

ALASKA RURAL UTILITY COLLABORATIVE 2022 REPORT ON ACTIVITIES



Table of Contents

About ARUC	1
ARUC Advisory Committee	2
2022 ARUC Highlights	3
Community Accomplishments	4
Engineering Accomplishments	9
Financials	11
Quyana/Taikuu to Our Partners	13
Contact ARUC	14



Cover Photo: Newhalen, Alaska
Table of Contents Photo: Deering, Alaska

ABOUT ARUC

The Alaska Rural Utility Collaborative (ARUC) is an Alaska Native Tribal Health Consortium (ANTHC) program created to assist and empower its member communities to manage, operate and maintain water and sewer systems in rural Alaska. Each member community's system is operated as a stand-alone, nonprofit business. Money from local customers, generated from user fees and local community and regional support, must be enough to pay the system's direct expenses and build a reserve account. ARUC services include helping set water and sewer rates in each community, billing local water and sewer customers, providing guidance to local water plant operators and more. Through active management and operations and maintenance support, ARUC strives to pursue its goals of maximizing the public health benefits of sanitation facilities and building local community capabilities. Through safe and reliable sanitation, ARUC focuses on preventive health services. Communities in the ARUC program protect public health and enhance residents' quality of life by:

- ▶ Ensuring qualified staff operate and maintain facilities to provide high-quality drinking water and safe disposal of sewage.
- ▶ Providing emergency utility response.
- ▶ Extending the useful life of water and sanitation systems through preventive maintenance, thereby saving millions of federal, state and local dollars in replacement costs.
- ▶ Hiring and training water plant operators and backup staff in each community and offering good wages and benefits.
- ▶ Setting water/sewer customer rates with community council agreements: Each community's rates are set to be self-supporting and rates vary per community.
- ▶ Working with ANTHC engineers, operations and maintenance specialists, utility managers, and grant specialists to support the utility at no additional cost to customers.



Newhalen, Alaska

Many Thanks to the ARUC Advisory Committee

The ARUC Advisory Committee serves a valuable role as the liaison between ARUC and participating communities. Each community selects a member to be on the ARUC Advisory Committee. The ARUC Advisory Committee meets four times a year, once in person and three times via teleconference, to

represent their communities and provide direction on water and sewer operation and rates. In October 2022, the committee met in person for the first time since 2019.



Assisted Billing Program

To be eligible for full ARUC membership, a community must be a member of the assisted billing program for a minimum of one year. This program provides enrolled communities with water and sewer customer billing services. It was developed to provide financial consistency by maintaining a steady and accurate utility billing schedule and helping communities generate revenue. Fees are collected and refunded to the community (minus the monthly service fee).

ARUC Benefits

When ARUC communities do well financially (revenues are greater than expenses), their funds are placed into a cash reserve account. This savings account makes it possible for communities to quickly purchase replacement parts or bulk fuel or to fund emergency expenses and repairs. After ARUC communities meet the required reserve amount, these funds can be used for larger projects such as energy efficiency work or facility upgrades. As communities meet their reserve requirements, another benefit is utility rate decreases, which helps keep costs lower for customers.

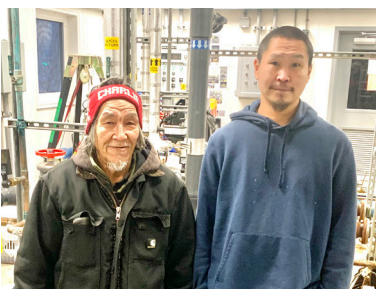


Golovin, Alaska

2022 ARUC HIGHLIGHTS

Pitka's Point: Ties for second place for Alaska's best-tasting water

Pitka's Point, a member community of the Alaska Rural Utility Collaborative (ARUC), tied for second place in the 2022 Alaska Rural Water Association (ARWA) contest for best-tasting water in the state.



The community of about 125 residents is located near the junction of the Yukon and Andreafsky rivers, five miles northwest of St. Mary's on the Yukon-Kuskokwim Delta.

Water plant operators Charlie Sallison (left) and Anthony Wasky (right) attended the ARWA Conference in October 2022, where they learned of their second-place award. This award comes on the heels of both operators also passing their Small Water System Treated Training in Bethel in October.

Communities throughout the state brought samples to ARWA's annual conference. Judges at the conference evaluated each sample on clarity, odor and taste. Pitka's Point competed against much larger communities, like winner Valdez, which has a population of about 4,000.

"I am surprised to hear that our water came in second place at the statewide water taste test. Makes me confident to serve the village of Pitka's with good, healthy, potable water," said Wasky. He expressed his gratitude for the award and emphasized the team's continued commitment to providing some of the best water in Alaska.

Quinhagak, Savoonga and Saint Michael: Maintenance Software and 3D Photography

The communities of Quinhagak, St. Michael and Savoonga are equipping their water plant operators with 60 Hz maintenance management software and 3D photography technology. Quinhagak self-funded the project while St. Michael and Savoonga used project funding to cover initial startup costs.

This cloud-based service is designed to guide operators through their daily, weekly and monthly tasks while providing them with a centralized platform to document their work. This technology enables operators to record critical information, such as water pressure, more frequently and accurately. Furthermore, the use of photography helps ensure that tasks are performed correctly and in a timely manner, helping to ensure safe and reliable water for the community and prolonging the lifespan of the utility.

The utilization of 3D photography also allows the ARUC team to more easily assist operators when issues arise. If an operator is experiencing a problem in the plant, ARUC staff can use the 3D photography program to remotely view the plant and help the operator locate and troubleshoot the issue. Additionally, this technology allows access to maintenance logs by simply clicking the corresponding photo, further streamlining the troubleshooting process.



60Hz Training in Savoonga

COMMUNITY MANAGEMENT ACCOMPLISHMENTS

ARUC partners with member communities use a strength-in-numbers approach and assists with the management, operation and maintenance of each community's water and wastewater system so communities don't have to do it alone. Local community councils participate in utility rate decisions, discuss billing processes and collections, and develop roles for ARUC staff, operators, and community representatives.

ARUC engages with community leadership to understand financial and infrastructure challenges and make decisions together to ensure long-term system sustainability and provide reliable, clean water and sanitation. We are honored to share a few of the many successful management initiatives by community leadership to improve their community's finances, management and operations.



Deering

The City of Deering contributed \$102,000 of their reserve funds to replace the controls for their vacuum wastewater and discharge pumps. The malfunctioning control panel was no longer working properly, leading to community sewer outages.

Deering Vacuum Discharge Panel

Kiana

The City of Kiana contributed \$24,000 of their reserve funds to replace the controls for the water system's pressure pumps. The outdated control panel required the frequent operation in "hand mode" (i.e., pumps running at full speed all the time), which was costly and significantly reduced the lifespan of the system. The new control panel has eliminated this issue and resulted in steady water pressure for the community.

"This project helped lower our community's electrical bills and provided cleaner water. Due to the fluctuations running on hand mode, minerals in the pipe tend to start flowing and we have black deposits in our tubs, sinks, and toilets. With the new panel, our water pressure is stable and we have cleaner water. Thanks from the City of Kiana. Our residents really appreciate all you have done to make our community not only save on energy but have clean drinking water." – Brad M. Reich, Kiana Mayor



Kiana's New Control Panel



Kotlik Washeteria Water and Sewer Connection

Kotlik

The community of Kotlik funded a project for \$76,000 to repair the water and sewer connections in their washeteria. The old connections had stopped working several years ago, leaving the community without washeteria services. This new service connections allow for a functional washeteria to return to the community. The community also funded a project totaling \$23,000 to provide water and sewer connections to two new homes constructed by the Association of Village Council Presidents Regional Housing Authority.

New Stuyahok

A community-funded project for \$27,000 provided a temporary raw water transmission line from the community's well to the water treatment plant. New Stuyahok's current water treatment plant has significantly deteriorated, and the introduction of a new well is a temporary solution until the construction of the new plant is completed.

New Stuyahok Temporary Water Line





Quinhagak

The community funded a project for \$100,000 to assess its settling water treatment plant and to install extended thermosiphons. Because of thawing permafrost, portions of the plant have experienced significant settling in relation to other parts of the building. The larger thermosiphons are designed to help re-freeze the ground and prevent further movement.

“Since the thermosiphons were installed, the water treatment plant hasn’t been moving or sinking.” – Charlie Pleasant, Quinhagak Water Plant Operator

“The City of Quinhagak would like to thank ANTHC for the assistance that we received from their staff and engineers as we work through these major issues in our community.” – Jerilyn Kelly, Quinhagak Mayor

Quinhagak Thermosiphons

Scammon Bay

The community spent \$60,000 to repair a frozen water pressure pump station for the school due to power outages in the community. The school had reduced pressure for six months during the winter and local operators repaired the station the following summer.

“The water plant operators have done a fantastic job attending the needs of the community when it comes to keeping the water and sewer system running. From repairing major breaks in the water lines, or servicing sewer pumps to dispel waste, their years of experience have kept the system running as smoothly as possible. They are also capable of installing new water and sewer connections to new homes with the knowledge they’ve built up over the years. Scammon Bay is fortunate to have a reliable team to keep the water and sewer system operational through all the challenges we’ve faced over the years.” – Larson Hunter, Scammon Bay City Manager



Scammon Bay Pressure Pump Station

American Rescue Plan Act

ARUC member communities provided each home with a grant from the American Rescue Plan Act, this time totaling about \$1.1 million, to be applied towards customer accounts as a pre-payment for water and wastewater services.

- ▶ Chevak: \$55,513
- ▶ Deering: \$2,100
- ▶ Golovin: \$32,725
- ▶ Goodnews Bay: \$29,387
- ▶ Holy Cross: \$69,120
- ▶ Kiana: \$15,346
- ▶ Lower Kalskag: \$2,500
- ▶ Newhalen: \$15,850
- ▶ New Stuyahok: \$77,431
- ▶ Noorvik: \$26,000
- ▶ Pitka's Point: \$22,440
- ▶ Quinhagak: \$71,683
- ▶ Russian Mission: \$8,640
- ▶ Saint Michael: \$80,280
- ▶ Scammon Bay: \$700
- ▶ Shungnak: \$92,894
- ▶ Sleetmute: \$20,735
- ▶ Toksook Bay: \$63,133



ARUC Engineering Goals:

ARUC engineering team and local operators work to achieve goals through several projects. ARUC partners with member communities to secure additional funding for necessary system repairs or upgrades, ensuring continuous safe service is provided to customers.

Engineering projects in ARUC communities focus on three major goals:

1. Reducing energy, fuel and operational costs.
2. Increasing the number of customers through service connection construction.
3. Providing operator guidance and assistance for issues that may arise during normal operation.

Sleetmute, Alaska

ENGINEERING ACCOMPLISHMENTS

Remote Monitoring Upgrades

Remote monitoring allows operators, community leadership, remote maintenance workers and the ARUC operations team in Anchorage to observe numerous variables that affect water plant operations, such as changes in temperatures, water levels, and water speed. These systems have proven to be invaluable in protecting water and sanitation utilities from major disasters and costly repairs.

The Helmsley Charitable Trust provided funding to Engineering Ministries International totaling \$20 million. About \$1.5 million was used to upgrade remote monitoring systems in Alaska. The following ARUC communities received a portion of the funding:

- ▶ Chevak
- ▶ Lower Kalskag
- ▶ Savoonga
- ▶ Golovin
- ▶ Pitka's Point
- ▶ Scammon Bay
- ▶ Goodnews Bay
- ▶ Saint Michael
- ▶ Toksook Bay

These upgrades will help improve the remote monitoring systems in these communities by improving their reliability, connectivity and keeping them up to date on the latest technological advances in the field. The upgraded remote monitoring systems provide a longer sensor range that allows more buildings to be monitored.



New Stuyahok, Alaska

Flexible Service Line Installations

In 2022, new water and/or wastewater flexible service lines were provided in four ARUC member communities. Homes can shift over time, damaging the water and sewer service line connections and exposing them to cold air, which can cause freeze-ups. The new flexible connections contain upgraded materials, including aluminum and high-grade, water-resistant insulation that is much better suited for Arctic climates.

One home in Kiana, three homes in Noorvik, four homes in Russian Mission, and one home in Savoonga received service connections funded by Indian Health Services (IHS) for a total of about \$1.19 million.



Kiana Water and Sewer Flex Connections



Waste Heat Recovery System Expansion

Waste heat recovery systems use excess heat from a community's power plant to heat other buildings, including the water treatment plant. These systems help keep utility energy costs lower by reducing fuel usage, thus improving the overall sustainability of utility operations.

In Toksook Bay, an expansion of the community's heat recovery system to the tribal office and Head Start building was completed. This project was funded by the U.S. Department of Agriculture for \$1.5 million.

Toksook Bay Waste Heat Recovery Expansion

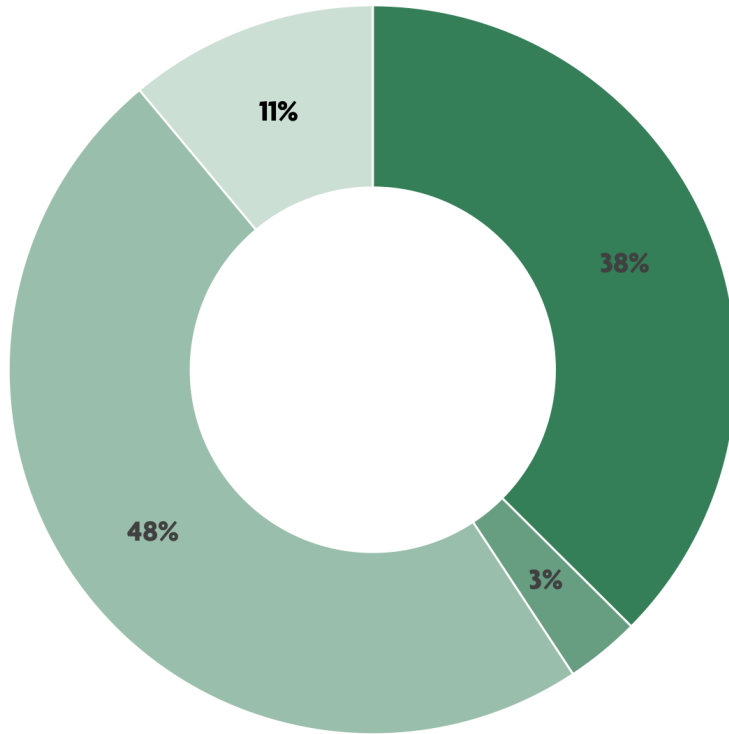
On-Site Operator Training

The Alaska Rural Water Association (ARWA) funded \$15,000 to provide on-site training in Kobuk, Lower Kalskag, and New Stuyahok. The training encompassed a wide range of subjects, including operations and maintenance support, emergency response planning, financial and managerial expertise, sanitary survey support, and source water preservation.

New Stuyahok On-site Training

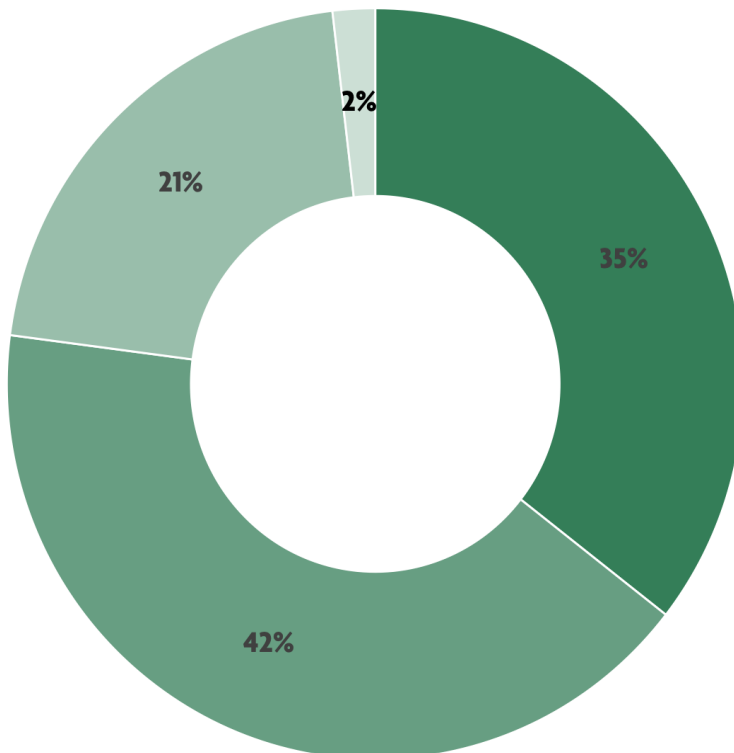


FINANCIALS



ARUC FY22 Operating Costs

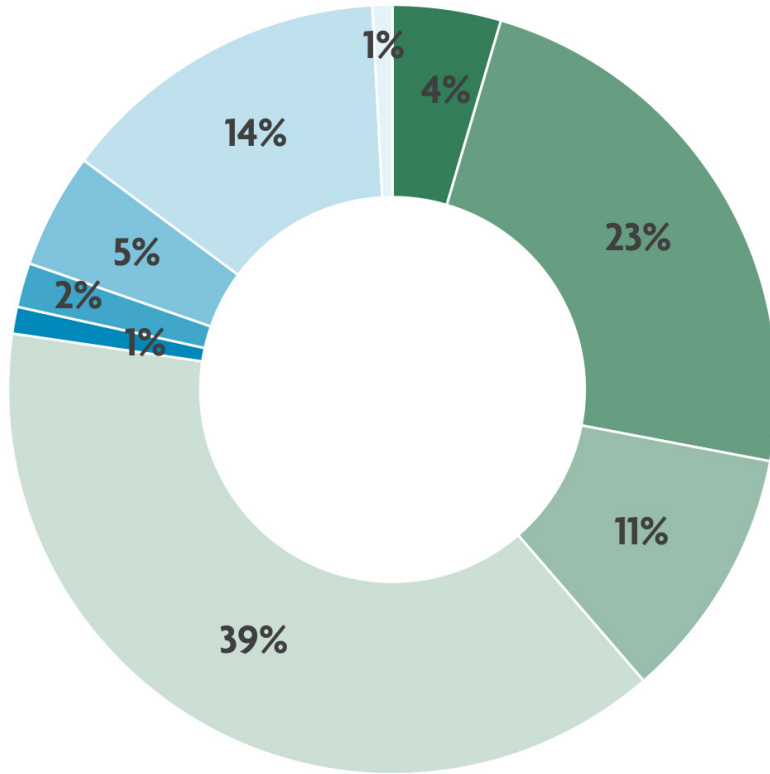
- ARUC Management Costs Paid by Others: \$2,484,151
- ARUC Billing Costs Paid By Community: \$219,053
- Community Operating Costs Paid by Users Only: \$3,198,395
- Community Funded Projects Paid by Users: \$734,830



ARUC FY22 Operating Revenue

- Operating Revenue Paid By Community: \$4,190,034
- Construction Projects: \$4,898,440
- Management Costs Paid by Others: \$2,484,151
- Billing Program Paid By Community: \$219,053

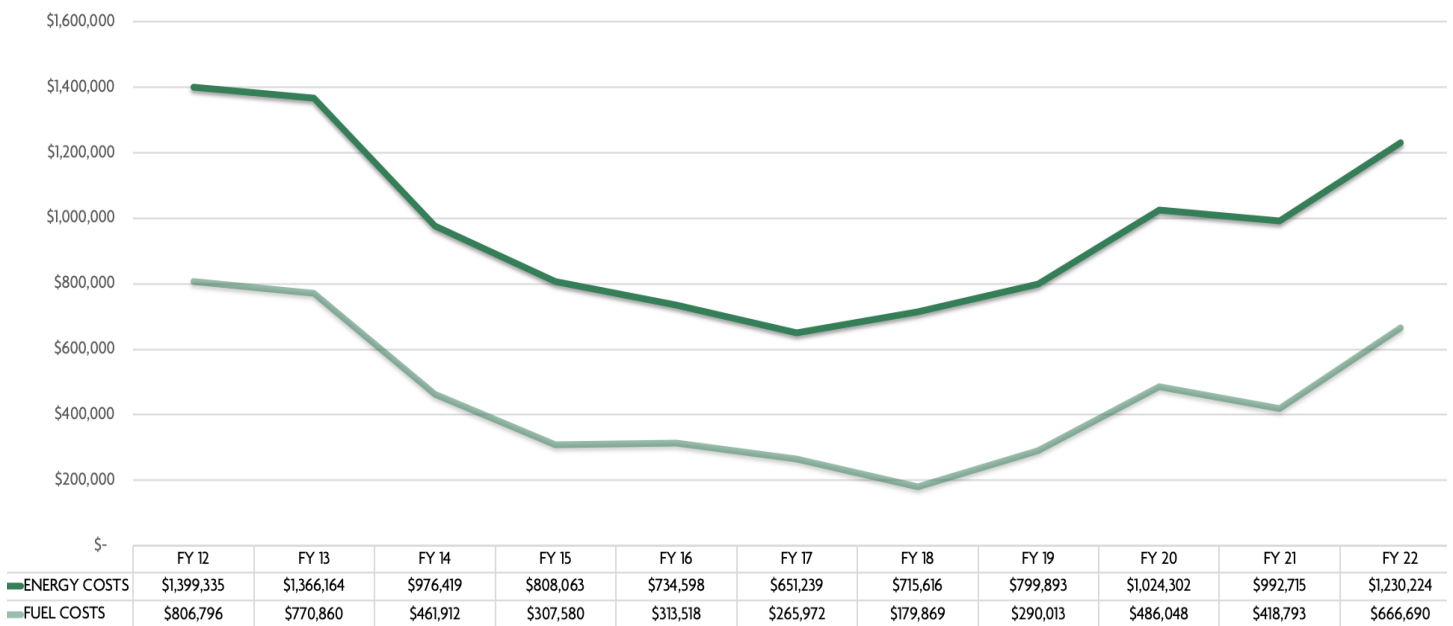
FINANCIALS



ARUC FY22 All Combined Expenses

- Contract Labor: \$239,081
- All Energy: \$1,230,224
- Equipment Repair, Supplies & Freight :\$560,943
- Labor: \$2,029,383
- Misc, Phone & Vehicle Fuel: \$59,019
- Regulatory: \$97,762
- Training & Travel: \$254,378
- Community Funded Projects: \$734,830
- Community Reimbursements (landfill, tax, etc): \$44,153

ARUC Energy vs. Fuel Costs FY12 - FY22



QUYANA/TAIKUU TO OUR PARTNERS

Alaska Energy Authority

Alaska Rural Water Association

Alaska Vocational Technical Center

Bristol Bay Area Health Corporation

Bristol Bay Borough

Chignik Lake Village

City of Ambler

City of Chevak

City of Deering

City of Golovin

City of Holy Cross

City of Kiana

City of Kobuk

City of Kotlik

City of Lower Kalskag

City of New Stuyahok

City of Newhalen

City of Noorvik

City of Quinhagak

City of Russian Mission

City of St. Michael

City of Savoonga

City of Scammon Bay

City of Shungnak

City of Toksook Bay

City of Upper Kalskag

Engineering Ministries International

Helmsley Charitable Trust

Indian Health Service

Lake and Peninsula Borough

Maniilaq Association

NANA Regional Corporation

National Tribal Water Center

Native Village of Goodnews Bay

Native Village of Tyonek

Northwest Arctic Borough

Northwest Arctic Borough School District

Norton Sound Health Corporation

Norton Sound Economic Development Corporation

Pitka's Point Traditional Council

Rural Community Assistance Corporation

South Naknek Village

State of Alaska Department of Environmental Conservation

State of Alaska Division of Community and Regional Affairs

State of Alaska Remote Maintenance Worker Program

State of Alaska Village Safe Water Program

U.S. Department of Agriculture

Village of Sleetmute

Yukon-Kuskokwim Health Corporation

Upper Kalskag, Alaska

CONTACT ARUC



anthc.org/aruc



ANTHCaruc



1 (866) 205-7581



A program of the Alaska Native Tribal Health Consortium



ALASKA NATIVE
TRIBAL HEALTH
CONSORTIUM