

2014 Annual Report

MAY 2015

CITY OF NORTH POLE UTILITY DEPARTMENT

Engineering completed for Emergency System Upgrades at Water Plant

The Utility's water treatment plant is about 30 years old and parts of the distribution system are over 40 years old. Back in

2009, the Utility began planning for needed rehabilitation work at the plant. The Utility received combined funding

totaling \$500,000 from USDA and ADEC to generate engineering plans for needed plant upgrades. The Utility contracted with PDC Engineers to generate the engineering plans.

Some of the critical projects PDC recommended included replacement of the emergency fire pump; replacement of the emergency generator; replacement of failing valves in the water distribution system; construction of additional reservoir capacity; replacement of aging steel water mains; and installation of emergency generators at water circulation stations. All of PDC's recommendations would cost almost \$14 million. The Utility cannot afford a \$14 million construction project so the Utility worked with PDC to

prioritize the recommended projects and divide them into a series of phases.

The Utility used the prioritized projects to submit a grant application to ADEC in August 2013. The Utility's grant application was unsuccessful. With complete engineering documents delivered in December 2014, the Utility, modified its grant application and submitted a loan application to ADEC for the same project. The Utility learned in 2015 that it qualified for a \$2.3 million Alaska Clean Water Fund loan for the project. The terms of the loan are 1½% for 20 years. In 2015, the Council and North Pole electorate will need to decide if they will accept the debt.



Aging emergency fire pump at the water treatment plant. The pumps operate when there is an unusually high demand for water and the regular pumps can not supply enough water; for example, a fire in the City. The fire pump broke its drive shaft in 2008 and the City was without a fire pump for three months.

2014 Highlights

- *Flint Hills closed refinery in June*
- *Upgrades completed at wastewater plant*
- *City files lawsuit against Flint Hills and Williams Petroleum over sulfolane*
- *Utility was issued a Notice of Violation for loss of water flow at sewer outfall*

Flint Hills Closed North Pole Refinery in 2014



In spring 2014, Flint Hills Resources announced that it would stop oil refining at its North Pole Refinery. Over its history, at least three companies owned and operated the refinery—Earth Resources of Alaska built the refinery in 1976; Mapco bought Earth Resources; Mapco merged with Williams Companies in 1998 and in 2004 Flint Hills Resources bought the refinery.

Production stopped at the refinery in June. Flint Hills communicated to the City that it did not plan to decommission or dismantle the refinery in the immediate future. Their plan

was to “mothball” the facility so a new owner could reactivate the facility into an oil refinery. The facility is currently operating as a tank farm.

The refinery has been a significant contributor to the North Pole economy. The refinery has represented approximately 40% of the City's property tax collections. Over the past 25 years, the refinery also contributed about 25% of the flow to the wastewater system, which translates into about 25% of the Sewer Department revenue.

Refining ended at the facility in June 2014 but, the shut-down

process took months to implement. Near regular discharges of wastewater from the site continued into the fall. It was not until October that the volume of wastewater discharge dropped dramatically—from an average of 1.3 million gallons/month down to less than 200,000 gallons/month. The delay between Flint Hills ceasing refining at the site in June to the precipitous drop in wastewater discharge in October, lessened the impact on the Utility's budget. 2015 will be when the full impact of losing the large volumes of wastewater from the refinery will begin to affect the Utility.

Inside this Issue

Sulfolane Contamination Update2

Utility applied for Grant to Rehabilitate Lift Stations....2

State Issues Notice of Violation to Utility2

Utility Replaced aging Vehicle3

Utility Completes Upgrades at Wastewater Plant3

Engineering completed for Emergency Systems Upgrades at Water Plant4

State Awards Utility \$½ Million for Sewer Outfall

In 2014, the City received five state legislative grants totaling \$1,023,000. The largest grant was \$500,000 to help the Utility find a solution to the loss of river flow at the wastewater treatment plant's sewer outfall on the Tanana River. (See related story, *State Issued the Utility a*

Notice of Violation, page 2.) The grant is administered by the Department of Commerce, Community and Economic Development (DCCED). This grant will be especially helpful to the Utility due to the loss of revenue from the closure of the Flint Hills Refinery and because

the grant does not require a matching cash contribution unlike grants from the Alaska Department of Environmental Conservation require a 25% cash contribution. The Utility began using the grant as soon as the State released the funds in July 2014.

Sulfolane Contamination Update

There were important developments in 2014 about sulfolane contamination in North Pole.

In 2014, the City of North Pole filed a lawsuit against Flint Hills Resources and Williams Petroleum, the two most recent owners of the North Pole Refinery. The City was approaching the statute of limitations of when it could file a lawsuit. The City filed the lawsuit to ensure that the public health and economic interests of the City were considered and addressed as the

sulfolane issue is resolved.

More than a year ago, the State retained the private non-profit organization Toxicology Excellence for Risk Assessment (TERA) to review the available scientific information about sulfolane and to make public health recommendations. The challenge with sulfolane is there is little sound scientific research about it. TERA released its findings at the end of December 2014. They reconfirmed that there was insufficient data upon

which to establish reliable public health standards for exposure to low-levels of sulfolane. A thorough laboratory study of the health effects of low levels of sulfolane started several years ago, but it will be two or three years before researchers complete the study.

For additional information about the evolving sulfolane issue in the North Pole area, see the ADEC website: <http://dec.alaska.gov/>

Utility Applied for a Grant to Rehabilitate Lift Stations

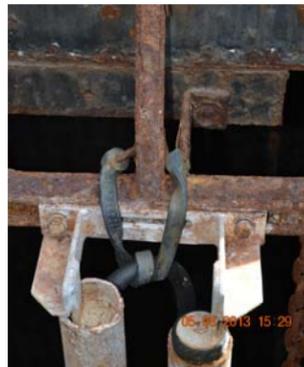
In 2008, the Utility began planning the rehabilitation of its aging sewer lift stations. Lift stations pump wastewater across the City to the wastewater treatment plant. In 2008, the Utility had 15 active lift stations. With the construction of a sewer main by Flint Hills Resources to serve the industrial properties, the Utility decommissioned two lift stations. With a combination of

state and EPA grants, Economic Stimulus award plus contributions from the Utility, the Utility rehabilitated eight of its aging sewer lift stations.

In 2014, the Utility had five remaining lift stations needing different amounts of rehabilitation. One of the five was constructed in 2004, and needs only minor upgrades. In 2013, the Utility submitted a grant appli-

cation to the state to rehabilitate the four aging lift stations. The state did not fund that grant.

The City reworked its grant application and resubmitted it in 2014. The new application scored well and Governor Walker included \$2 million in his fiscal year 2016 capital budget proposal to fund North Pole's grant.



Corroded guide rails in the sewer lift station on Hurst Road. The rails hold the pumps in place and are necessary for removing the pumps for service.

State Issued the Utility a Notice of Violation

The Utility experienced periodic losses of river flow where it discharges treated wastewater to the Tanana River. ADEC recognized that the loss of river flow was an act of nature but, it still was a violation of the Utility's discharge permit. In November 2014, ADEC issued the Utility a Notice of Violation (NOV). The NOV started the process to resolve the permit violation.

The NOV required the City to propose ways to end the permit violations. The Utility contracted with the engineering firm Stantec (formerly USKH, Inc.) to assist the Utility to respond to the NOV. Based upon the proposed solutions, ADEC will determine the next step the Utility needs to implement to resolve the NOV. The Utility proposed: 1. Dredging the river

channel; 2. Requesting a change in the Utility's discharge permit; 3. Constructing a new discharge main to a different channel of the Tanana River; 4. Building a large infiltration pond; and 5. Changing the wastewater treatment process to meet Water Quality Standards. (See related story page 1, *State Awards Utility \$½ Million for Sewer Outfall.*)

Utility Replaced Aging Vehicle

The Utility replaced its aging 30 year-old 1994 Ford pickup truck in 2014. The vehicle had become unreliable—could not carry heavy loads or tow emergency generators and would not start in cold weather

To buy expensive equipment, City departments must use a competitive bidding process. The bidding process has hidden costs that can add hundreds sometimes even thousands of dollars to the cost of a purchase that are not reflected in the cost or equipment—staff time generating the bid documents, advertisements and evaluating bids.

To make bidding more efficient and less expensive, the Utility promoted a change in the Code

of Ordinances to allow City departments to “piggyback” on other governmental units’ (federal, state, borough, city, etc.) invitations to bid if their bids satisfied the City's requirements.

The Utility used the State of Alaska's vehicle bid to purchase a replacement pickup truck. The state buys a large quantity of vehicles annually which helps them get vehicles for less than the City typically can get them.

Using the State bid, the Utility purchased a Ford F350 pickup truck or \$25,145. As a further



effort to make the Utility operate more cost effectively, when it purchased the new truck, the Utility also purchased a snowplow for the truck. The Ford dealership was able to get the snowplow for the Ford dealer's price versus the price the Utility would have to pay. The Utility can now do its own plowing and does not need to hire private contractors.

Utility Completes Phase 1 of Wastewater Plant Upgrades

The Utility operates a wastewater treatment plant in the southern part of town near the North Pole High School. The treatment process is a low-input process that uses natural biological processes in four ponds to treat the wastewater.

In 2013 the Utility received the balance of a grant to help fund the rehabilitation of the treatment plant. The Utility requested construction bids in April 2014 for the first phase of rehabilitation at the treatment plant. In May 2014, the City awarded the construction contract to Ghemm Company.

The project was the first significant rehabilitation of the plant since it was constructed in the early 1980s. This first phase of



New energy efficient aerators used to provide air to the wastewater treatment ponds.

rehabilitation included reconstruction of the discharge lift station. The lift station pumps the wastewater after treatment to the Tanana River. Only one

of the two lift station pumps worked and the pump was so old that replacements were no longer manufactured and repair parts were difficult to find.

Other work completed at the treatment plant included upgrades to the disinfection system, replacement of aging rusted pipes and valves; upgraded energy efficient blowers that support the treatment process in the treatment ponds; new boilers and heating controls; upgrades to the ventilation system and a new emergency generator. Ghemm completed 99% of the construction work before the end of December 2014.