of the site visit.

#### Emergency Power Plant

- The emergency power plant appears to have been abandoned. It is reportedly operational but no one could recall the last time the plant was energized and one of the two generator sets was partially disassembled.
- There is no fuel line between the power plant and the tank farm, and no intermediate tank at the power plant.

#### Input from Community Contacts

- The community is very small with a current population about 60. The population has reportedly stayed about the same for the past 10 years. Some people work in Bethel as there are very few jobs in the community.

- There are no roads, airport, store or post office in the community. Local transportation is primarily accomplished by foot on a network of boardwalks.
  - Most residents reportedly get their mail delivered to Napaskiak which is just across the river.
  - Residents reportedly do most of their shopping in Bethel as it is only 6 miles away and the costs for goods in Napaskiak is too high.
  - Travel to Oscarville is primarily accomplished by boat or snow machine from Bethel but air service from Bethel to Napaskiak is also available.
  - Several of the houses and some of the community building are vacant.
  - The majority of homes in the community do not have telephones.
  - There is a community well at the water treatment plant / washeteria.
  - The majority of facilities in the community are on Corporation land. There are only a couple surveyed and recorded lots in the entire community.
  - Oscarville Slough is deep enough for fuel barges to enter.
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### ***Napaskiak:***

#### Primary Contacts:

- Napaskiak Corporation General Manager – Daniel Nelson
- Napaskiak Corporation Fuel Manager – George Black
- School Principal – Bruce Kleven
- School Maintenance Person – Norman Black
- No one from the City or IRA council was available to meet

#### Observations /Findings:

##### Napaskiak Corporation Facilities

- The Corporation currently operates a retail gasoline dispenser at the store, and a fuel oil dispenser at the LKSD / Corporation tank farm. Customers first purchase their fuel at the store, then an attendant goes with the customer to the appropriate dispensing facility to dispense the fuel. Although both fuel shacks were in reasonable condition, neither is code compliant and none of the existing equipment is suitable for reuse.
- Homeowners are responsible for hauling their own fuel.
- The Corporation has a current total storage capacity of about 75,000 gallons (58,000 gallons of diesel storage and 17,000 gallons of gasoline storage).
- The Corporation reportedly sells about 45,000 gallons of heating fuel and 25,000 gallons of gasoline each year.
- They generally receive their fuel by barge but on past occasion have had to have additional fuel trucked in from Bethel during the winter. Their three diesel tanks at the school are connected to the School's barge fill line. Their gasoline tanks are filled via a hose from the barge.
- The Corporation does not have an SPCC plan for its fuel facilities but the diesel tanks at the school are included in the LKSD SPCC Plan.

### School Facilities (LKSD)

- The school has a single tank farm with ten tanks having a total storage capacity of approximately 140,000 gallons. The tanks are all BIA type vertical tanks. The tanks are connected to a pipe manifold constructed with a combination of welded steel and flanged fittings. Pressure relief is provided.
- Co-located within the school tank farm are three tanks owned by the Corporation. The combined capacity of the three tanks is about 58,000 gallons.
- The tanks (School and Corporation) are filled by barge through a marine header and welded steel pipeline. The marine header has to be moved every couple years do to erosion of the riverbank.

### Other Facilities

- Jung's Trading Post no longer sells fuel.
- The Napakiak marina and land where it was located are gone as a result of river bank erosion.
- The Napakiak Ircinraq Power Company owns and maintains a backup power plant that is available for use in the event of a power outage in Bethel or damage to the electrical intertie that connects Napakiak and Bethel.

### Input from Community Contacts:

- Napakiak is a medium size community with a population of about 370. Its population has steadily increased for the last 30 years.
- River bank erosion is reportedly occurring at a rate of approximately 40 ft per year. If it continues at the current rate, the school and associated tank farm will be threatened within 5 years.
- The airport property divides the community into two halves, the older east town and the newer west town.
- LKSD is reportedly in the process of selecting a new school site. The new or relocated school will most likely be located west of the runway.
- All new housing is planned to be located west of the runway.
- The Alaska Energy Authority is reportedly in the process of designing a new backup power module for the community
- The Johnson River Slough is too shallow for fuel barges. The mouth of the slough is nearly impassible accept during high tide.
- There are at least two wells in the community, one near the washeteria, and one near the east town water treatment plant
- The intertie line from Bethel enters the village from the west side.
- There are no known sources of gravel in the community or surrounding area. There is an old sand borrow pit to the west of the runway and south of the dump. Material from this pit was reportedly used to construct a portion of the runway embankment. Groundwater in the area is reportedly within 10 feet of the ground surface.
- The preferred site for a new tank is on the west side of the airport. If this isn't reasonable then the preferred alternative is just east of the airport apron and equipment shed.
- The cost of fuel at the time of the site visit was \$4.58/gallon for heating oil and \$4.95/gallon for gasoline.

## **Summary of Findings and Recommendations:**

Both communities are in need of bulk fuel upgrades, however, Napakiak has the greater need due to the size of the community, growing population, and rapid rate of erosion along the west bank of the Kuskokwim River. Oscarville has one fifth the population of Napakiak and both the school and community have sufficient storage capacity to meet their current annual needs with a single barge delivery. Furthermore, if a reasonable rate for electricity could be established for the school, it would not be forced to generate its own power.

Other challenges of constructing bulk fuel improvements in Oscarville include;

- The school and the local Utility/IRA do not get along so building a single consolidated or co-located facility would likely be impossible.
- There is no readily available land to construct a tank farm and establishing site control for a new facility will likely be complicated by the fact that the IRA and school are at odds with each other.
- The community is small enough (~60 people) that their ability to operate and maintain a new code compliant facility is a concern.
- The O&M and R&R cost for a new facility would be high due to the low throughput and as a result, residents may opt to buy their fuel in Napaskiak or Bethel as they already do for other goods.
- Construction will be complicated by the fact that there are no roads and no airport in the community.

For these reasons, we do not recommend proceeding with a conceptual design report for Oscarville at this time.

Napakiak on the other hand is in real need of a bulk fuel project and is prepared to participate in the development of a conceptual design report. The community has already begun selecting possible tank farm sites and is willing to donate the required land for a project. As all retail fuel facilities in the community are owned and operated by the Corporation, it is further recommended that the Corporation be the grantee for the project.



Oscarville- 1 of 2 school generators



Oscarville – Day tank for school generators



Oscarville – School tank farm



Oscarville – School tank farm barge fill connection



Oscarville – Stairs to the top of school tanks



Oscarville – School tank farm piping manifold



Oscarville- School tank farm containment dikes



Oscarville – Level gage on school tank



Oscarville – Flood gage at the school



Oscarville – Community tank farm



Oscarville – Community tank farm containment area



Oscarville – Community tank farm containment area



Oscarville- Backup generator building



Oscarville – Inside generator building



Oscarville – Inside generator building



Oscarville – Inside generator building



Napakiak – Gasoline dispensing building



Napakiak – Gasoline dispenser



Napakiak – Co-located Corp / LKSD tank farm



Napakiak – Corporation tank manifold



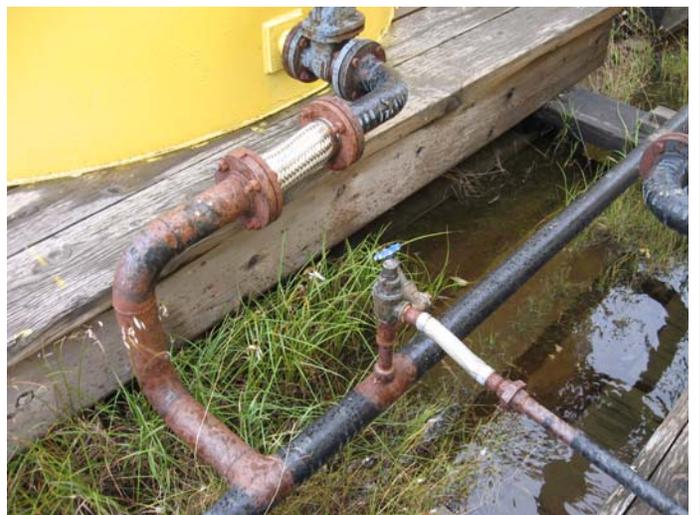
Napakiak – LKSD tank manifold



Napakiak – Corporation diesel tank



Napakiak – Corporation tank walkway



Napakiak – LKSD tank manifold PRV



**Napakiak – LKSD tank walkway**



**Napakiak – Dike containment and piping**



**Napakiak – Barge fill line connection**



**Napakiak – Marine header and barge fill line**



**Napakiak Diesel dispensing building**



**Napakiak – Diesel dispensing meter**



Napakiak – Diesel dispensing nozzles



Napakiak – Diesel dispensing pump



Napakiak – Backup generator building



Napakiak - Backup generator 1 of 2



Napakiak - Backup generator 2 of 2



Napakiak - Backup generator day tank