



General Manager
334 Front Street
Ketchikan, AK. 99901

(907) 228-5603 phone
(907) 225-5075 fax

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TRANSMITTAL MEMORANDUM

TO: The Honorable Mayor and City Council

FROM: Karl R. Amylon, General Manager

DATE: August 13, 2020

RE: **Project Status Reports of the KPU Division Managers – July 2020**

Attached for City Council review are the project status reports of the KPU division managers for the month of July 2020. Should the City Council have questions regarding the division managers' reports, staff can respond accordingly.

MANAGER'S REPORT
SALES, MARKETING & CUSTOMER SERVICE DIVISION
July 2020

Verizon wireless sales in July were a few phones short of 2019 due to no seasonal travelers shopping for phones that were lost overboard/water damaged. Historically, many phones are sold to tourists during the summer months. All phones sold in July were to locals looking to upgrade their phones, or people porting from AT&T. AT&T's service has suffered statewide during the pandemic, resulting in failed calls and poor connectivity.

KPU's combined active and vacation-hold internet accounts for July increased slightly over 1% from June despite seasonal businesses not returning, due to the cruise cancelations. Standalone, no-phone internet subscribers increased by 8% over the prior month, as some customers cut the phone line in an attempt to save money. Although some customers removed TV to save money during the crisis, KPU's net TV subscribers remained flat to the previous month. Some new TV subscribers were customers upset with GCI's expensive service, but others wanted a good news source and movie channels, more than they could stream online.

The business techs completed three hosted installs for the Chamber of Commerce, South Tongass Alliance Church, Clover Pass Resort, and completed camera installs for Port and Harbors. Ketchikan Theater Ballet was a business winback, as well as the Chamber. Work was begun on Ted Ferry Civic center for security cameras.

Division Manager Kim Simpson, and PR and Video Manager Alexandra Vrabec are both members of the Ketchikan EOC Public Information Office. Work continues daily on media releases, social media posts, flyers, traveler handouts, and videos for the EOC. The PIO works closely with the state health department, the local EOC, and other state officials to ensure that information is accurate, consistent and understandable for the community. Work recently has focused on the census, mask wearing, travel updates, CARES Act funding and drive up & airport testing. Additionally, Kim also is the back up for hotline questions on traveler testing in Ketchikan.

KPUTV continued filming the series of videos featuring local KPU business customers. Businesses featured were the Tap House, 108 Burger Bar, the Edgewater and SeaWind Aviation. KPU is looking to feature other local business in spotlights. Other regular shows filmed included Pet of the Month, Celebrity Chef with Chef Bev and Ketchicrafts with AJ Pierce. Although Ketchikan did not have a 4th of July parade, KPUTV put the last five years of parades on KPUTV so that people could watch. The Lumberjack competition was pre-filmed and premiered on July 4th at 3:30 pm on both TV and Facebook live so people could watch it “live.” The Lumberjack show was viewed over 11,000 times.

KPU Telecommunications/Customer Service was presented with the Pivot 2019 Customer Experience Award. This award is presented to any Telecommunications company who receives excellent retains from 90% or more of their customers, and who meets or exceeds overall industry customer satisfaction ratings. Few Telecommunication companies meet these requirements, but this is the second award that KPU has received since the program was started in 2017.



MANAGER'S REPORT

ELECTRIC DIVISION

July 2020

Electric Shop and Meters

- Meters. During the month, there were thirty (30) meter exchanges/installs:
 - Five (5) changes from manual meters to RFN (Radio Frequency Node) meters.
 - Six (6) changes from PLC (Power-Line Carrier) meters to RFN meters.
 - One (1) change from RR (Radio Read) meters to RFN meters.
 - One (1) change from manual meters to PLC meters.
 - Nine (9) manual meter exchanges.
 - Eight (8) new RFN meters installed.
- Operations. Investigated, performed troubleshooting, and made repairs for the No.1 Intake Adit Valve controls, Beaver Falls Generator No. 1 Exciter brushes, Beaver Falls Generator No. 3 governor speed controller and winding temperature, Beaver Falls Generator No. 4 high-resistance grounding transformer, Beaver Falls Powerhouse exhaust fan, Bailey Generator No. 3 fuel tank controls, Bailey Maintenance fire alarm system, Ketchikan Plant tunnel valve indicating lights, Ketchikan rain gauge and stream gauge, KPU Administrative Building parking lot lights, RFN gateways on Elliot Street and Stedman Street, Silvis generator bearings, and Whitman Unit No. 1 exciter fan alarms. Designed lighting layout for Bailey Powerhouse. Continued the metering upgrade for the Yukon system with Eaton/Cooper. Service disconnects/reconnects, meter disconnects and reconnects, system print updates and station readings.
- SCADA. Investigated, performed troubleshooting, and made repairs for the SEAPA kVAR RTU readout, Ketchikan Lake data display, and stream gauge data. SCADA File Server Maintenance, system password verifications, and NTP Server configurations. Developed updated operations displays. Supported SCADA upgrade meetings. Coordinated and worked with the electric shop on SCADA networks. Continuing training in the SCADA system. Records management activities and SCADA upgrade planning.
- Water Department. Investigated, performed troubleshooting, and made repairs to the Highlands Pump Station and Chlorinator level switches. Tested new water meter systems.
- Harbors. Cleared seventeen (17) harbor trouble tickets and investigated, performed troubleshooting, and made repairs for harbor receptacles and Daley Float lights.
- Telecommunications. No items to report.

Outages and Events

- On Saturday, July 4, 2020, at 3:01 AM, an outage affected the KPU powerplants and seven (7) substations: Point Higgins, Ward Cove, Lewis Reef, Bethe, Port West, Ketchikan, and Mt. Point. The cause of this outage was a suspected avian contact with the 34.5kV system near the Bailey Switchyard; no remains were identified or recovered. Initially, 7,954 customers were affected by the outage. Within five hours and fifteen minutes, power was restored to all customers.
- On Friday, July 17, 2020, at 7:04 AM, an outage affected the three (3) KPU powerplants and five (5) substations: Point Higgins, Ward Cove, Port West, Ketchikan, and Mt. Point. The cause of this outage was a suspected avian contact with the 34.5kV system near Herring Cove at South Tongass Hwy and Wood Road; no remains were identified or recovered. KPU operators and crews quickly identified the issue and immediately began power restoration. Initially 4,764 customers were affected by the outage. Within fifty-six minutes, power was restored to all customers.

Powerhouse & Fleet Maintenance

- Beaver Falls Powerhouse
 - Conducted project inspections as part of relicensing process
 - Assisted with Generator No. 4 grounding transformer replacement
- Silvis Powerhouse
 - Inspected generator bearings
 - Replaced inside journal bearing
 - Repaired powerhouse access road
- Ketchikan Powerhouse
 - Generator No. 4
 - Runner inspection
 - Serviced bearing oiler
 - Penstocks
 - Constructed access stairways
 - Painted
- Bailey Powerhouse
 - Generator No. 3 (BAG3)
 - Repaired centrifuge pump
 - Repaired day tank gauge
 - Generator No. 4 (BAG4)
 - Cleaned filters
 - Test fit turbo compressor housings in advance of ABB turbo upgrade now scheduled for mid-August
 - BAG4 Turbo Upgrade: ABB scheduled to complete in mid-July
- Point Higgins Caterpillar Generators
 - Completed cleaning of 5,000 gallon day tank
 - Conducted routine inspections and maintenance
- Fleet Maintenance

Regulatory and Dam Safety

Bailey Power Plant

- New Title V Operating Permit issued by ADEC, effective July 30, 2020
- Prepared and filed with ADEC the semiannual Facility Operating Report for the period January 1 to June 30, 2020
- ADEC Air Quality Full Compliance Evaluation Report issued, requiring oil maintenance program for EU 5

Beaver Falls Hydroelectric Project

- Completed field work for the following surveys required for the Beaver Falls FERC re-licensing process: (1) rare and invasive plant species survey; (2) built resources assessment; (3) cultural resources survey; (4) road condition
- Prepared and filed a Travel Work Plan for critical infrastructure travel related to the field surveys

Whitman Lake Hydroelectric Project

- Conducted tailrace fish monitoring during Unit 1 shutdowns per the Biotic Monitoring Plan.

SEAPA

- The next regular board meeting is scheduled for September 29-30, 2020 in Wrangell, Ak; due to current conditions, the meeting may be via videoconference.
- For additional information please visit SEAPA's web site at <https://www.seapahydro.org/>

Transmission & Distribution Work

- Replaced two (2) three-phase padmounted transformers
- Installed two (2) primary poles on Collins Road
- Completed final inspection and acceptance of overhead power line reconstruction as part of ADOT's First Waterfall Creek Bridge replacement project
- Reviewed preliminary utility plans for ADOT's Herring Cove Bridge replacement project
- Reviewed utility plans for ADOT's airport ferry parking lot improvement project.
- Replaced conductor near Fawn Mountain field
- Testing & pumped out retired transformers and prepared for scrapping
- Coordinated with KPU Telephone and GCI for cable transfers to new/replaced poles in Ward Cove
- Performed underground-related work on Cloudberry Court

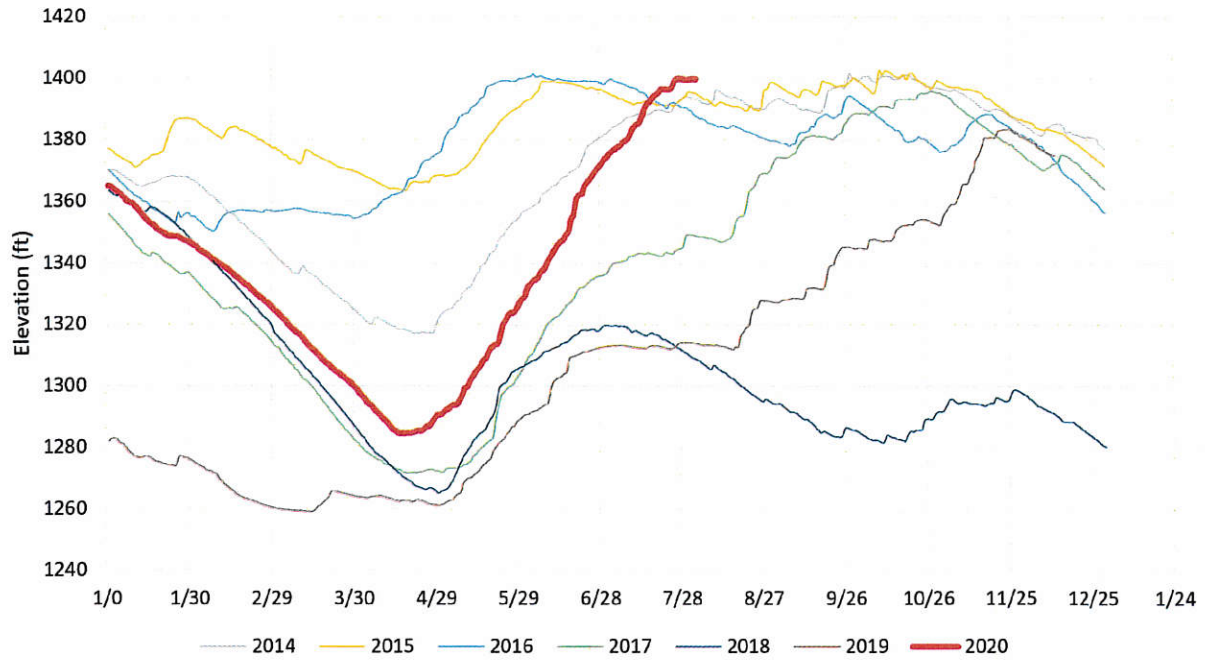


Collins Road Pole Replacement

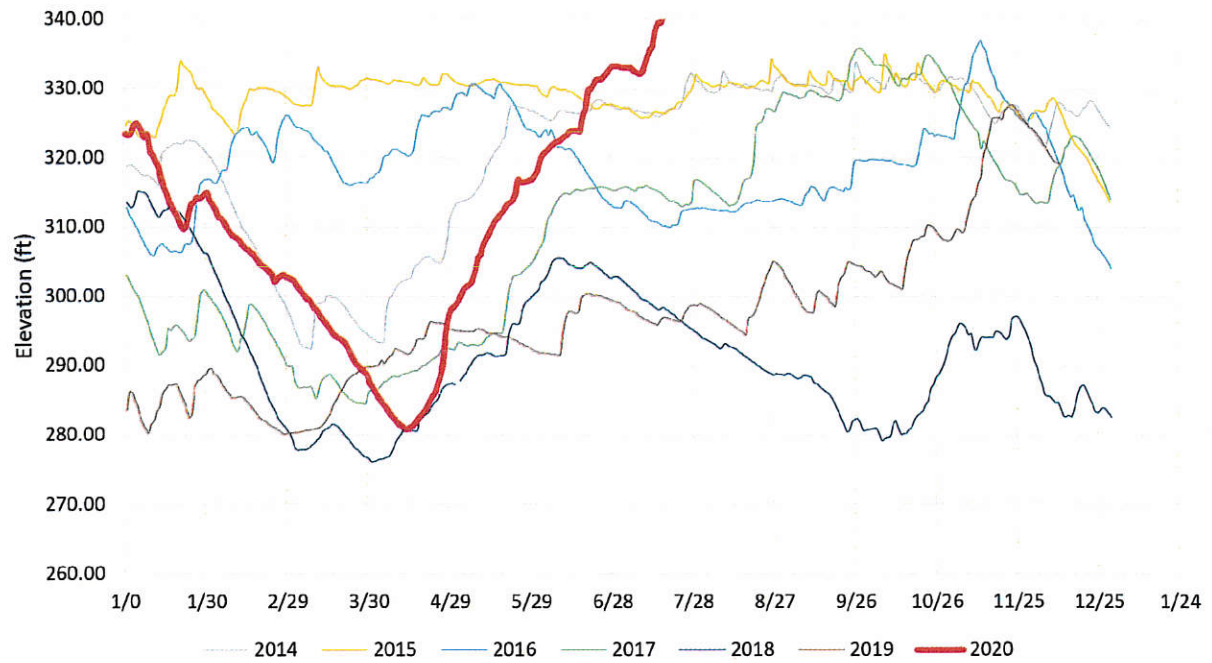
Water Management/Diesel Supplement

- Electric loads for July 2020 were the lightest on record for a month of July, by one and a half Gigawatt-Hours. This July's total generation came in at 12.2 GWh. The light loads were in part due to lack of tourism and business closures driven by the COVID 19 pandemic, and increased regulation of fisheries ultimately reducing hours at the three major seafood producers in town.
- Precipitation for the month was well above normal with some area totals being over 14 inches; which is twice the norm of 7.5 inches for July in the area. The light loads combined with above normal rain fall and remaining snow melt have driven all lake levels to spill or near spill conditions. Diesel generation for the month was insignificant with limited use only for short outage support.
- Lake levels and "net" generation are shown in a separate report.

Tyee Lake Levels



Swan Lake Levels



MANAGER'S REPORT
TELECOMMUNICATIONS DIVISION
July, 2020
Operational Issues

TELECOMMUNICATIONS DIVISION MANAGER

Undersea Fiber Project:

The undersea cable was shipped from the factory on schedule and is due to arrive in Vancouver, BC, on approximately August 14th.

Upon arrival in Vancouver, the cable will be off-loaded directly onto our contractor's undersea-cable-laying barge – after which the barge will sail directly for Ketchikan.

Weather and all other factors permitting, the barge should arrive in Ketchikan approximately August 21/22. Shortly afterwards, the project will commence at Mountain Point – at which point the contractor will begin a 24/7 cable-laying process, with arrival in Prince Rupert, BC, estimated at approximately August 30.

In the meantime, shore-side crews will be constructing shore-side cable-vaults, placing conduits, etc. at both Mountain Point and Prince Rupert, B.C.

We continue on scheduled course for placement, testing, and turn-up of electronics in late September through mid-October. We plan to have the new undersea fiber cable in-service by the end of October.

REGULATORY UPDATE
Summary

The Regulatory Commission of Alaska held a technical workshop this week for the R-19-002 dealing with the implementation of the SB83 legislation that was recently passed. KPU has been participating in the docket through the consensus positions of the Alaska Telephone Association. The new regulations will reduce the regulatory requirements in the state jurisdiction. Not surprisingly, the RCA staff is going a bit further in trying to retain regulatory requirements than what the industry believes was the legislature's intent in SB83. The workshop helped to get the industry, RCA staff and RCA Commissioners to understand the respective positions. The next step is for the RCA to issue an order on the proceeding.

Other regulatory issues of interest are as follows:

On July 16, 2020, the FCC adopted an Order approving the designation of 988 as the 3-digit abbreviated dialing code for the national suicide prevention and mental health crisis hotline, requiring all telecommunications carriers, interconnected Voice over Internet Protocol (VoIP) providers, and one-way VoIP providers (covered providers) to make any network changes necessary to ensure that users can dial 988 to reach the existing National Suicide Prevention Lifeline: 1-800-273-8255 / 1-800-273 (TALK) by July 16, 2022. The Order requires covered providers to implement mandatory 10-digit dialing in NPAs that use both 7-digit dialing and 988 as an NXX.

Reports and filings

Quarterly RCC

KPU has filed its quarterly reporting of the Regulatory Cost Charge to the Regulatory Commissions of Alaska (RCA). The RCC is a quarterly report which contains revenue information regarding local exchange and intrastate long distance toll calls.

Quarterly Revenue Report filed

KPU Telecommunications filed their 499Q Revenue report on July 21, 2020. The 499Q is a quarterly report which contains revenue information from the preceding quarter.

Biannual FCC Form 502 Filed

KPU filed the FCC Form 502 Numbering Resource Utilization/Forecast (NRUF) with NANPA on July 17, 2020. This is a requirement for ILECS, CLECS, wireless telephony carriers, satellite service providers, and resellers of these services.

Biannual CIC access and usage report Submitted

KPU filed the Carrier Identification Code access and usage report with NANPA. This report provides NANPA with the information needed to verify CIC assignments in use.

TELECOMMUNICATIONS PLANT DEPARTMENT

Summary

Outside Plant Construction and Splicing:

Projects Completed in July 2020:

- Continued splicing on Roosevelt overbuild project.
- New building terminal at AMHS
- 18-mile fiber build out project
- Hospital cell site antennae array placement
- Stay Court terminal placement
- 3 emergency drop repairs from damage caused by over height boat
- 8 drops placed

Installation and Repair:

- The installation and repair crews completed:
 - 84 service orders
 - 76 trouble tickets
 - 17 fiber drops

2020	Jan	Feb	March	April	May	June	July
SO	53	58	59	34	68	67	84
TT	95	76	54	77	87	115	76
FD	19	24	17	5	35	14	17
Total	167	158	130	116	190	196	177

OSP Installation & Repair Scorecard:	SO	TT	FD
Month of: July, 2020			
Employee			
Brad C.	0	0	0
Nathan L.	16	26	2
Ryan J.	24	29	2
Roger M.	44	17	5
Chad W.	0	0	0
Line Crew	0	4	8
Total	84	76	17

Safety:

Due to meeting restrictions and ESCI safety instructor cancellation caused by the Covid-19 environment, the Safety/Staff meeting for July was canceled.

TELECOMMUNICATIONS ENGINEERING DEPARTMENT

Summary

Engineering:

- 4G/LTE
 - No KPI misses last 12 months
 - Hospital site rooftop construction close to final completion
- IP Engineering
 - Infinera optical RFP kickoff
 - ExtraHop alarm monitoring design and setup ongoing
 - Migration of 3x routers to 2x new 8-slot routers at K71 in progress
 - New routers for subsea fiber path ordered
 - Software updates for all routers in progress
- Video Engineering
 - Minerva M10 middleware server testing ongoing
 - M10 testing with friendlies in progress
 - 4 types of STB's working on the M10 platform
 - VOD system installation ongoing
 - Started process to add new HD Channel (American Heroes)
- Voice Engineering
 - Broadworks hardware refresh installation in progress
 - EnGenius DuraFon handset support on Broadworks
- Systems Engineering
 - Ongoing processes to improve patching and documentation of systems
 - 6 of 86 servers patched/updated
 - 7 new vm's deployed for IPTV platform upgrades
 - Webex Roomkit testing, adoption, and training
 - Incognito DHCP server upgrade in progress

- Facility
 - Installation of new CO voice data racks and MLX4e routers in CO

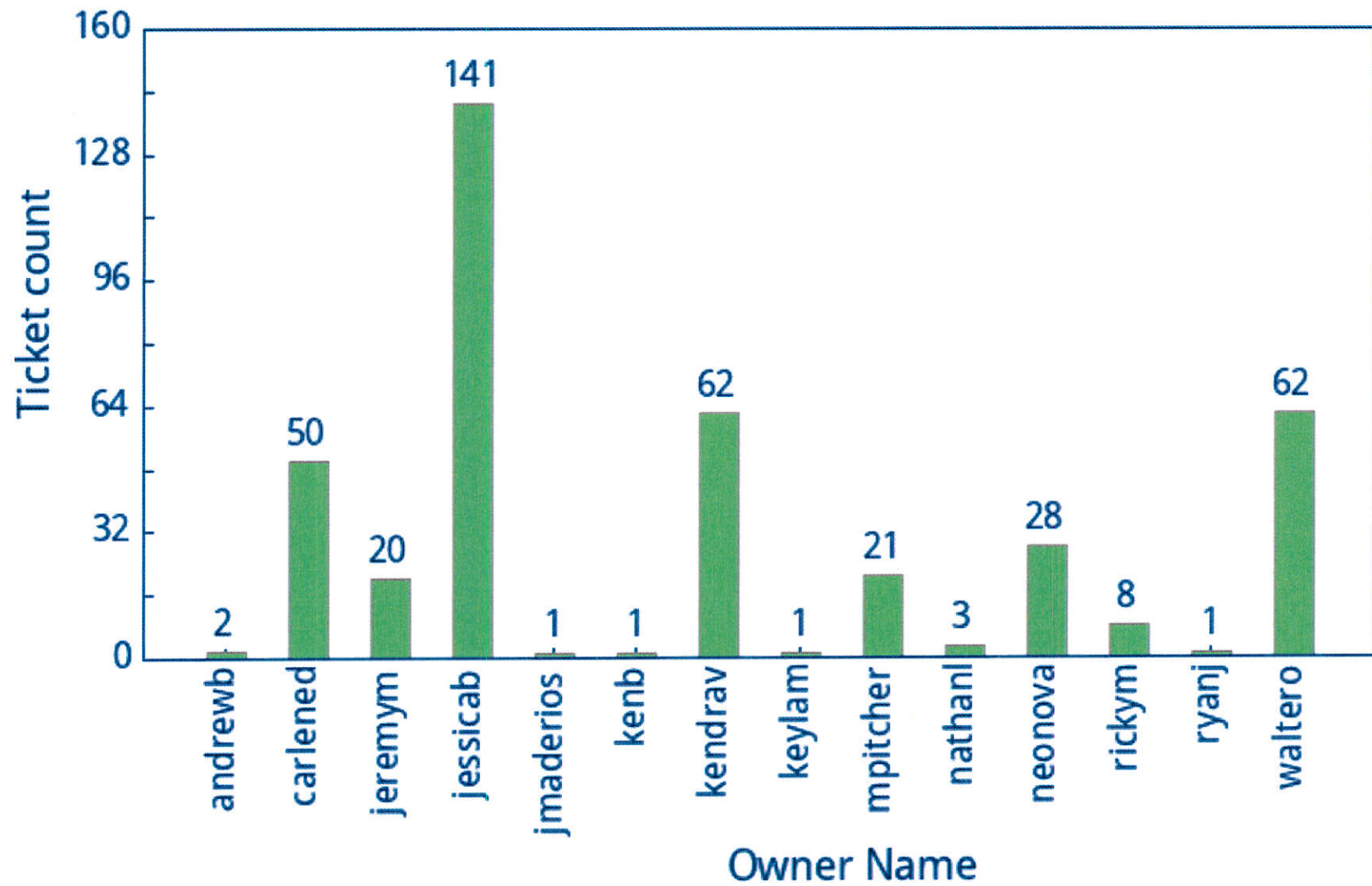
Service Delivery & Network Operations.

- 85 Resolved PBX ticket
- CO cameras installed at all major remotes
- 3 Harbormaster Camera installations
- Pioneer Heights upgraded from VDSL to 1G MDU switch
- Plaza Mall switch upgrades
- Win backs – First City Players and Chamber of Commerce

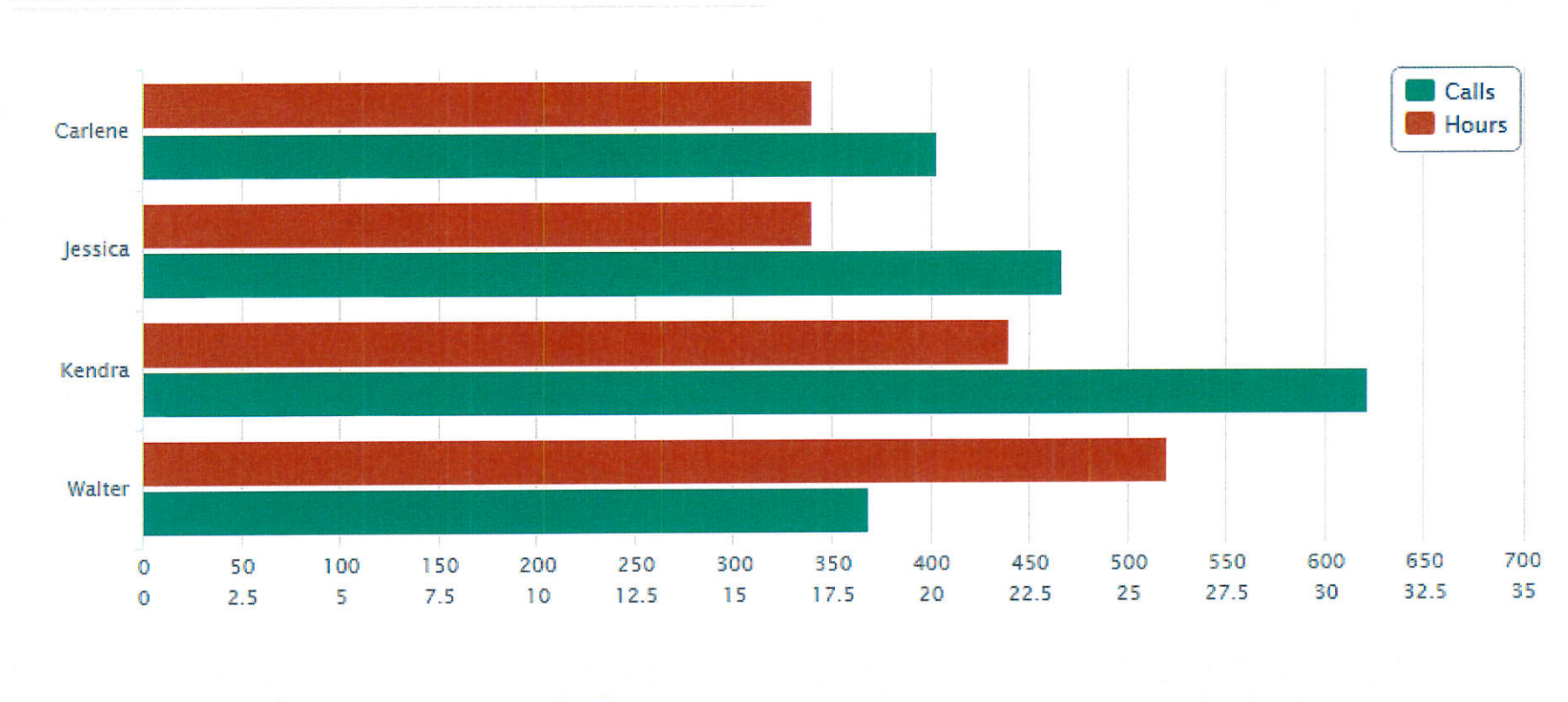
Customer Support:

- Total Calls to Support Line 225-2111 = 479
- Calls forwarded to NeoNova 984-244-5721 = 182
- Calls Answered by Customer Support = 297

CSS Overview:



Total CSS Calls:



USER	RECORDED CALLS	DURATION (HOURS)
Carlene	403	17
Jessica	467	17
Kendra	622	22
Walter	369	26

**MANAGER'S REPORT
WATER DIVISION
July 2020**

FILTRATION AVOIDANCE

On April 16th, Ketchikan sent a proposal outline to ADEC that meets the Federal criteria for the submission of a Limited Alternative to Filtration (LAF) and has asked ADEC for their approval before making the LAF submission. As noted, the LAF must address two elements of the water supply; the disinfection treatment process, and the source raw water quality including the surrounding control of the watershed. In addition, the LAF requires that the disinfection treatment process provide greater removal and/or inactivation of regulated microbial contaminants and organisms including cryptosporidium oocysts, giardia lamblia cysts, and viruses than would be achieved by a combination of filtration with chlorine disinfection alone.

Whether KPU's proposal outline is approved in its entirety as submitted or additional information is requested by ADEC, the next step is preparing complete documentation of each of the issues that are identified in our proposal and, with the help of the Jacobs Engineering Group; a case-specific LAF application will be prepared for ADEC and EPA review. After approval of the LAF criteria is received, KPU will submit its formal request in a LAF Decision Report that will document how KPU will meet the established LAF requirements. KPU has proposed minimum levels of treatment that would meet all of those criteria including additional giardia inactivation that would occur whenever the incoming raw water turbidity exceeded 3 NTU (Nephelometric Turbidity Units).

The source raw water quality was also described in terms which only occur infrequently, turbidities greater than 5 NTU and fecal coliform colonies greater than 20 CFU/ 100 milliliter sample. Despite the number of fecal colonies in the raw water only occasionally exceeding permissible levels, the treatment system continues operation within its validated performance range and still provides 2-log (99%) inactivation of cryptosporidium, 3-log (99.9%) inactivation of giardia lamblia, and 4-log (99.99%) inactivation of viruses. The disinfected potable water being delivered to Ketchikan's distribution system remains entirely safe to drink. In the case of high turbidity, the system is isolated until the turbidity has decreased within manageable limits. It also noted that KPU watersheds are owned by the US Forest Service and the Bureau of Land Management and access to the watersheds is restricted and controlled.

OPERATIONAL ISSUES

Contract 19-45 - Schoenbar Raw Water Transmission Main Design

DOWL Engineers, who have already completed the earlier design work for replacement of Schoenbar Road's disinfected water & sewer mains, are now designing a replacement for the portion of the existing 36-inch ductile iron main in Schoenbar Road located between the westerly edge of Norman Walker Field and the Ketchikan Charter School. The design to be based upon

DOWL's Alternative 1 from their prior water main sizing analysis which determined that a single permanent, buried 42-inch HDPE pipeline generally aligned along the west side of Schoenbar Road under the existing sidewalk is the most cost-effective route between the Schoenbar Middle School and the Ketchikan Charter School.

Although DOWL's initial design routing followed this alignment, they then began encountering severe complications as the pipe profile was established. The available geotechnical information is highly variable throughout this project even from test hole to test hole. There is also the extreme hazard of working under energized 34.5 kVA power lines and utility poles at the Schoenbar Creek crossing. Simply de-energizing the 34.5 kVA line during this construction period is not a viable option since this will also affect the Ketchikan Plant Substation. It requires splitting the electrical distribution system into two components, each with their own individual generation controls rather than operating as a combined system. One system being supplied by Beaver Falls/ Whitman generation and the other by Swan Lake and Bailey Power House generation.

As a result, the combination of these compounding challenges caused DOWL to question the feasibility, the risks, and the resulting additional costs that would be necessary to construct the 42-inch HDPE pipeline along this proposed route. Instead, they began looking at another route which is highlighted in a light blue solid line shown on Figure 1. This route avoids the power lines (along with other conflicting utilities), and eliminates the need for an I-beam supported creek crossing. The goal is to route the new HDPE transmission main over the corrugated metal arch culvert at the Schoenbar Middle School driveway. This alignment should eliminate the need for environmental permitting since the alignment will avoid Schoenbar Creek and the need to pass under the 12-foot wide culvert.

Authorization has already been received from the City Council to seek property easements for the proposed alternative alignment depicted in Figure 1 from the Ketchikan Gateway Borough (KGB) and the School District. Preliminary meetings with their representatives have occurred and discussion of the proposed conceptual route appears in the Borough Public Works Manager's July 20th Report to the Assembly. This report notes that this proposal appears to be in the Borough's best interest and that their staff intends to work out the particulars with KPU's administrators and will return action items to the Assembly. A copy of this report is also being forwarded to the School District for their consideration. DOWL is preparing for additional geotechnical borings along the proposed pipeline route and are scheduled to occur in early August.

In the meantime, DOWL is completing the final details for the upstream and downstream 42-inch HDPE connection points. Once approved, this will allow KPU will begin preparations for placing an order for six 42-inch butterfly valves. They will be very long delivery items and may not be delivered before 2021. The ADEC Drinking Water Loan that is providing the financing for this project includes the Buy American requirement for all iron and steel products. Due to a limited market for valves this large, United States manufacturers are not likely to maintain any in inventory and will probably only manufacture them after receipt of an order.

Contract 20-12 - Water Meters Design / Build - Business & Commercial Customers

Contract 20-12 has been awarded to Ketchikan Mechanical Inc. and the Notice to Proceed issued. This contract will be more along the lines of a design-build contract. In this case, the contractor will conduct individual audits of each of 50 businesses that are identified in the Bid Documents. From these audits, the contractor will prepare a simplified design for each individual meter installation for review and approval by KPU. After KPU's approval is issued, the contractor will begin installation of the new meter. As before, this contract is limited in size to allow everyone involved to both gain experience and to obtain better knowledge of the difficulties that are encountered while installing individual meters.

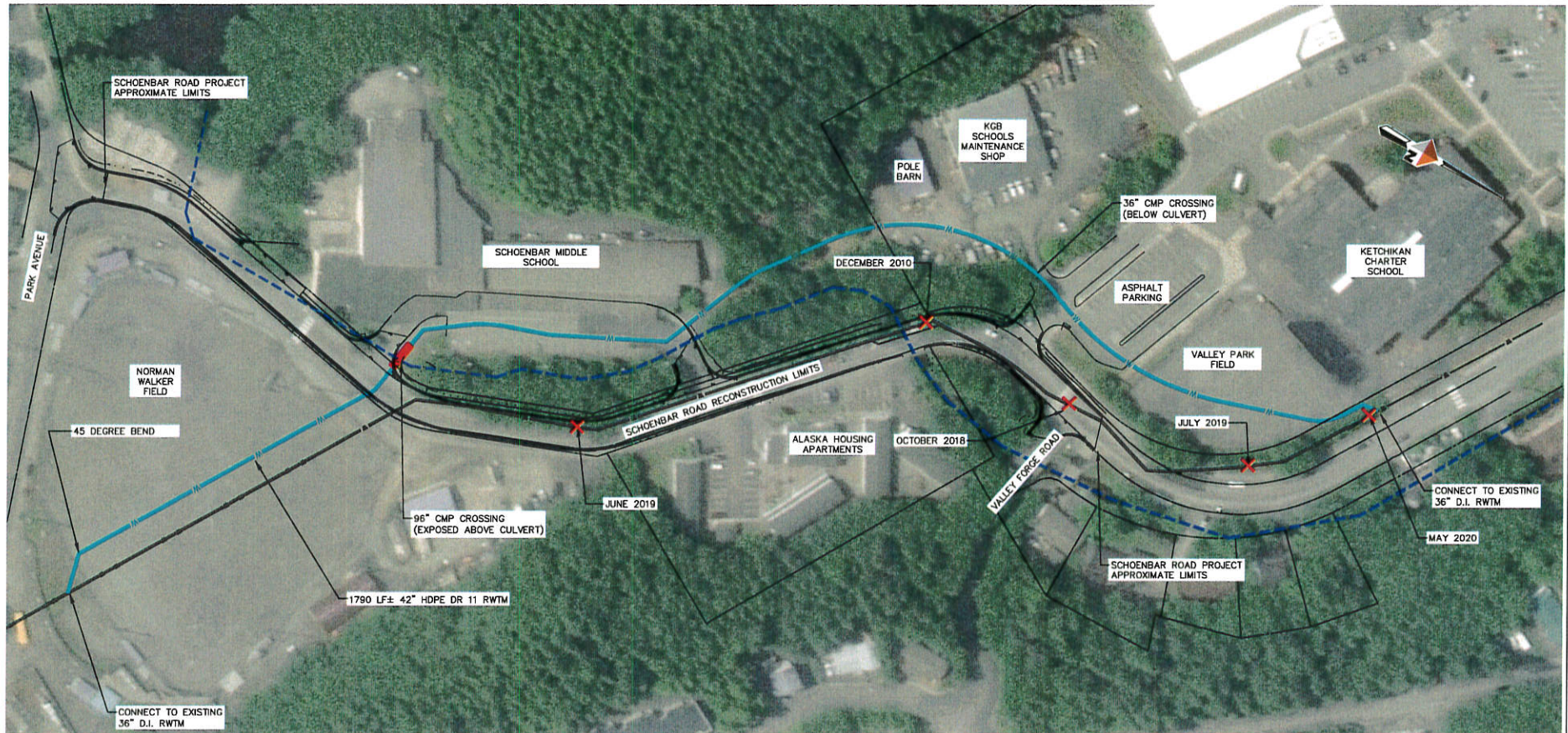
If this proves to be a satisfactory method to install water meters, subsequent design-build contracts will be advertised well before the planned December completion date of Contract 20-12. Achieving the goal of having all of these business and commercial buildings and large residential apartment complexes buildings fully metered before the end of 2021 will require significant effort as there are still approximately 265 unmetered businesses and large apartment complexes. In addition, the 2016 Water/ Wastewater Rate Study will need to be updated.

Rosemary Loop Development - Utility Installation

After two days of heavy rains, Carlanna Lake's approximately 40 year old timber crib dam failed on October 23, 1973. At that time, Carlanna Lake was the principal municipal water source for much of the northern Ketchikan residential area including the Houghtaling Elementary and Ketchikan High Schools. Instead, an emergency route up Jackson Street that was supplied by water from Ketchikan Lake had to be quickly constructed with a temporary pump station installed near the 5th Avenue intersection and a wooden reservoir erected at the Fairview intersection. As Jackson Street's new 10-inch ductile iron pipeline passed the two Rosemary Loop intersections, sections of 6-inch pipe were also laid into the right-of way in anticipation of some future development which never occurred. Finally, circumstances have changed and a large residential property development is about to begin in 2020.

Not only are the segments of this 47-year old 6-inch ductile iron pipe in completely unknown condition, if the contractor began their new construction at this point, it would then become KPU's responsibility to repair and maintain once it became fully operational. Instead, KPU decided to completely replace both obsolete Rosemary Loop connections. The lower Jackson Street connection was intercepted and a new segment of 10-inch pipe installed with a ductile iron 10 x 8 tee and new valves. 34-feet of modern 8-inch HDPE pipe was also placed extending into the lower Rosemary Loop right-of-way where the contractor will begin their new HDPE water main construction. Similarly, the installation of a completely new water main connection for the upper Rosemary Loop will be completed next month.

FIGURE 1 KPU RAW WATER TRANSMISSION MAIN - PROPOSED ALIGNMENT



LEGEND

- SCHOENBAR CREEK (APPROXIMATE)
- EXISTING 36" DUCTILE IRON RAW WATER TRANSMISSION MAIN
- X EXISTING RAW WATER TRANSMISSION MAIN BREAK OR LEAK REPAIR
- PROPOSED 42" HDPE RAW WATER TRANSMISSION MAIN
- PROPOSED CULVERT CROSSING WITH PARTIALLY EXPOSED PIPING

OVERALL PLAN VIEW - SCHOENBAR ROAD RECONSTRUCTION & 42" RWTM REPLACEMENT



CONCEPT ALIGNMENT



No.	Date	By	Revision

SCHOENBAR ROAD
WATER AND SEWER MAINS REPLACEMENT
KETCHIKAN, ALASKA



Date: 05/22/2020	Scale: 1"=60'
Drawn By:	Station:
Checked By:	Sheet No. OF 79