SOUTHEAST ALASKA POWER AGENCY

Regular Board Meeting
AGENDA

Cape Fox Lodge
Ketchikan, Alaska

December 12, 2019 | 9:00 AM to 5:00 PM AKST

For Telephonic Participation: Dial 1-800-315-6338 (Access Code: 73272#)

Annual Christmas Party

for Board Members, Staff, Counsel, Invited Guests and Spouses/Significant Others
will be held December 12, 2019 at the Cape Fox Lodge in Ketchikan, Alaska
Hors d'oeuvres available at 6:00 p.m. ~ Dinner at 7:00 p.m.

1. Call to Order

   A. Roll Call
   B. Communications/Lay on the Table Items
   C. Disclosure of Conflicts of Interest

2. Approval of the Agenda

3. Proclamation Honoring Board Service

4. Persons to be Heard

5. Review and Approve Minutes

   A. September 26-27, 2019 Minutes of Regular Board Meeting
   B. October 30, 2019 Minutes of Special Board Meeting

6. Financial Reports

   A. CEO Financial Memo
   B. Controller Memo
   C. Disbursements
   D. kWh Graph
   E. Fund Graph
   F. Grant Summary
   G. Year-to-Date Financial Statements through October 2019
   H. Presentation and Acceptance of FY19 Audited Financials (Joy Merriner will join the meeting telephonically at approximately 10 AM AKST)

7. Old Business

   A. Executive Session Re CEO Contract

8. New Business

   A. Consideration and Approval of Swan Lake Housing Four-Plex Contract
   B. Consideration and Approval of 2020 Annual Transmission Line Maintenance Contract
   C. Presentation, Consideration, and Approval of FY2020 SEAPA Budget
   D. Consideration and Approval of FY2020 Wholesale Power Rate
   E. Consideration and Approval of SEAPA's FY2020 Operations Plan

9. CEO Report

10. Staff Reports

   A. Operations Manager's Report *(Hammer)*
   B. Power System Specialist's Report *(Schofield)*
   C. Director of Engineering & Technical Services Report *(Siedman)*

11. Calendar Year 2020 Meeting Dates

12. Director Comments

13. Adjourn

KETCHIKAN - PETERSBURG - WRANGELL

SEAPA

Southeast Alaska Power Agency

PROCLAMATION
HONORING BOARD MEMBERS

Andy Donato

Jack Davies

Dick Coose

FOR DEDICATION OF SERVICE AND SUPPORT OF HYDROPOWER IN SOUTHEAST ALASKA

WHEREAS, the Southeast Alaska Power Agency ("SEAPA") recognizes the importance of Hydropower in Southeast Alaska; and

WHEREAS, SEAPA appreciates the vital role played by those individuals who, as Directors of the Agency, establish policies to ensure the Agency's mission of providing the lowest wholesale power rate consistent with sound utility planning and business practices; and

WHEREAS, Directors of the Agency serve as a voice for their respective communities and the Agency to provide unified regional leadership for project development and prudent management of SEAPA's interconnected power system; and

WHEREAS, Andy Donato, Jack Davies, and Dick Coose, all having served in various capacities in their respective communities and one or more years as board members of the Southeast Alaska Power Agency, who selflessly devoted their knowledge, time, and talents as advocates of affordable power and responsible for communicating the best interests of their respective communities and balancing those interests with Agency goals;

NOW, THEREFORE, the Southeast Alaska Power Agency Board of Directors hereby recognizes, thanks, and honors Andy Donato, Jack Davies, and Dick Coose for their investment of time, dedication of service, and support of hydropower in Southeast Alaska.

Minutes of Regular Meeting
September 26-27, 2019

Petersburg Assembly Chambers
Petersburg, Alaska

(An audio recording of this meeting is available on SEAPA's website at www.seapahydro.org)

September 26, 2019

1) Call to Order

A. *Roll Call*

Chairman Sivertsen called the meeting to order at 1:00 p.m. AKDT on September 26, 2019. The following directors and alternates were present, thus establishing a quorum of the board:

Director	Alternate	Representing	
Karl Amylon		Swan Lake	Ketchikan
Robert Sivertsen	Jack Davies	Swan Lake	Ketchikan
		Swan Lake	Ketchikan
Bob Lynn	Robert Larson	Tyee Lake	Petersburg
Steve Prysunka[1]	Lisa Von Bargen	Tyee Lake	Wrangell

The following SEAPA staff/counsel were present for all or part of the meeting:

Trey Acteson, Chief Executive Officer	Clay Hammer, Operations Manager
Ed Schofield, Power System Specialist	Robert Siedman, Dir. of Eng & Tech Svc.
Kay Key, Controller	Sharon Thompson, Ex Asst/Cont Admin
Marcy Hornecker, Administrative Asst.	Joel Paisner, Ascent Law Partners, LLC

B. *Communications/Lay on the Table Item(s):*
(1) Memo Re Information Technology Support Services Contract
(2) Five-year Insurance Premium Summary

C. *Disclosure of Conflicts of Interest:*
(1) Mr. Acteson advised there is a conflict with SEAPA staff, Ed Schofield, and the Safety Program Support Services and Training contract that the board will consider for approval under New Business in the Agenda.

2) Approval of the Agenda

➢ ***Motion***	M/S (Lynn/Von Bargen) to approve the agenda, as amended, to include a corrected five-year insurance summary as a second lay on the table item to be added to the agenda. Motion approved unanimously by polled vote.	Action 19-764

3) Persons to be Heard: None.

[1] Mr. Prysunka joined the meeting at 2:43 p.m.

4) Review and Approve Minutes

➢ ***Motion***	M/S (Lynn/Von Bargen) to approve the minutes of the regular meeting of June 19-20, 2019. Motion approved unanimously by polled vote.	Action 19-765

➢ ***Motion***	M/S (Lynn/Von Bargen) to approve the minutes of the special meeting of June 27, 2019. Motion approved unanimously by polled vote.	Action 19-766

5(A-E) Financial Reports

➢ ***Motion***	M/S (Amylon/Lynn) to accept disbursements for June, July and August 2019 totaling $3,688,492.74 and financial statements for June through August 2019, as presented. Following Mr. Acteson's announcement that the Agency's financial position remains stable and an overview of its revenue and expenses, R&R projects, grants, update on accounting software, and investment strategy, the motion was approved unanimously by polled vote.	Action 19-767

6) CEO Report

Mr. Acteson reported on recent developments in the Governor's office and expressed concern about a bill introduced on May 3rd relating to regulation of electric utilities and electric reliability organizations and providing for an effective date. He advised that the bill threatened the Agency's status as an unregulated entity rendering authority by the RCA for the selection of new energy projects. Although the bill is intended for the Railbelt area of the State, he advised he would engage legislators to address the Agency's concerns with the bill. He provided an update on the State-specific Roadless Rule EIS process, and reported that he spoke at a joint Alaska Power Association and National Hydropower Association meeting which included discussions on drought impacts across the State, updates on recent hydro development challenges and achievements and a federal legislative update.

Mr. Acteson announced that the formal transition of operations and maintenance responsibilities from KPU to SEAPA took place on July 1st and provided updates on activities related to the Agency's insurance program. He advised that purchase of two lots for a future SEAPA office and warehouse was complete and that no substantive action had occurred since the State Department of Transportation's request for an easement on one of the lots, and provided highlights of the Agency's ongoing efforts to execute best practices and process improvements.

The meeting recessed at 2:24 p.m. and resumed at 2:38 p.m.

Chairman Sivertsen announced that the meeting would resume under Agenda Item 7, New Business.

7) New Business

A. *Consideration and Approval of Swan Lake and Tyee Lake Safety Program Support Services and Training Contract.*

➢ ***Motion***	M/S (Von Bargen/Lynn) to enter into a contract with TSS, Inc. for SEAPA's Swan Lake and Tyee Lake Safety Program Support Services and Training for the contract period of October 1, 2019 through December 31, 2020 for the not-to-exceed value of $96,000. Motion approved unanimously by polled vote.	Action 19-768

B. *Consideration and Approval of Award Re Information Technology Support Services.*

➢ ***Motion***	M/S (Lynn/Sivertsen) to authorize staff to enter into a contract with Arctic Information Technology, Inc. for SEAPA's Information Technology Support Services for a contract term of two (2) years for the not-to-exceed value of $120,000. The motion was approved unanimously by polled vote. Motion approved unanimously by polled vote.	Action 19-769

C. *Consideration and Approval of Administrative Employee FY2020 Administrative Employee Benefits*

➢ ***Motion***	M/S (Lynn/Amylon) to renew NRECA employee group benefit plans as presented. Motion approved unanimously by polled vote.	Action 19-770

D. *Consideration and Approval of New R&R Projects*

➢ ***Motion***	M/S (Lynn/Prysunka) to increase the current R&R Budget by $119,150 and approve the addition of projects RR19332 Accounting Software and RR19333 125V Battery Bank Tyee. Motion approved unanimously by polled vote.	Action 19-771

E. *Executive Session Re CEO Review and Hydrosite Investigations*

➢ ***Motion***	M/S (Prysunka/Lynn) to recess into an Executive Session to be conducted pursuant to SEAPA's Bylaws consistent with Alaska Statute 44.62.310 for discussions on (a) review of the Agency's CEO, which discussions may involve subjects that tend to prejudice the reputation and character of a person, and (b) hydrosite analysis as the discussions may involve matters that have a clear impact on the Agency's finances. Motion was approved unanimously by polled vote.	Action 19-772

The meeting recessed into executive session at 3:17 p.m. and reconvened into a regular session at 5:31 p.m.

The Chair announced that during the executive session there were discussions with regard to the CEO's contract and evaluations and that following a discussion with the Agency's counsel, a new item would be added under Item 10 (Next Meeting Dates) under the Agenda to consider holding a special board meeting on October 30th in Ketchikan to discuss the CEO's contract, compensation, and further review.

The meeting recessed at 5:32 p.m.

September 27, 2019

8) Call to Order

A. *Roll Call*

Chairman Sivertsen called the meeting to order at 9:00 a.m. on September 27th and requested a roll call. The same directors that were in attendance on September 26 were present.

9) Staff Reports

A. *Director of Engineering and Technical Services (Siedman)*

Mr. Siedman opened with a PowerPoint presentation on a Swan Lake hydraulic analysis that had been completed in two phases. He explained that following completion of a Swan Lake Hydraulic Validation Model, Phase Two of the analysis was performed to seek possible solutions to prevent or reduce oscillations occurring in the Penstock at low lake levels due to local mode bifurcation. The two phases of the analysis showed that plant frequency control capability is limited by the actual design of the penstock / water column at the plant. He reported that proportional-integral-derivative (PID) gains were changed resulting in stable PID settings for the Swan Lake units when operated in Isochronous with both units online at full loads. He announced that the Tyee and Swan Lake Governor Pressure System and Swan Lake Distribution Valve Controller and Manifold projects were complete, and that 100% design submittal for Swan Lake's Station Service Switchgear project is expected by December 31st. He concluded his report with updates on the Tyee and Swan Lake Snow Pillows, Tyee Satellite Systems, and Tyee battery discharge testing results.

B. *Operations Manager Report (Hammer)*

Mr. Hammer announced that after a feasibility study had been performed, the Agency identified a preferred road route for the Tyee Road Access to Tidewater Project. He reported that quotes were pending for survey work to firm up the road route and design, quantify materials, and identify permitting costs and requirements with the expectation that the work would be complete by year end. He also reported that the fire control panel at the Tyee Plant was obsolete and after a tedious search for a representative to locate necessary parts for system restoration, the project is currently in the engineering phase pending State Fire Marshal approval. Mr. Hammer announced that the Eagle River and Carroll Inlet Crossing Marker Ball Project, TSV Actuator Pistons, and Tyee Gatehouse Propane Refill Projects were all complete. He provided an update on the Agency's brushing program and reported that a survey showed that of the 43 helipads in service on the Cleveland Peninsula, 10 have failed and 13 are significantly deteriorated. He closed with reports and updates on the Agency's wind data collection efforts, wooden pole testing, Wrangell Switchyard and Substation gravel work, the Tyee crew boat motor issues, and activities, work, and safety training that have taken place at the Tyee Plant to date.

C. *Power System Specialist Report (Schofield)*

Mr. Schofield reported that the Agency's 310-page Swan Lake Operations and Maintenance Manual and voluminous Technical Standards Documents that accompany the manual must be updated and rewritten. The tedious task was awarded to a consultant who is nearing completion of the final draft for review. He advised that Tyee's manual will also require an update following

completion of Swan Lake's manual. Mr. Schofield provided a thorough review of the Swan Lake Unit 1 Stuffing Box Seal and Distributor Bushing Repairs Project that was completed in August of this year. He announced that three R&R Projects, Site Glass Switches Upper Guide Bearing Installation, Governor Control Software upgrades, and Governor Pressure System Control Manifold installation, were all completed by contractor, Segrity, LLC with assistance from the Swan Lake staff, during Swan Lake's Annual Maintenance Shutdown. He commended the Swan Lake staff who also performed several annual preventive maintenance work orders and closed his report announcing that the Swan Lake Gangway & Pier Replacement Project materials had arrived and that the project is scheduled to start the week of September 23rd.

10) Next Meeting Date(s)

There was a consensus that the next meeting date would be for a special board meeting to be held on October 30th in Ketchikan to discuss the CEO's contract, compensation, and further review, and any other necessary matters. There were no objections to the regular meeting scheduled for December 12, 2019 in Ketchikan.

11) Director Comments

Directors provided brief comments.

12) Adjourn

➢ ***Motion***	M/S (Prysunka/Von Bargen) to adjourn the meeting. Motion approved unanimously by polled vote.	Action 19-773

The meeting adjourned at 12:00 noon.

Signed: **Attest:**

_____ _____

Secretary/Treasurer **Chairman**

SOUTHEAST ALASKA POWER AGENCY

Minutes of Special Meeting

October 30, 2019

Ketchikan Gateway Borough Building
Legislative Information Office
Ketchikan, Alaska

(An audio recording of this meeting is available on SEAPA's website at www.seapahydro.org)

1) Call to Order

A. *Roll Call*.

Chairman Sivertsen called the meeting to order at 10:00 a.m. AKDT on October 30, 2019. The following directors and alternates were present, thus establishing a quorum of the board:

Directors	Present *Telephonic (T)* *In Person (IP)*	Alternates	Present *Telephonic (T)* *In Person (IP)*	Representing	
Karl Amylon	IP	Andy Donato	IP	Swan Lake	Ketchikan
Bob Sivertsen	IP	Jack Davies	IP	Swan Lake	Ketchikan
Dick Coose	IP	Cliff Skillings	IP	Swan Lake	Ketchikan
Bob Lynn	IP	Robert Larson	IP	Tyee Lake	Petersburg
Stephen Prysunka	IP	Lisa Von Bargen	IP	Tyee Lake	Wrangell

The following SEAPA staff and counsel were present for all or part of the meeting:

Staff	Present *Telephonic (T)* *In Person (IP)*	Staff/Counsel	Present *Telephonic (T)* *In Person (IP)*
Trey Acteson, CEO	IP	Kay Key, Controller	IP
Ed Schofield, Power Syst. Spec.	IP	Sharon Thompson, EA/CA	IP
Clay Hammer, Operations Manager	IP	Marcy Hornecker, Admin. Asst.	IP
Robert Siedman, Dir. Eng & Tech Sv	IP	Joel Paisner, SEAPA Counsel	IP

2) Approval of the Agenda

➢ ***Motion***	M/S (Prysunka/Lynn) to approve the agenda, as presented. Motion approved unanimously by polled vote.	Action 19-774

3) New Business:

A. *Ratification of Two-Year Lease with Ketchikan Gateway Borough*

➢ ***Motion***	M/S (Prysunka/Lynn) to approve Amendment No. 2 to the Lease Agreement entered into on or about September 3, 2019 between SEAPA and the Ketchikan Gateway Borough ('KGB') for the lease of SEAPA's offices in the KGB Building, and to ratify and authorize the execution of the lease agreement that includes a two-year term from January 16, 2019 through January 15, 2022. The motion was approved unanimously by polled vote.	Action 19-775

B. *Consideration and Approval of RR19334 (Heat Pump for Wrangell Office) and RR19335 (Swan Lake Unit 2 Stuffing Box Replacement)*

➢ ***Motion***	M/S (Lynn/Prysunka) to increase the current R&R Budget by $7,500 for RR19334 (Heat Pump Wrangell) and by $108,900 for RR19335 (Swan Lake Unit 2 Stuffing Box Replacement) and further move to approve the addition of both projects. The combined projects will increase the current new R&R Budget by $116,400, bringing the total current new R&R Budget to $564,050. The motion was approved unanimously by polled vote.	Action 19-776

C. *Update/Discussion Re SEAPA Insurance Renewals*

SEAPA's insurance consultant, Gary Griffin of G2 Risk Consulting, joined the meeting telephonically to provide an update on SEAPA's insurance renewal program for the next renewal period of November 1, 2019 through November 1, 2020. He explained various options for Directors and Officers (D&O) and Side-A Insurance coverages the board may consider for the upcoming renewal period. He explained how the original limits of protection for D&O liability were established and how the limits fluctuated in response to changes to exposure over the years, whether the Agency is able to quantify its risk of loss related to actual or alleged wrongful acts of SEAPA management and its board, whether the current limits were currently adequate, and whether Side-A coverage is needed. He also discussed the Agency's excess liability, aviation, and submarine cable coverages. The consensus of the board was that the Agency should maintain the status quo on its D&O and Side-A coverages.

D. *Update/Discussion Re SEAPA's Submarine Cables*

➢ ***Motion***	M/S (Prysunka/Lynn) to approve a feasibility project for the not-to-exceed value of $200,000 for SEAPA's submarine cable issues on the Stikine Strait crossing. Following an executive summary presented by staff electrical engineer, Robert Siedman, on a fault that occurred on the Agency's Stikine Cable Crossing between the Islands of Woronkofski and Vank on September 29, 2019, the Agency's response and actions following the fault, and strategy going forward, the motion was approved unanimously by polled vote.	Action 19-777

E. *Update/Discussion Re Alaska Roadless Rule.*

Mr. Acteson announced that he was informed on October 15th that the U.S. Department of Agriculture (USDA) is publishing six alternatives for roadless management and a proposed Alaska Roadless Rule, and that of the six alternatives, the USDA's preferred alternative is No. 6 for full exemption of the Tongass National Forest from the 2001 Rule. He recommended that SEAPA's member communities be proactive in submitting written comments on the USDA's proposed alternatives and provided information in the board packet on where to submit comments. Board members requested that the Agency prepare talking points for them to consider in their comments.

The meeting recessed at 12:07 p.m. for lunch and reconvened at 1:03 p.m.

F. *Executive Session Re CEO Evaluation*

➢ ***Motion***	M/S (Lynn/Coose) to recess into Executive Session to be conducted pursuant to SEAPA's Bylaws consistent with Alaska Statute 44.62.310 for an evaluation of the Agency's CEO and to discuss the CEO's compensation and contract, which discussions may involve subjects that tend to prejudice the reputation and character of a person. The motion was approved unanimously by polled vote.	Action 19-778

The meeting recessed for the executive session at 1:05 p.m. and reconvened at 3:26 p.m.

Chairman Sivertsen announced that during the executive session, that he and the Agency's counsel received direction to move forward following a discussion on the CEO's evaluation, compensation, and contract.

4) Adjourn

The Chair requested Directors' comments prior to a motion to adjourn the meeting. Directors provided brief comments.

➢ ***Motion***	M/S (Coose/Lynn) to adjourn the meeting. The motion was approved unanimously by polled vote.	Action 19-779

Chairman Sivertsen adjourned the meeting at 3:30 p.m.

Signed: Attest:

_____ _____

Secretary/Treasurer Chairman

SOUTHEAST ALASKA POWER AGENCY
CEO FINANCIAL COVER MEMO

DATE: December 6, 2019

TO: SEAPA Board of Directors

FROM: Trey Acteson, Chief Executive Officer

SEAPA's financial position has diminished somewhat due to drought conditions over the last year. Water shortages limited sales and reduced reserves. Total Agency Funds as of November 2019 were $22,446,016 vs. $26,153,291 year over year. The Dedicated R&R Fund at the end of November was down to $4.5M and the Revenue Fund was at $1.6M. The current balances support the Agency's day to day operational cash flow requirements and cover current approved R&R projects. However, it will be necessary to resume levelized payments into the Dedicated R&R Fund to support future capital projects. I will provide further guidance on this topic during the 2020 Budget discussion.

We are currently working under a 6-month interim budget approved back in June, which was developed to transition to the new calendar based fiscal year. We are forecasting that year-end revenues will exceed the budget and expenses will come in under budget.

REVENUE & EXPENSES: Sales for July through the end of November were 57,485,847 kWh's. Converted to revenue, total power purchases through the end of November were $3,909,038 actual vs. $3,476,432 budget. As shown in the sales graph in your packet, September and October sales were more robust than anticipated.

Total administrative and operating expenses for July through the end of October were $1,983,646 actual vs. $2,462,634 budget.

RENEWAL & REPLACEMENT PROJECTS: Total R&R expenditures for July through the end of October were $885,864 actual vs. a total budget of $2,085,794. Progress slowed on R&R projects as resources were shifted to address the submarine cable failure.

GRANTS: The Agency has one open grant, the FY13 DCCED, with a balance as of the end of the last quarter totaling $449,414. The grant is scheduled to expire June of 2020 and current approved contracts should utilize the remaining funds with a little buffer for minor project closeout.

SOUTHEAST ALASKA POWER AGENCY

CONTROLLER MEMO

Date:	December 3, 2019	From:	Kay Key
To:	Trey Acteson	Subject:	**FINANCIAL STATEMENTS**

SUGGESTED MOTION
I move to accept disbursements for September, October, and November 2019 totaling $1,968,685.30 and financial statements for October 2019, as presented.

Financial Statements in this board packet include:

- **Disbursements for September through November 2019**
- **kWh Graphs** (November 2019)
- **Fund Allocation Graph** (November 2018)
- **Grant Summary** (Quarterly, through September 2019)
- **Monthly Financial Statements for October 2019**
  - ✓ Financial Overview
  - ✓ Statement of Financial Position – Monthly prior year comparison
  - ✓ Statement of Activities – Monthly prior-year comparison, YTD prior-year comparison, YTD and annual budget
- **R&R Summary**

DISBURSEMENT SUMMARY

The table below summarizes the expenditures included in the disbursement reports that follow:

	Revenue Fund	R&R Fund	New Gen Fund
September 11, 2019	39,080.03	68,207.58	-
September 24, 2019	253,704.43	55,557.26	-
October 7, 2019	74,758.25	8,373.57	-
October 22, 2019	199,352.81	475,393.66	-
November 7, 2019	221,874.47	103,959.56	-
November 25, 2019	348,258.30	120,165.38	-
TOTALS	1,137,028.29	831,657.01	-
	$1,968,685.30		

Revenue Fund - Operations and maintenance expenses, grant expenses.

R&R Fund - Expenditures for capital (R&R) projects.

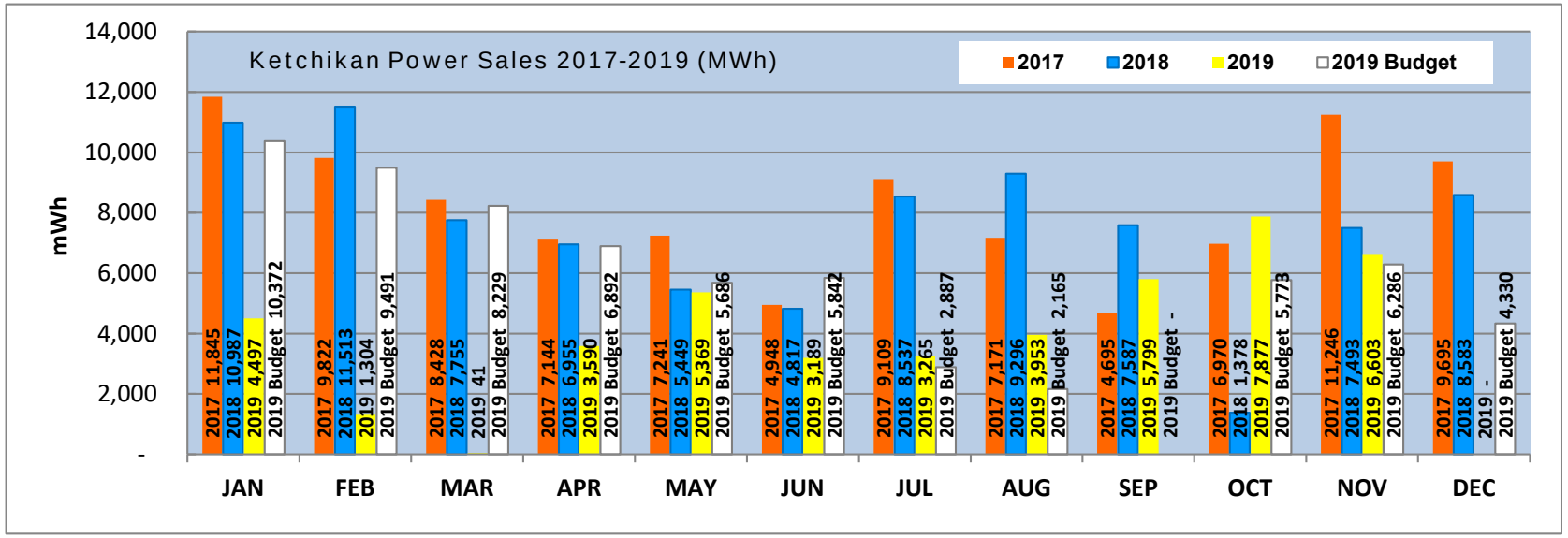
New Gen Fund - Costs directly associated with developing new generation.

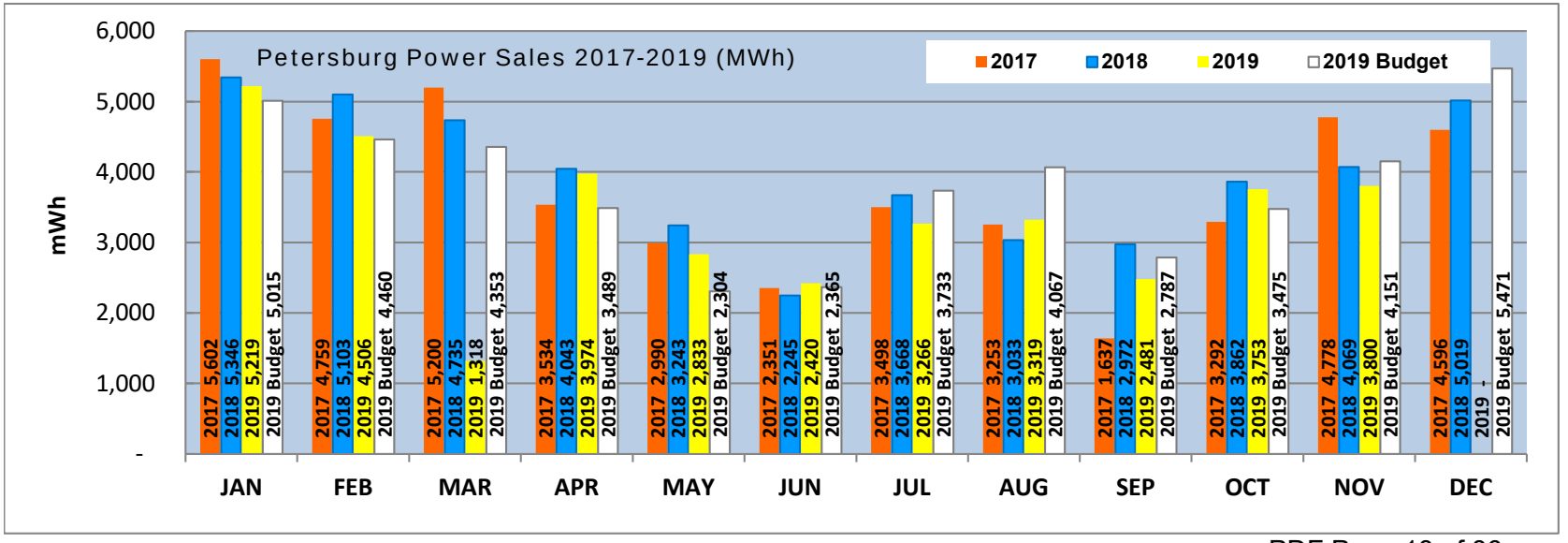
VENDOR	Revenue Fund	Dedicated R&R Fund	New Gen Fund	Southeast Alaska Power Agency Sep-Nov Disbursements
Bank of America (August)	18,841.83	2,694.40	-	
Bank of America (September)	16,551.76	422.66	-	
Bank of America (October)	14,691.17	-	-	
Board Member Reimbursement	248.00	-	-	
Employee Reimbursement	257.36	390.75	-	
Admiralty Environmental, LLC	191.63	-	-	
Aero Services - KTN	42.96	-	-	
Alaska Airlines Cargo	134.94	-	-	
Alaska Charters and Adventures	560.00	-	-	
Alaska Department of Public Safety	723.04	-	-	
Alaska Dispatch News	196.73	-	-	
Alaska Permanent Capital Inc	5,069.85	-	-	
Alaska Power Association	350.00	-	-	
Alpine Mini Mart	59.85	88.37	-	
Amazon.com	2,597.62	-	-	
Analysts, Inc.	167.90	-	-	
Angerman's Inc	204.90	-	-	
Anixter Inc	-	2,571.12	-	
Arrowhead LP Gas WRG	5,044.28	-	-	
Ascent Law Partners LLP	18,564.41	-	-	
BAM LLC	29,500.00	-	-	
Bay Company	779.83	-	-	
BDO USA LLP	19,020.19	-	-	
Breakaway Adventures, LLC	4,075.00	-	-	
Buness Bros. Inc.	845.00	-	-	
C&T Fire Protection Inc	285.00	-	-	
Cambria Properties LLC	4,575.00	-	-	
Channel Electric	22.25	-	-	
City Market	2,597.55	-	-	
CoastAlaska, Inc.	2,184.00	-	-	
Daily Journal of Commerce	79.20	-	-	
Dell	1,099.00	-	-	
Electric Power Constructors	165,115.10	261,546.56	-	RR19301 Disconnect Switches RR270 Dampeners RR19328 Marker Balls Carroll Inlet RR19309 Marker Balls TYL
Electric Power Systems Inc.	-	99,476.50	-	RR19314 Station Service SWL
ESP Water Products	1,159.04	-	-	
Esteem Wireless Modems	-	654.90	-	
Evans Keane LLP	626.00	-	-	
First City Electric, Inc.	957.20	-	-	
Frontier Shipping & Copyworks	207.37	-	-	
G2 Risk Consulting	6,187.50	-	-	
Grainger	1,638.49	-	-	
Hammer & Wikan	328.64	-	-	
Harbor Way Parts - NAPA	52.87	-	-	
Helicopter Air Alaska LLC	3,908.95	-	-	
I Even Do Windows	1,200.00	-	-	
Iris Power LP	1,295.00	-	-	
Jaco Analytical Lab	457.00	-	-	
Juneau Alaska Communications	2,565.30	-	-	
Ketchikan CHARR Education Fund	1,000.00	-	-	
Ketchikan City of 334	608.42	-	-	
Ketchikan Daily News	178.16	88.21	-	
Ketchikan Gateway Borough	14,872.64	7,562.04	-	

VENDOR	Revenue Fund	Dedicated R&R Fund	New Gen Fund	Southeast Alaska Power Agency Sep-Nov Disbursements
Ketchikan High School	500.00	-	-	
Ketchikan Mechanical, Inc.	472.86	-	-	
Ketchikan Ready Mix & Quarry, Inc	8,150.00	-	-	
Ketchikan Stitches	70.00	-	-	
Landing Hotel & Restaurant	2,498.51	915.94	-	
Les Schwab	203.92	-	-	
Litostroj Hydro Inc	-	24,393.58	-	
Liv and Heidi's Kjokken	1,775.50	-	-	
LNM Services	372.69	-	-	
Madison Lumber & Hardware Inc	526.84	554.43	-	
Mapcon Technologies, Inc.	8,719.13	-	-	
Marble Construction	1,410.50	447.50	-	
McFarland Cascade Holdings Inc	16,641.00	-	-	
McMillen Jacobs Associates	46,128.70	-	-	
Mitchell Instrument Co	2,652.03	-	-	
NC Machinery	189.57	-	-	
Northwest Hydroelectric Association	800.00	-	-	
NRECA Group Ins	53,799.60	-	-	Admin Group Benefits (Oct-Dec)
NRECA Group Ins Admin	4,795.68	-	-	
NRECA RSP Admin	2,391.84	-	-	
Ottesen's Inc	1,197.47	189.85	-	
Pacific Airways Inc	6,310.00	1,695.00	-	
Pacific Pride	1,893.84	-	-	
Pacific Wings Inc.	1,040.00	-	-	
Petersburg Bottled Gas	146.00	-	-	
Petersburg High School	500.00	-	-	
Petersburg Motors Inc	121.06	-	-	
Petersburg Municipal Power & Light	42.90	-	-	
Petro Marine Services-KTN	1,748.50	1,996.30	-	
Petro Marine Services-WRG	1,667.04	-	-	
Pilot Publishing, Inc.	157.50	67.50	-	
R&M Engineering-Ketchikan	1,090.00	-	-	
Ray Matiashowski & Associates	12,000.00	-	-	
Reliant Consulting	1,575.00	-	-	
Samson Tug & Barge	7,155.32	535.93	-	
Satellite & Sound Inc	6,302.25	-	-	
Scandia House Hotel	1,815.00	-	-	
Schmolck Mechanical KTN	1,024.51	-	-	
Schnabel Engineering LLC	21,509.40	-	-	
SE Business Machines	450.00	-	-	
SEAPRO	6,300.00	-	-	
Segrity LLC	46,130.37	102,305.15	-	RR19303-RR19304 Gov Pressure Systm RR19318 Site Glass RR19319 Valve Contrlr-Manifld
Sentry Hardware & Marine	1,319.50	419.30	-	
Service Auto Parts	368.65	15.66	-	
Sockeye Business Solutions Inc	-	6,531.25	-	
Southeast Auto & Marine Parts, Inc	3,874.33	-	-	
Southern States LLC	-	12,532.47	-	
Specialty Engineering	17,021.46	-	-	
Stikine Inn	1,327.66	-	-	
Sunrise Aviation Inc	25,707.50	2,572.00	-	
Svendsen Marine	984.00	220.42	-	
Tamico Inc	520.20	-	-	
Temsco Helicopters, Inc.	23,384.20	11,076.48	-	

VENDOR	Revenue Fund	Dedicated R&R Fund	New Gen Fund	Southeast Alaska Power Agency Sep-Nov Disbursements
TEquipment.net	2,962.98	-	-	
TexRus	15,473.55	-	-	
Therm-Tec, Inc.	475.35	-	-	
Timber & Marine Supply Inc	318.22	-	-	
Tongass Business Center	1,030.32	-	-	
Tongass Engineering	-	10,860.00	-	
Troutman Sanders LLP	9,882.00	-	-	
TSS, Inc.	4,305.00	-	-	
Tyler Industrial Supply	4,395.69	106.31	-	
Wausau Equipment Company Inc	3,076.72	-	-	
Wells Fargo 2015 Interest	106,437.00	-	-	2015 Series Bond Interest
Wells Fargo 2019 Interest	41,236.00	-	-	2019 Series Bond Interest
Wells Fargo 2019 Principal	192,500.01	-	-	2019 Series Bond Principal
Welsh Whiteley Architects, LLC	-	3,060.00	-	
Weschler Instruments	7,878.10	-	-	
Wesco Distribution	3,753.00	-	-	
Western Dock and Bridge LLC	-	240,350.00	-	RR19311 Pier-Ramp SWL
White Enterprises	-	33,800.00	-	
Wilson Bohannan Padlock Company	-	277.43	-	
Workforce Go!	1,260.00	1,185.00	-	
Wrangell City & Borough	19,546.89	-	-	
Wrangell High School	500.00	-	-	
Wrangell Sentinel	126.00	54.00	-	
X2nSat	10,071.98	-	-	
Yukon Fire Protection Services, Inc	13,099.52	-	-	
GRAND TOTAL	1,137,028.29	831,657.01	-	
		1,968,685.30		

NOV 2019	2019 kWh HYDROPOWER SALES	CURRENT MONTH		YTD (Jul-Nov 2019)	
		Actual	Budget	Actual	Budget
	Ketchikan Power Purchases	6,603,024	6,286,000	27,497,660	17,111,000
	Petersburg Power Purchases	3,799,634	4,151,000	16,619,017	18,213,000
	Wrangell Power Purchases	2,912,860	3,397,000	13,369,170	15,800,000
	Total Power Purchases	13,315,518	13,834,000	57,485,847	51,124,000





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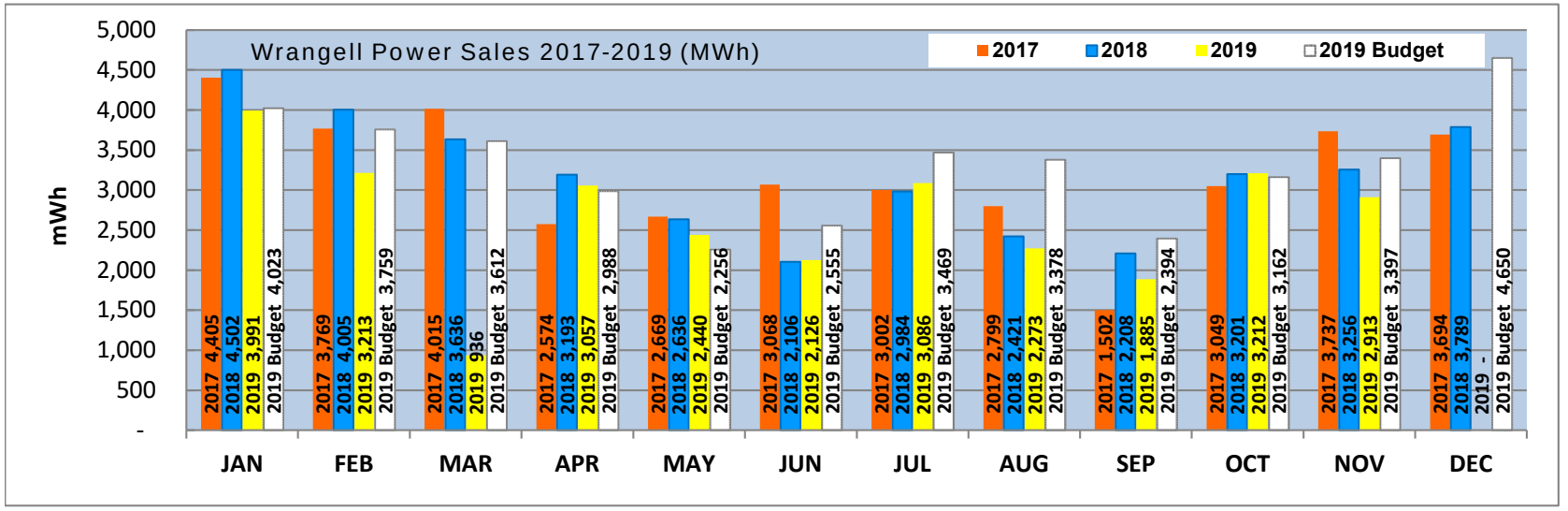

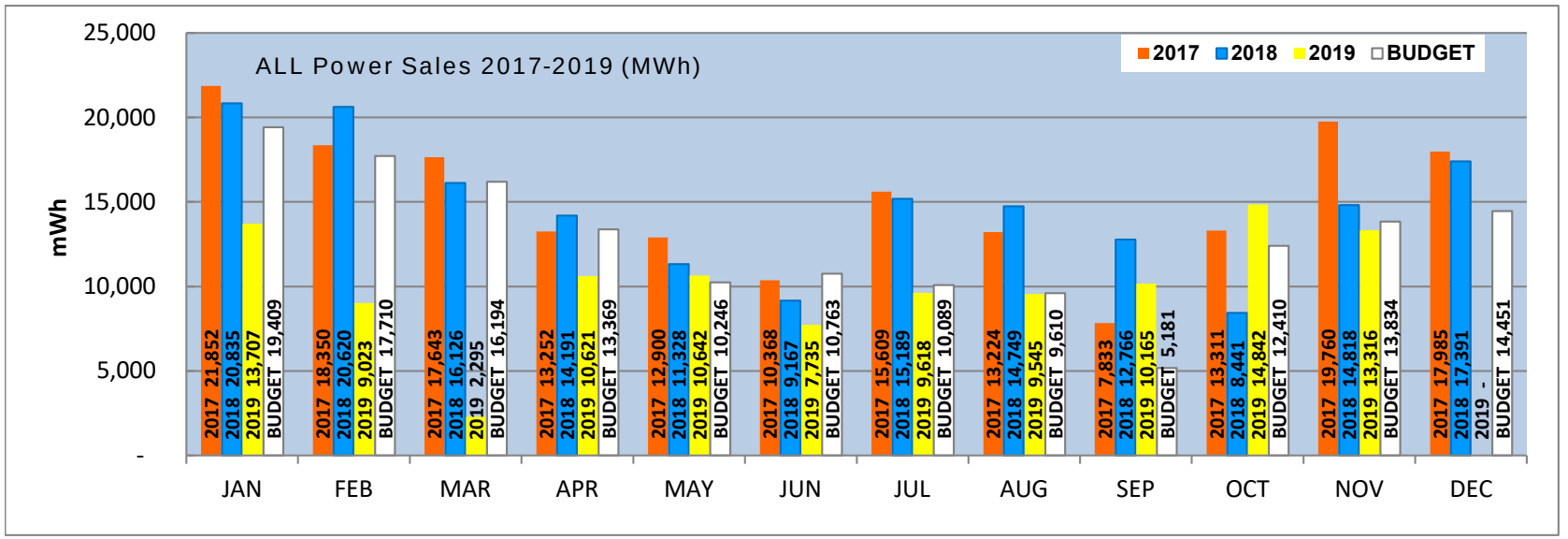

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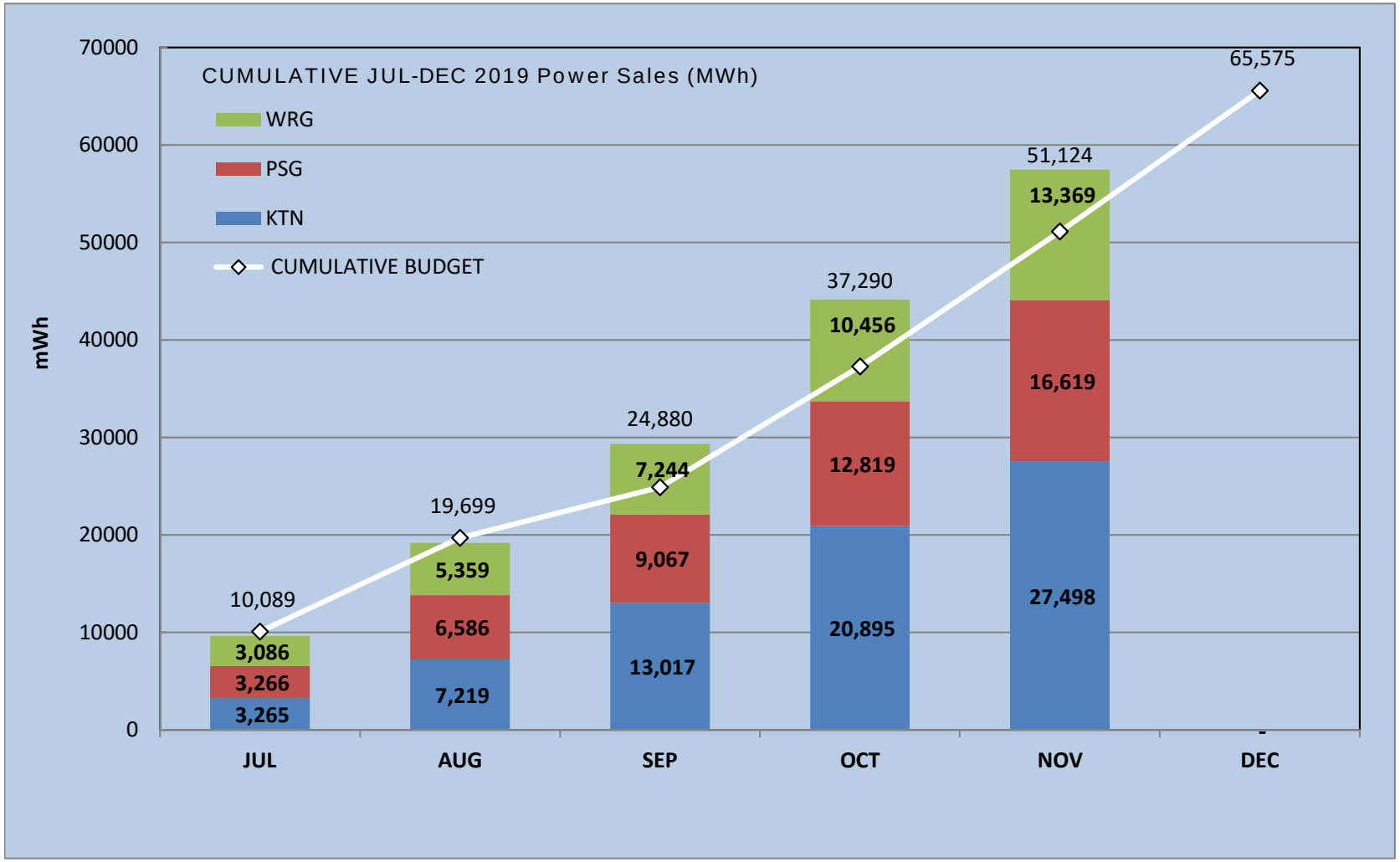
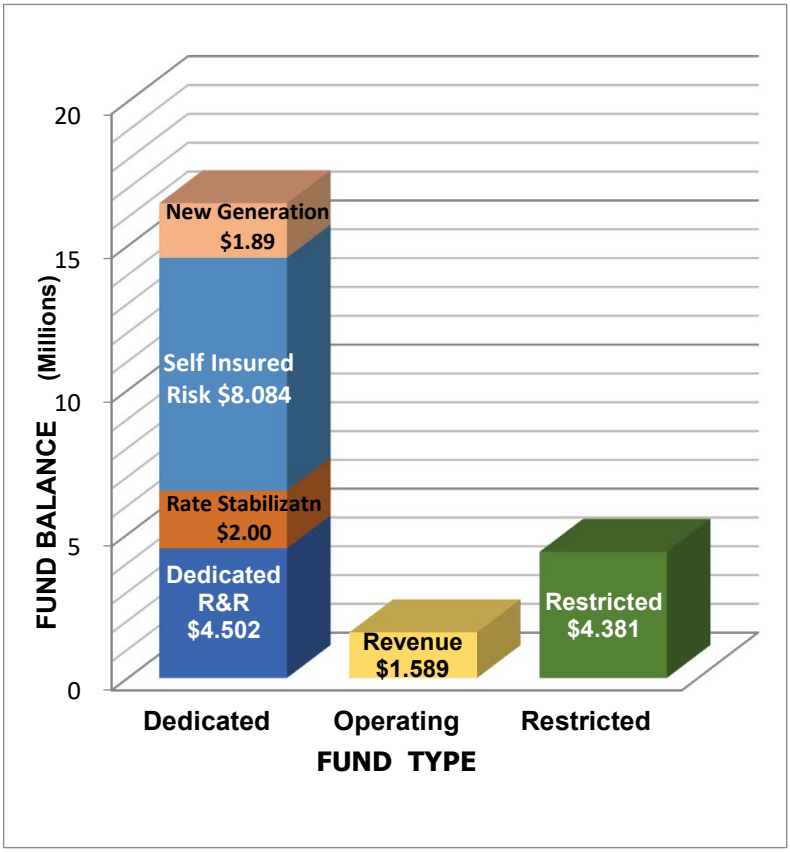


NOVEMBER 2019

Operations, Capital and Insurance Funds	
Revenue Fund	$ 1,587,550
Required R&R Fund	1,000,256
Dedicated R&R Projects Fund	4,501,601
Commercial	1,000
New Generation Fund	1,889,706
Rate Stabilization Fund	2,001,633
* Self Insured Risk Fund	8,083,553
Total Operations, Capital and Insurance Funds	19,065,298
Trustee Funds	
2015 Series Bond Interest	$ 243,944
2015 Series Bond Reserve	205,476
2019 Series Bond Interest	18,252
2019 Series Bond Principal	450,564
2019 Series Bond Reserve	1,259,133
Total Trustee Funds	2,177,368
Other Restricted Funds	
STI - USFS CD	$ 21,635
DNR Reclamation Fund	1,181,715
Total Other Restricted Funds	1,203,350
Total Agency Funds	$ 22,446,016



* The Self Insured Risk Fund displays an estimated balance; the November statement was not available in time for this report.

Dedicated Funds

New Generation = Project feasibility funding (hydro, wind, geothermal)
Self-Insured Risk = Coverage for uninsured transmission lines, submarine cables and insurance deductibles.
Rate Stabilization Fund = Reserve to ensure stability of Member Utility rates.
Dedicated R&R = Funds Replacement & Repair projects approved by the SEAPA Board in the budget.

Operating Funds

Revenue Fund & Commercial Checking: All SEAPA income is deposited to the Revenue Fund as required by Bond Indentures and transferred to checking as needed to cover expenditures.

Restricted Funds (Legally or contractually restricted)

All Trustee Funds: Bond Interest, Principal, Reserve and Escrow accounts
R&R = $1,000,000 minimum balance required by bond indenture
DNR = Alaska DNR Reclamation Agreement
USFS = USFS Land Remediation Certificate of Deposit

SOUTHEAST ALASKA POWER AGENCY

GRANT SUMMARY

SEPTEMBER 2019

AK DCCED GRANT 13-DC-553				QUARTERLY BILLING	
Grant Billing	**Grant Budget**	**Billing thru 2019**	**Open Balance**	Sep-19	FY19
1 - Hydro Storage	578,000	578,000	0	-	-
2 - G&T Site Evaluation	2,109,092	1,659,678	449,414	26,409	26,409
3 - Stability / Interconnecti	0	0	0	-	-
4 - Load Balance Model	9,181	9,181	0	-	-
5 - Project Mgmt	255,712	255,712	0	-	-
6 - Business Analysis / PSA	48,015	48,015	0	-	-
Total FY13 AK DCCED	3,000,000	2,550,586	449,414	26,409	26,409

TERM: JUL 2013 - JUN 2020

The grant term has been formally extended to June 2020. Values assigned to grant budget categories have been adjusted to align with the remaining scope of work relating to the Board-approved Hydrosite Analysis Project Completion work plan.

OCTOBER 2019

FINANCIAL OVERVIEW

These tables provide a snapshot of SEAPA's revenues and expenses for OCTOBER 2019.

Revenues from kWh sales were over budget for the month and higher than last year:

FIRM kWh SALES	OCT Sales	OCT Budget	Prior Year Sales
Ketchikan	$535,665	$392,564	$93,699
Petersburg	255,190	236,300	262,636
Wrangell	218,429	215,016	217,684
Total Revenue	$1,009,283	$843,880	$574,019

Fiscal year-to-date revenues from kWh sales were over budget but lower than last year:

FIRM kWh SALES	YTD Sales	YTD Budget	Prior YTD Sales
Ketchikan	$1,420,835	$736,100	$1,822,230
Petersburg	871,718	956,216	920,384
Wrangell	711,029	843,404	735,279
Total Revenue	$3,003,582	$2,535,720	$3,477,894

FIRM kWh SALES (Year-Over-Year)	FISCAL YEAR	OCT kWh	YTD JUL-OCT kWh
	FY2019	14,842,402	44,170,329
	FY2018	8,441,448	51,145,497
	FY2017	13,311,181	49,977,903

Administrative and operating expenses were under budget:

Administrative & Operating Expenses	OCT Actual	OCT Budget	Prior Yr Expense
	$659,150	$788,653	$442,791
	YTD Actual	YTD Budget	Prior YTD Expense
	$1,983,646	$2,462,634	$1,945,482

OCTOBER 2019

	Oct-19	Oct-18
ASSETS		
Current Assets		
Agency Funds		
111000 · Ops/Capital/Insurance Funds		
111100 · Revenue Fund FB	1,759,537	2,995,419
111200 · Required R&R Fund FB	1,000,206	1,000,206
111210 · Dedicated R&R Projects Fund FB	4,725,978	6,945,190
111300 · Commercial FB	1,000	1,000
111401 · New Generation Fund	1,889,612	1,899,534
111402 · Rate Stabilization Fund	2,001,532	2,000,312
* 111500 · Self Insured Risk Fund FNBA	8,083,553	8,032,377
Total 111000 · Ops/Capital/Insurance Funds	19,461,418	22,874,037
112000 · Trustee Funds		
112100 · WF Trust 2009 Bond Interest	-	113,283
112200 · WF Trust 2009 Bond Principal	-	349,006
112300 · WF Trust 2009 Bond Reserve	-	1,429,585
112501 · WF Trust 2015 Bond Interest	218,561	203,581
112503 · WF Trust 2015 Bond Reserve	205,226	215,737
112508 · 2019 Series Bond COI Fund	-	-
112509 · 2019 Series Bond Interest Fund	543	-
112510 · 2019 Series Bond Principal Fund	385,989	-
112511 · 2019 Series Bond Reserve Fund	1,257,604	-
Total 112000 · Trustee Funds	2,067,922	2,311,191
113000 · Other Restricted Funds		
113100 · STI - USFS CD WF	21,635	21,633
113500 · DNR Reclamation Fund WF	1,181,715	1,086,941
Total 113000 · Other Restricted Funds	1,203,350	1,108,574
Total Agency Funds	22,732,690	26,293,802
Accounts Receivable		
110000 · Accounts Receivable	1,432,809	959,686
Total Accounts Receivable	1,432,809	982,594
Other Current Assets		
120200 · Other Receivables	5,800	5,800
120300 · Accrued Interest Receivable	44,798	31,302
120500 · Prepaid Fees		
120530 · Prepaid Operating Expense	-	14,756
120540 · Prepaid USDA FS Land Use Fees	17,437	16,881
120550 · Prepaid Admin Benefits	45,794	45,222
Total 120500 · Prepaid Fees	63,230	76,860
120700 · Inventory Assets		
1207001 · Inventory Spares-Stores	196,129	200,914
1207003 · Inventory - SWL Winding Replace	890,405	890,405
1207006 · Inventory - Flashboard-Kickers	439,456	-
Total 120700 · Inventory Assets	1,525,990	1,091,319
Total Other Current Assets	1,639,818	1,205,281
Total Current Assets	25,805,318	28,481,677

OCTOBER 2019

	Oct-19	Oct-18
Fixed Assets		
130100 · Capital Assets	180,655,154	179,117,642
132200 · R&R Projects WIP Capital Improv	1,132,507	421,241
132900 · Accumulated Depreciation	(51,500,208)	(46,685,432)
Total Fixed Assets	130,287,453	132,853,451
Other Assets		
183000 · Deferred Assets		
183003 · 2009 Bond - Refunded Discount	-	104,281
183004 · Tyee Marine Access	6,975	-
183006 · New Gen Integration	4,104	-
183007 · 2019 Bond Gain on 2009 Refund	104,043	-
183008 · Vank-Woronkofski Sub Cable	16,805	-
Total 183000 · Deferred Assets	131,926	104,281
Total Other Assets	131,926	104,281
TOTAL ASSETS	**156,224,698**	**161,439,409**
LIABILITIES & EQUITY		
Liabilities		
Current Liabilities		
Accounts Payable		
210100 · Accounts Payable General	473,291	142,711
Total Accounts Payable	473,291	142,711
Other Current Liabilities		
210150 · Other Current Liabilities	8,135	9,975
210151 · Member Utility Rebate Payable	-	800,000
210152 · DNR Fund - CVEA KEA Portion	-	-
210300 · Reserve Interest Payable	189,025	315,286
210400 · Wages Payable	87,740	59,156
210401 · PTO Payable	206,266	165,072
210500 · Payroll Liabilities	47,040	21,594
Total Other Current Liabilities	538,206	1,371,084
Total Current Liabilities	1,011,498	1,513,795
Long Term Liabilities		
220100 · Series B Bonds 2009	-	5,590,000
220120 · 2009 Bond Issuance Discount	-	(22,461)
220121 · PERS Unfunded Liability WRG	863,353	931,965
220122 · DNR Fund CVEA KEA Liability	590,858	543,471
220130 · Series 2015 Bonds	10,295,000	10,295,000
220131 · 2015 Bond Issuance Premium	752,463	802,933
220132 · 2019 Series Bonds	4,245,000	-
220133 · 2019 Bond Issuance Premium	415,574	-
Total Long Term Liabilities	17,162,248	18,140,907
Total Liabilities	18,173,745	19,654,702
Net Position		
310000 · Net Position	138,811,529	142,091,471
Net Income	(762,664)	(306,764)
Total Net Position	138,048,865	141,784,707
TOTAL LIABILITIES & NET POSITION	**156,222,610**	**161,439,409**

OCTOBER 2019	OCTOBER 2019	FISCAL YEAR-TO-DATE - JUL-OCT 2019			6-Month BUDGET	% Annual Budget
		YTD FY18	YTD Jul-Oct	Jul-Oct Budget		
Operating Income/Expense						
Operating Income						
410000 · Hydro Facility Revenues						
410100 · Ketchikan Power Purchases	$ 535,665	$ 1,822,230	$ 1,420,835	$ 736,100	$ 1,457,988	
410200 · Petersburg Power Purchases	255,190	920,384	871,718	956,216	1,610,512	
410300 · Wrangell Power Purchases	218,429	735,279	711,029	843,404	1,390,600	
Total 410000 · Hydro Facility Revenues	$ 1,009,283	$ 3,477,894	$ 3,003,582	$ 2,535,720	$ 4,459,100	67%
454000 · Rent from Electric Property	$ -	$ -	$ 2,448	$ 2,000	$ 3,000	
Total Operating Income	$ 1,009,283	$ 3,477,894	$ 3,006,030	$ 2,537,720	$ 4,462,100	67%
Operating Expense						
535000 · Hydro Ops-Suprvsn & Engineering	$ 637	$ 6,008	$ 4,057	$ 44,900	$ 104,500	4%
537000 · Hydraulic Expenses	-	11	-	-	-	0%
538000 · Electric Expenses	8,181	14,634	15,352	85,900	101,000	15%
539000 · Misc Power Generation Expense	53,097	154,310	130,728	250,400	337,870	39%
540000 · Rents	13,768	52,457	54,159	74,426	102,500	53%
541000 · Hydro Power Station Maintenance	15,202	19,623	23,511	22,000	32,000	73%
543000 · Dams, Reservoirs & Waterways	-	288,858	12,855	21,000	23,500	55%
544000 · Maintenance of Electric Plant						
544100 · SWL Plant Wages & Benefits	61,518	221,232	259,388	303,836	456,000	57%
544200 · TYL Plant Wages & Benefits	59,352	208,213	257,575	281,500	423,000	61%
545000 · Plant Miscellaneous Maintenance	4,842	12,243	13,353	15,000	24,500	55%
561000 · Control System Maintenance	-	6,698	10,622	34,000	51,000	21%
562000 · Trans/Operations Station Exp	18,867	7,327	24,260	21,250	27,750	87%
564000 · Trans/Submarine Cable Expense	367	20,807	2,042	700	1,000	204%
571000 · Trans/Maint Overhead Lines(OHL)						
* 571000 · Brushing Wages & Benefits	12,610	61,600	55,037	41,200	54,500	101%
571000 · XMSN OHL Maintenance	161,994	46,232	208,558	284,020	300,020	70%
920000 · Admin Wages & Benefits	128,315	470,757	517,595	512,700	769,607	67%
921000 · Office Expenses	17,178	29,792	56,804	96,270	147,910	38%
923000 · Contract Services						
923091 · Audit Services	20,997	-	20,997	30,000	33,000	64%
923092 · Bank Fees-Financial Services	1,928	7,880	7,943	8,030	12,050	66%
923093 · Legal Services	19,028	27,890	30,056	27,000	40,500	74%
923094 · Legislative Services	4,000	16,043	12,000	16,000	24,000	50%
923095 · Other Professional Services	1,294	7,871	1,815	13,000	20,000	9%
924000 · Insurance	37,203	150,226	148,810	148,812	240,000	62%
928000 · Regulatory Commission Expense	4,826	29,494	43,949	56,200	86,650	51%
930000 · General Expenses	10,368	53,184	46,277	41,950	64,950	71%
931000 · Admin Rent	3,579	32,092	25,904	32,540	48,830	53%
Total Operating Expense	$ 659,150	$ 1,945,482	$ 1,983,646	$ 2,462,634	$ 3,526,637	56%
Net Operating Income	$ 350,133	$ 1,532,411	$ 1,022,384	$ 75,086	$ 935,463	

OCTOBER 2019	OCTOBER 2019	FISCAL YEAR-TO-DATE - JUL-OCT 2019		
		YTD FY18	YTD Jul-Oct	Jul-Oct Budget
Nonoperating Income/Expense				
Nonoperating Income				
941000 · Grant Income	$ -	$ 7,189	$ 26,409	
942000 · Interest Income	21,927	51,982	76,933	
944000 · Realized Gain/(Loss)	(912)	(4,178)	(4,692)	
945000 · Unrealized Gain/(Loss)	13,465	6,387	26,256	
946000 · Misc Nonoperating Income	-	1,500	-	
Total Nonoperating Income	$ 34,480	$ 62,881	$ 124,907	
Nonoperating Expense				
950001 · Misc Nonoperating Expense	$ -	$ (9,746)	$ 112	
950005 · Special Item-DNR Reclamtn Liab	-	-	-	
951002 · Issuance Cost 2019 Bonds	-	-	-	
952000 · Bond Interest 2009 Series	-	97,359	-	
952001 · Bond Interest 2015 Series	36,052	143,984	144,210	
952002 · Bond Interest 2019 Series	14,567	-	93,124	
953000 · Depreciation Expense	404,872	1,633,934	1,619,489	
954000 · Grant Expenses	24,528	35,991	48,316	
955000 · Interest Expense	3,870	-	4,398	
960001 · Meteorological Tower	-	536	306	
Total Nonoperating Expense	$ 483,890	$ 1,902,056	$ 1,909,954	
Net Nonoperating Income	$ (449,410)	$ (1,839,175)	$ (1,785,048)	
Net Income	**$ (99,276)**	**$ (306,764)**	**$ (762,664)**	

* 571 · Brushing Wages & Benefits were under-budgeted by half.

SEAPA R&R (Capital) Projects as of 10/31/2019		Prior Years' Expenditures	FY2019 6-Mo Budget		TOTAL Expenditr.	Overall BUDGET
			Budget	Expenditures		
270-16 Dampeners OHL TYL	SEP 2019 COMPLETE	41,201	$ 27,000	246	**$ 41,447**	68,201
286-18 Housing SWL	Design phase	9,325	$ 200,000	3,783	**$ 13,108**	500,000
19301 Disconnect Swtch-Bush SWL	Equipment ordered	1,022	$ 73,778	24,959	**$ 25,981**	74,800
19303 Gov Pressure System SWL	SEP 2019 COMPLETE	15,400	$ 20,220	15,882	**$ 31,282**	45,620
19304 Gov Pressure System TYL	SEP 2019 COMPLETE	15,400	$ 19,420	12,250	**$ 27,650**	45,620
19305 Governor PLC TYL	PLC Modernization (FY20)	-	$ -	-	**$ -**	93,302
19306 Gravel WRG Switch-Sub	SEP 2019 COMPLETE	-	$ 34,500	33,800	**$ 33,800**	34,500
19307 Helipads Clevelnd-Gatehs	Eval.-engineering underway	-	$ 10,860	18,626	**$ 18,626**	130,000
19308 Hydraulic Power Unit TYL	Relocate gatehs HPU (FY20)	-	$ 170,840	-	**$ -**	175,000
19309 Marker Balls TYL	SEP 2019 COMPLETE	164	$ 151,171	167,494	**$ 167,658**	185,000
19311 Pier-Ramp SWL	SEP 2019 COMPLETE	30,373	$ 272,975	248,042	**$ 278,415**	303,000
19313 Snow Markers-Gauges	Equipment being tested	39,217	$ 40,317	12,055	**$ 51,272**	85,000
19314 Station Switchgear SWL	480V switchgear	13,303	$ 300,000	99,477	**$ 112,780**	1,300,000
19318 Site-Glass Swtch UGB SWL	SEP 2019 COMPLETE	-	$ 41,720	22,330	**$ 22,330**	41,720
19319 Valve Controller-Manifold SWL	Dec 2019	46,136	$ 39,236	342	**$ 46,478**	49,736
19321 FB Gate Trigger Assy SWL	SEP 2019 COMPLETE	46,136	$ 28,007	666	**$ 42,366**	64,050
19324 Stuffing Box Unit 1 SWL	SEP 2019 COMPLETE	511	$ 91,700	60,843	**$ 61,355**	91,700
19326 Don Finney Ln - Design Phase	Design initiated	-	$ 25,000	-	**$ -**	25,000
19327 Fire Protect Upgrade TYL	Design submitted to fire marshall	-	$ 54,500	-	**$ -**	54,500
19328 Marker Balls Carroll Inlet	SEP 2019 COMPLETE	-	$ 111,200	110,500	**$ 110,500**	111,200
19329 Security Upgrades	Underway	-	$ 45,000	5,154	**$ 5,154**	45,000
19330 Servers	Underway	-	$ 32,800	26,400	**$ 26,400**	32,800
19331 STCS-HMI-Historian	Planning	-	$ 60,000	-	**$ -**	450,000
19332 Accounting Software	Underway	-	$ 21,400	23,015	**$ 23,015**	21,400
19333 125V Battery Bank TYL	Equipment being ordered	-	$ 97,750	-	-	97,750
19334 Heat Pump WRG	Dec install scheduled	-	$ 7,500	-	-	7,500
19335 Stuffing Box Unit 2 SWL	Equipment being ordered	-	$ 108,900	-	-	108,900
Total WIP R&R Capital Projects		**$258,188**	**$2,085,794**	**$885,863**	**$1,139,616**	$4,344,299

Financial Reports

Agenda Item 6H

Presentation and Acceptance of

FY19 Audited Financials

(Audited Financials will be distributed to Directors under separate cover)

MEMORANDUM
ATTORNEY-CLIENT COMMUNICATIONS

TO: Chairman
Southeast Alaska Power Agency

FROM: Joel R. Paisner, Ascent Law Partners, LLP

DATE: December 3, 2019

RE: Suggested Motion for Executive Session

The Board of Directors will enter into an executive session during a Regular Board Meeting to be held on December 12, 2019 to discuss the Agency's CEO contract.

I recommend the following motion be made:

> I move to recess into Executive Session to be conducted pursuant to SEAPA's Bylaws consistent with Alaska Statute 44.62.310 for discussions on the Agency's CEO contract, and possible discussions on other related matters, which may involve subjects or other matters that tend to prejudice the reputation and character of a person.

SOUTHEAST ALASKA POWER AGENCY

Date: December 4, 2020

To: Trey Acteson, Chief Executive Officer

From: Ed Schofield, Power System Specialist

Subject: Swan Lake Housing Replacement Contract

A Request for Proposals for the Agency's Swan Lake Housing Replacement Contract (RR Project 286-18) was advertised on October 29, 2019. Two (2) bids were received on December 3, 2019 as follows:

Bidder	City/State	Lump-Sum Bid Amount
Byron Construction LLC	**Ketchikan, Alaska**	**$749,434.00**
BAM, LLC	**Ketchikan, Alaska**	**$918,000.00**

The proposals were primarily evaluated on cost, experience, appropriateness of the proposed general approach to the work and materials/products proposed, construction schedule, warranties, and the contractor's safety program. Based upon the evaluation, staff recommends award of the contract to Byron Construction LLC as the low bidder, together with a 2.5% contingency for unforeseen expenses. An overall budget of $793,800 is included in the FY2020 R&R Budget, of which $13,325 has already been spent.

Please consider the following suggested motion:

SUGGESTED MOTION

I move to authorize staff to enter into a Contract with Byron Construction LLC for SEAPA's R&R Project 286-18 for the Swan Lake Housing Replacement Contract for the lump-sum bid amount of $749,434, plus a 2.5% contingency of $18,735 for a total not-to-exceed amount of $768,169.

Attachment:
R&R286-18

SOUTHEAST ALASKA POWER AGENCY

Date: December 2, 2019

To: Trey Acteson, Chief Executive Officer

From: Clay Hammer, Operations Manager

Subject: 2020 Transmission Line Maintenance Contract

The Agency awarded its 2017-2019 Annual Transmission Line Maintenance contract to Electric Power Constructors, Inc. (EPC) following a competitive bidding process. The contract included an optional contract extension for 2020 line maintenance if the Agency notified the contractor by January 5, 2020 of its intent to extend, subject to Board approval. An offer was extended to EPC on November 13 and they submitted a proposal for the services on December 2nd. Their lump-sum price for 2019 maintenance, which included bucket truck inspections and guy thimble replacements, was $743,214.88. Their proposed lump-sum price for 2020 is $800,096.27, which includes bucket truck and guy thimble prices. The increase accounts for anticipated increases to labor, per diem and fringe benefit costs following IBEW contract negotiations which will take place in the spring of 2020, 2020 helicopter rates which are not yet available, and the cost of bucket truck remobilization from Juneau to Ketchikan.

Based upon an evaluation of EPC's proposal for 2020 transmission line maintenance, staff recommends that the Agency enter into an amendment to the 2017-2019 contract to award SEAPA's 2020 Annual Transmission Line Maintenance services to EPC, plus a 10% contingency for any supplemental or emergency work that may be necessary. The contract will be competitively bid for the 2021-2023 line maintenance. Staff will be available during the meeting to answer any questions.

Please consider the following suggested motion:

SUGGESTED MOTION
I move to authorize staff to enter into an amendment to SEAPA's Contract No. 17022 for 2017-2019 annual transmission line maintenance with Electric Power Constructors, Inc. for SEAPA's 2020 Transmission Line Maintenance for the lump-sum value of $800,096.27, plus a 10% contingency of $80,009.63 for supplemental or emergency work, for a total of $880,105.90.

Agenda Item 8C

New Business

Presentation, Consideration, and Approval of

FY2020 SEAPA Budget

(Draft Budget to be distributed to Directors under separate cover)

SOUTHEAST ALASKA POWER AGENCY

Date: December 3, 2019

To: SEAPA Board of Directors

From: Trey Acteson, Chief Executive Officer

Subject: Wholesale Power Rate

The January through December 2020 budget presented for the Board's consideration is premised on a Wholesale Power Rate (WPR) of 7.3 cents/kWh.

Please consider the following suggested motion:

SUGGESTED MOTION
I move to approve setting SEAPA's wholesale power rate at 7.3 cents/kWh for January through December 2020.

Date: December 5, 2019

To: Trey Acteson, Chief Executive Officer

From: Robert Siedman, P.E., Director of Engineering & Technical Services

SEAPA 2020 Operations Plan Report

Every year SEAPA presents the Operations Plan (Ops Plan) for Board approval in accordance with Section 5 of the Power Sales Agreement[1] (PSA). The annual plan forecasts expected reservoir levels for Tyee Lake and Swan Lake for the upcoming year by maximizing output from SEAPA facilities and optimizing water resources. Pursuant to the PSA, the Ops Plan gives first priority to the dedicated Firm Power Requirements of each Utility and optimizes Additional Dedicated Output as a second priority for additional power requirements. Optimization of water resources is achieved by an algorithmic math model as represented in Figure 1.

1.0 Water Resource Algorithmic Math Model Process

Step 1: Current lake levels

Step 2: Inflow Forecasts
1. NOAA
2. USGS
3. NINO3.4

Step 3: Load Forecast
1. Temperature Forecasts
2. Scheduled Maintenance
3. STICS/Historic Loads

Step 4: Iterative Math Model
1. Case Reservoir Plots
2. Optimized Water Resources

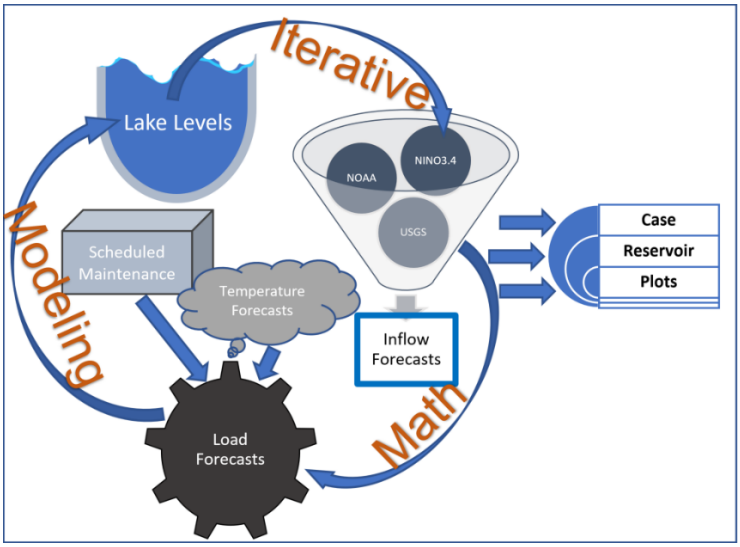


Figure 1: Math Modeling: Optimizing Water Resources

[1] Section 5 of the Power Sales Agreement states that SEAPA shall prepare annually an Operations Plan to estimate the Firm Power Requirements of the Purchasing Utilities and identify Dedicated output to maximize utilization and optimize output of each facility.

The iterative process utilized in the algorithm to optimize water resources was applied to a variety of cases. Each case was further analyzed, and curves were developed. Special consideration was made to ensure optimization of water resources without risking dedicated Firm Power Requirements of the Purchasing Utilities. The process, assumptions, and results are discussed below.

2.0 Current Lake Levels

The lake levels as of December 5, 2019 were average at 1378.6 feet for Tyee and 323.2 feet for Swan. This is due to average precipitation for August-October and double the average in November (ensuing the 2018-2019 drought). According to the latest Drought Monitor analysis (updated November 26), Southeast Alaska has transitioned from an "Extreme Drought" to an "Abnormally Dry" condition (Figure 2). The drought condition in Southeast Alaska has officially been lifted. Although Southeast Alaska has transitioned from a moderate La Nina to ENSO-neutral with south Sea Surface Temperatures (SST) near average, NOAA is predicting a 3-Month outlook to be above average temperatures with above average precipitation.

August-November of 2019 offered significant relief to the drought condition with a total of 65.5 inches of rain (for the period). Precipitation was 32% above the previous 5-year average of 49.7 inches (data from Swan Lake weather station). Above average rainfalls allowed KPU to increase hydro-generation, subsequently reducing net loads on SEAPA hydro. In addition to above-average rainfalls, temperatures in Southeast Alaska were moderate, further reducing loads. As a result, Tyee & Swan lake fill rates increased significantly.

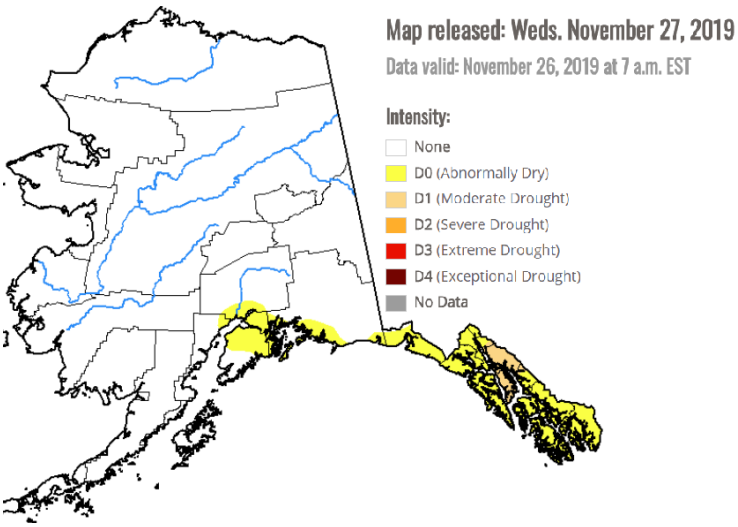


Figure 2: U.S. Drought Monitor-Alaska

The first half of the 2019 water cycle had significantly below average precipitation. As a result, Tyee generation remained curtailed for sales to the South. A diesel campaign in Ketchikan subsequently ensued until August 28. Throughout the duration of the diesel campaign, Tyee lake levels were monitored closely and compared to the sales/curtailment curves. After the sales curve threshold for Tyee lake was reached, SEAPA began net exports to the South. Precipitation forecasts were monitored routinely to ensure Tyee lake levels would not drop below the curtailment curve (10ft Operations Band).

3.0 Rain Fall – Inflows for 2019

As discussed in the preceding section, rainfalls for 2019 were extremely low for the first half of the year and average to above average for the latter half. The Swan Lake weather station recorded approximately 120 inches of rain from January-December, only 13% below the previous 5-year average.

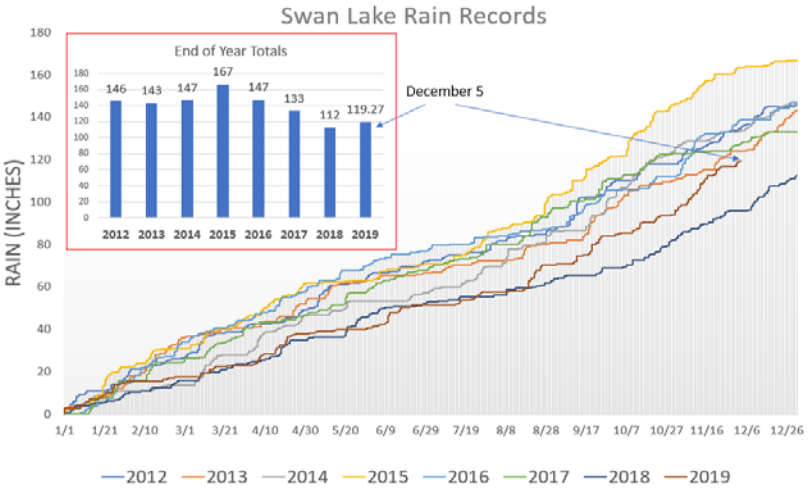


Figure 3: 8-Year Historical Rainfall: Swan Lake

The chart on the left (Figure 3) illustrates an 8-year graph of precipitation recorded at Swan Lake. As evidenced in this chart, 2019 precipitation was extremely low (similar to 2018) from January through July. In August, the accumulative 2019 rainfall (redline) began to rise rapidly above the 2018 (blue line) levels. If the trend from the previous 4-months continues (in accordance with NOAA predictions), 2019 precipitation should close the 13% gap, ending the year with 5-year average precipitation records.

4.0 Inflow Forecasts

Inflow predictions for calendar year 2020 were performed by utilizing NOAA, NINO3.4, Pacific Decadal Oscillation charts and historic USGS inflow data. NOAA 3-month forecasts for the months of December-January-February are predicting above average chance of above average precipitation and above-normal temperatures. Figure 4 (below) illustrates NOAA's three-month outlook.

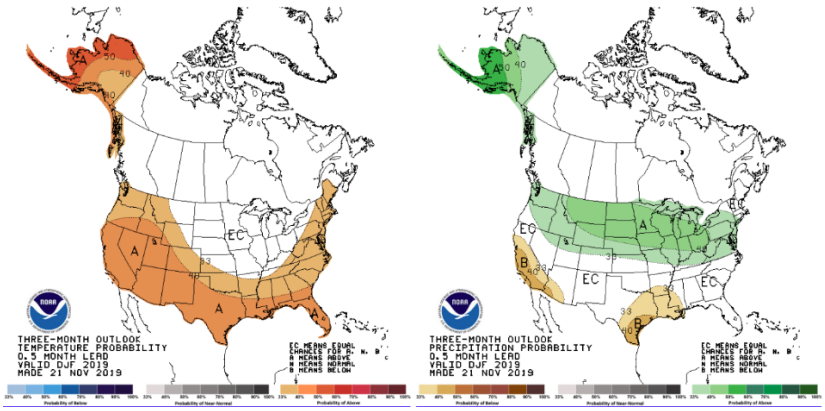


Figure 4: NOAA Dec-Jan-Feb Outlook

NOAA is predicting an ENSO-neutral (not an El-Nino or La-Nina). The ENSO-neutral does not however appear to cause a decrease in precipitation for Southeast Alaska.

There are dozens of institutions that have developed El Nino Southern Oscillation models (ENSO). Oceanographic temperature models such as ENSO's are used by NOAA to predict weather patterns.

The latest ENSO models show that we are currently maintaining ENSO-neutral conditions with Ocean temperatures currently at historically average levels. Warmer southern ocean temperatures typically correlate to warmer weather and higher precipitation rates in the Northwest hemisphere.

Figure 5 illustrates the International Research Institute (IRI) and Climate Prediction Centers (CPC) ENSO model. Apparent to all participating institute forecasts is a continued average ocean temperature (neutral). Although forecasts are predicting average ocean temperatures, they are predicting above-average precipitation and temperatures for Southeast.

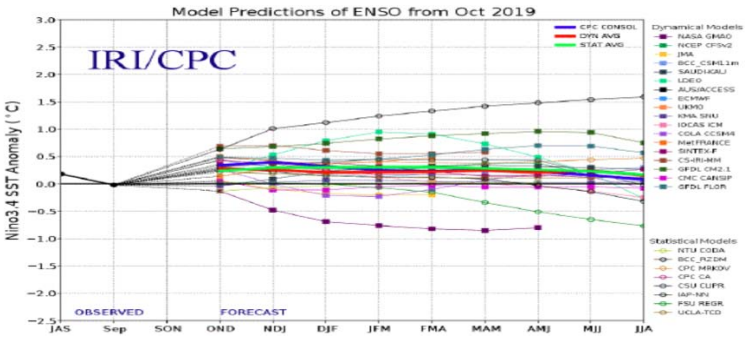


Figure 5: 2020 ENSO Model

Inflow seasons are cyclical and have a close correlation with ocean temperatures. El Nino and La Nina conditions impact precipitation in Southeast Alaska however a second oscillation discovered by scientist Steven Hare in 1996 called the Pacific Decadal Oscillation (PDO) also has an impact. In general, an El Nino will cause an increase in precipitation and a La Nina will cause a decrease in precipitation for Southeast Alaska. ENSO's (El Nino's and La Nina's) appear to impact the standard deviation of precipitation from average, and the PDO appears to shift the precipitation average up and down. As shown in Figure 6 below, in a Cold Phase (PDO), the average precipitation is approximately 160 inches whereas in a Warm Phase (PDO), the average precipitation is 125 inches. After superimposing Ketchikan rain data onto PDO and ENSO charts, data suggests that we are entering a Warm Pacific Decadal Oscillation Phase.

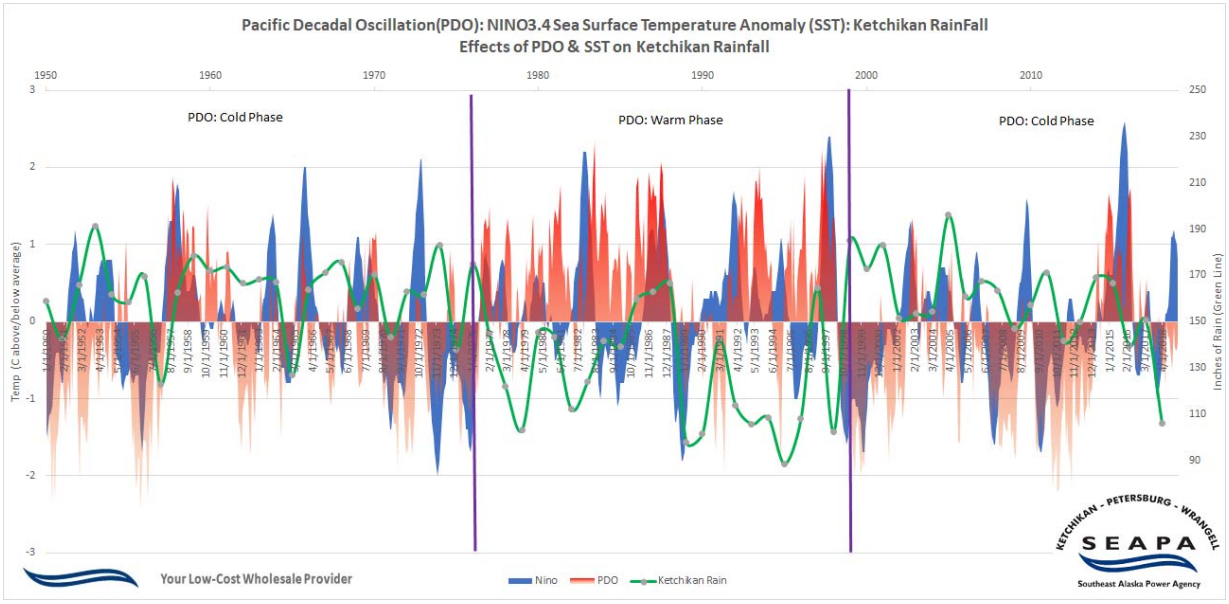


Figure 6: PDO Shifting of Average Rainfalls on 20-Year Cycles

If predictions from the PDO/ENSO models and historical trends hold true as discussed in previous sections, inflows will fluctuate up and down around approximately 22% below the previous 20-year averages. Figure 6 in the PDO/ENSO records also explain with a certain degree of confidence the reason for the 2018 and first half of 2019 low inflows. It is therefore prudent for SEAPA to consider inflow cases that are reflective of a Warm PDO phase for developing sales and curtailment curves.

Case / Month	(2018) SWL Low Inflow (avg day cfs)	(2013-2017) SWL Avg Inflow (avg day cfs)	(2018) TYL Low Inflow (avg day cfs)	(2013-2017) TYL Avg Inflow (avg day cfs)
jan	256.3	316.5	38.8	95.6
feb	12.5	157.5	26.7	65.2
mar	156.4	133.0	20.4	53.3
apr	462.8	427.3	72.1	117.1
may	702.3	670.3	308.4	277.3
jun	358.9	560.8	160.0	266.3
jul	98.2	367.0	99.3	195.5
aug	99.2	295.9	74.1	162.8
sep	176.3	473.9	79.4	191.4
oct	440.8	410.9	132.0	186.0
nov	650.1	446.4	146.3	83.9
dec	364.8	387.8	120.3	76.1
Average Annual	314.9	387.3	106.5	147.5

Table 1: SEAPA Inflow Cases for 2020

4.1 Average Inflow (2013-2017) Cases

Table 1 illustrates SEAPA's predicted inflow cases that were used for the Swan Lake and Tyee Lake reservoir level models. As discussed previously, the inflow cases were selected based on NOAA and PDO predictions for 2020. The average annual cfs for this inflow case at Swan Lake was 387.3 cfs and the average annual cfs for Tyee Lake was 147.5 cfs.

4.2 Low Inflow (2018) Cases

The low (2018) inflow case for Swan Lake was inserted into the model with an average annual cfs value of 314.9 cfs. Low inflows were based on 2018 inflows. The low (2018) inflow case used in the model for Tyee Lake was 106.5 cfs. These inflow cases were selected based on possible reoccurrence of 2018 (low probability) and developing sales/curtailment curves.

5.0 Load Forecasts

Load forecasts and subsequent SEAPA deliveries were estimated for the 2020 calendar year with consideration to the NOAA December-January-February outlook (warmer average temperatures) and the 5-year SEAPA delivery schedule (2013-2017). The 2020 budget for January 1 through December 31 was developed by using 5-year average Ketchikan, Petersburg & Wrangell loads, with a 2% bias (lower) to account for expected lower fish processing loads in the North and lower shipyard loads in the South. Considering current lake levels and recent NOAA 3-month outlooks (average rainfall with average temperatures), SEAPA does not anticipate curtailment of Tyee in 2020. Firm Power Requirements are well known, documented by historical load profiles. Firm Power Requirements for all three communities are anticipated to be met by SEAPA generation.

The forecasted Firm Power Requirements for the respective utilities, based on average loads, are as follows:

Swan Lake Expected Generation: **62,690.7MWh (Dedicated Output)**

Ketchikan Loads: **88,064.1MWh (Firm Power Requirements)**

Tyee Lake Expected Generation: **115,331.9MWhr**

PTG & WRG Loads: **79,396.1MWhr (Firm Power Requirements and Dedicated Output)**

Table 2 illustrates the load forecasts for 2020 (starting in January) which demonstrates the required transfer of energy across the STI. Section 5 of the PSA discusses development of the Operations Plan on an annual basis with a caveat for the plan to be reviewed periodically as needed. Given the recent severe drought circumstances and inflow forecasts, SEAPA will continue to review lake levels weekly and discuss the Operations Plan every Tuesday during Operation Meetings.

	KTN			Swan Lake		STI		WRG-PSG			Tyee Lake	
	Expected Delivery	Required Generation	Required Generation	Expected Gen from Inflow	Expected Gen from Inflow	STI Expected (balance)	STI Expected (balance)	Expected Delivery	Required Generation	Required Generation	Tyee Expect Generation	Tyee Expected Generation
	MWh	MWh	Avg MW	Avg MW	MWh	MWh	Avg MW	MWh	MWh	Avg MW	Avg MW	MWh
JAN	9674.5	10061.5	13.5	7.5	5597.5	4464.0	6.0	8408.3	8744.7	11.8	17.8	13208.7
FEB	8852.6	9206.7	13.7	7.7	5174.7	4032.0	6.0	7972.2	8291.1	12.3	18.3	12323.1
MAR	8069.9	8392.7	11.3	8.3	6160.7	2232.0	3.0	7725.5	8034.5	10.8	13.8	10266.5
APR	6428.9	6686.1	9.3	6.3	4526.1	2160.0	3.0	6281.7	6533.0	9.1	12.1	8693.0
MAY	5304.0	5516.1	7.4	5.4	4028.1	1488.0	2.0	4659.3	4845.6	6.5	8.5	6333.6
JUN	5253.3	5463.4	7.6	5.6	4023.4	1440.0	2.0	4697.1	4884.9	6.8	8.8	6324.9
JUL	7514.3	7814.9	10.5	8.5	6326.9	1488.0	2.0	6507.6	6767.9	9.1	11.1	8255.9
AUG	7099.0	7382.9	9.9	5.9	4406.9	2976.0	4.0	6267.3	6518.0	8.8	12.8	9494.0
SEP	6052.6	6294.7	8.7	3.7	2694.7	3600.0	5.0	4652.1	4838.1	6.7	11.7	8438.1
OCT	5230.9	5440.2	7.3	5.3	3952.2	1488.0	2.0	6158.7	6405.0	8.6	10.6	7893.0
NOV	8564.2	8906.8	12.4	10.4	7466.8	1440.0	2.0	7296.4	7588.3	10.5	12.5	9028.3
DEC	10020.0	10420.8	14.0	6.0	8332.8	5952.0	8.0	8769.9	9120.6	12.3	20.3	15072.6
Total	**88064.1**	**91586.7**	-	-	**62690.7**	**32760.0**	-	**79396.1**	**82571.9**	-	-	**115331.9**

Table 2: SEAPA 2020 Load Forecast

5.1 Scheduled Maintenance

SEAPA does not anticipate any extended outages during the calendar year 2020. Typical line maintenance, generator unit annual maintenance and substation maintenance were considered when developing the load forecasts. Swan Lake station service switchgear upgrades, Swan Lake turbine runner repairs, and Stikine Strait submarine cable replacement(s)/repair(s) are anticipated in 2020. However, all three of these projects require either single unit outages or short durations that SEAPA does not anticipate effecting load profiles.

6.0 Iterative Math Model

The Tyee Lake and Swan Lake models used to predict lake levels involve iterating through inflow scenarios and generation load sequences. Lake levels are inputted with actual levels on the day the models were ran. Once the inflow predictions were developed, adjustments to generation inputs are performed to maximize utilization of the outputs for Tyee and Swan. Adjusting the amount of Additional Dedicated Output across the STI as illustrated in Table 2 changes draft rates and subsequent maximum drafts at each respective lake. The curves illustrated below demonstrate a band of operation that SEAPA predicts for Swan lake levels, utilizing Additional Dedicated Output from Tyee.

6.1 Swan Lake Reservoir Plot (Expected Inflows)

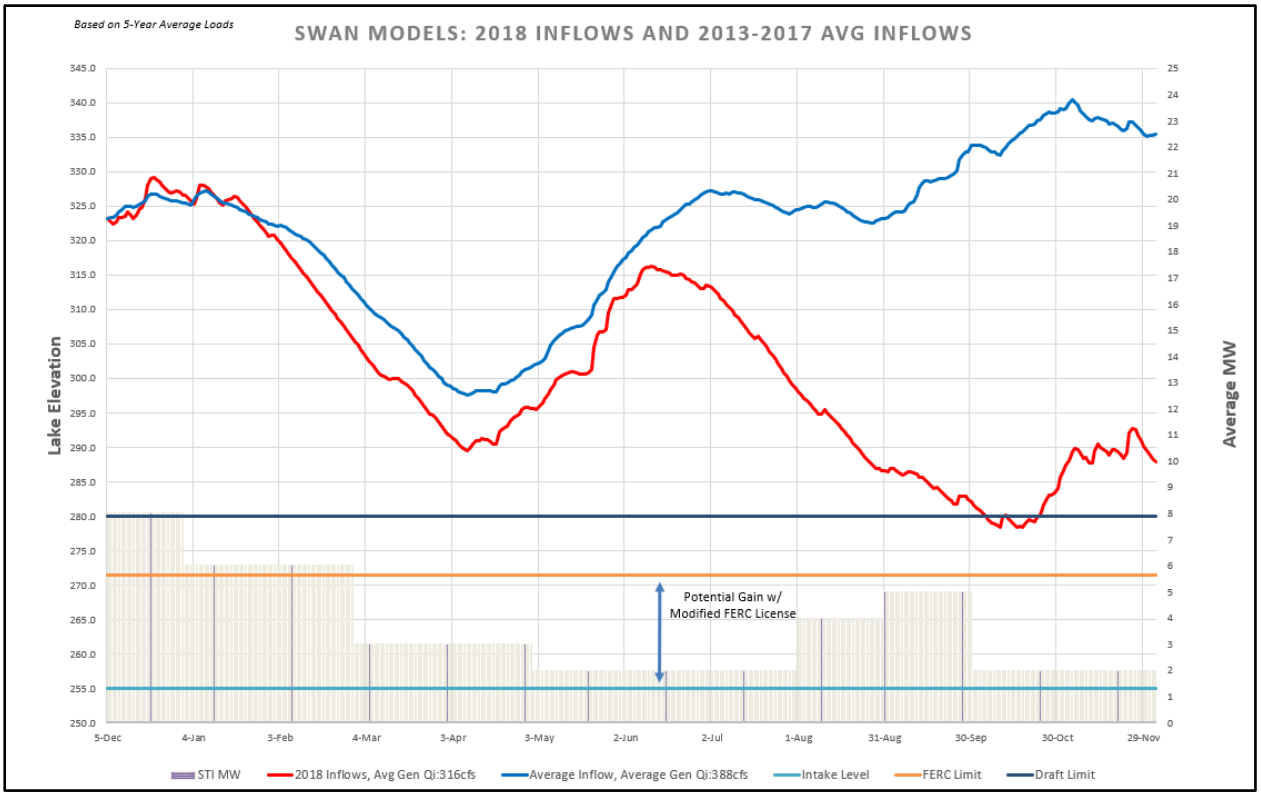


Figure 7: Swan Lake Reservoir Plot

The 2020 Swan Lake reservoir model as illustrated in Figure 7 above illustrates the two case scenarios as discussed in preceding sections. Both scenarios were modeled to illustrate recovery scenarios, draft rates and maximum drafts for Swan Lake utilizing Additional Dedicated Output from Tyee across the STI. Modeling inflows using average inflows (2013-2017 averages) (blue line) illustrate that Swan Lake will moderately draft and fully recover towards the end of 2020. In the case of using 2018 average inflows (worst case scenario), Swan Lake will likely drop below the draft limit of 280ft in 2020. Additional Dedicated Output from Tyee as modeled are illustrated in the bar graphs.

6.2 Coordination of KPU Supplemental Diesel Generation

Ketchikan's Firm Power Requirements are typically provided by SEAPA in accordance with the PSA by utilizing Swan Lake's Dedicated Output and Tyee Lake's Additional Dedicated Output. However, with consideration of the 2018-2019 drought, Tyee may not have Additional Dedicated Output available if the drought returns. It is therefore prudent to formalize integration of KPU Supplemental Diesel Generation to ensure compliance with the Power Sales Agreement.

It is well known from historical lake levels and Ketchikan load profiles prior to the installation of the STI transmission line that Swan Lake does not have the capacity to meet the Firm Power Requirements of Ketchikan without Additional Dedicated Output from Tyee. On a typical year, Tyee Lake has capacity to provide Additional Dedicated Output. Pursuant to the PSA and with consideration of possible drought conditions, SEAPA coordinated with KPU to minimize overall use of diesel, maximize utilization of Swan Lake's output and avoid future spill in lower water years. The outcome of coordinating KPU Supplemental Diesel Generation is discussed below with reference to the figure below.

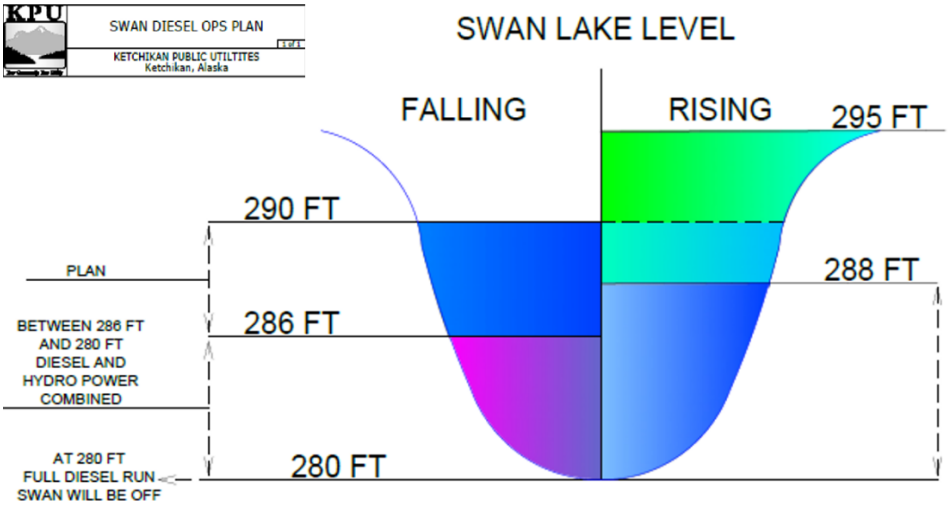


Figure 8: KPU Swan Diesel Ops Plan

During a drafting period of Swan Lake (typically early Spring), at an elevation of 286ft, KPU may utilize supplemental diesel generation to slow the draft rate at Swan Lake until the Draft Limit of 280ft is reached. Once the Draft Limit of 280ft has been reached, Swan Lake generators may remain off and KPU may utilize full diesel generation to meet Ketchikan's Full Power Requirements until an elevation of 288ft is reached. During a rising recovery period, KPU diesel generation should be terminated at elevation 288ft and Swan Lake should be utilized to meet the Firm Power Requirements of Ketchikan if Swan Lake has generating capacity to do so.

6.3 Tyee Lake Reservoir Plot (Operations Plan)

The 2020 Tyee Lake reservoir model (Figure 9) demonstrates 2 case scenarios, a guide/curtailment curve and a sales curve. All models represent Petersburg/Wrangell loads and Additional Dedicated Output as illustrated in Table 2, with two inflow cases. The Tyee 2018 inflow case (minus 5ft) with average loads represents the guide curve and will be considered as a curtailment curve (red line). If Tyee Lake elevations fall below this curve, Additional Dedicated Output will be considered unavailable and net sales from Tyee to Ketchikan will be curtailed. Tyee will remain curtailed until Tyee Lake levels have reached the sales curve (green line). The area between the Sales curve and curtailment curve is considered the Tyee Operations Band. Once the elevation of Tyee Lake has reached the sales curve (green line), Additional Dedicated Output will be made available to Ketchikan for as long as Tyee Lake levels remain above the curtailment curve (red line). The Balancing Lakes section discusses optimizing Swan Lake efficiencies during curtailment periods, where Tyee may be used to provide frequency support under certain conditions. This Operations Plan is conservative, using 2018 low inflow data minus 5ft and will maintain 30 feet in Tyee Lake (to the Draft limit) for the sales and curtailment curves.

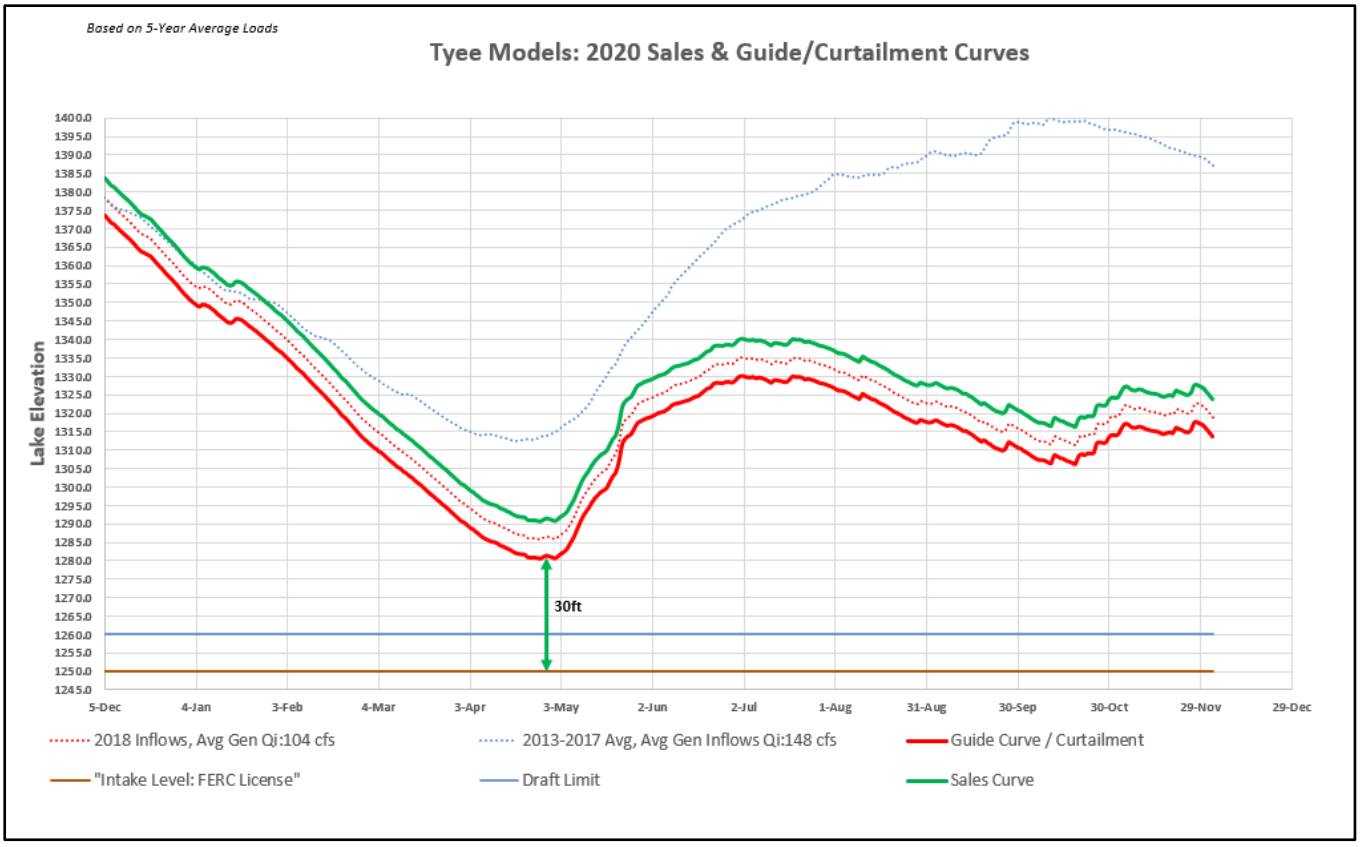


Figure 9: Tyee Lake Reservoir Plots

6.4 Coordination of Petersburg & Wrangell Supplemental Diesel Generation

Petersburg and Wrangell's Firm Power Requirements are typically provided by SEAPA in accordance with the PSA by utilizing Tyee Lake's Dedicated Output. However, with consideration of the 2018-2019 drought, Tyee could possibly exhaust Additional Dedicated Output and all available Dedicated Output if the drought returns. It is therefore prudent to formalize integration of Petersburg and Wrangell Supplemental Diesel Generation to ensure compliance with the Power Sales Agreement.

It is well known from historical lake levels and Petersburg/Wrangell load profiles prior to the installation of the STI transmission line that Tyee typically has the capacity to meet the Firm Power Requirements of Petersburg and Wrangell. On a typical year, Tyee Lake has capacity to provide Dedicated Output plus Additional Dedicated Output. If however, inflows are significantly less than the 2018 inflow season, Tyee could draft to the Draft Limit, without any sales to Ketchikan (even under curtailment). Coordination of Petersburg and Wrangell Supplemental Diesel Generation is discussed below with reference to the figure below.

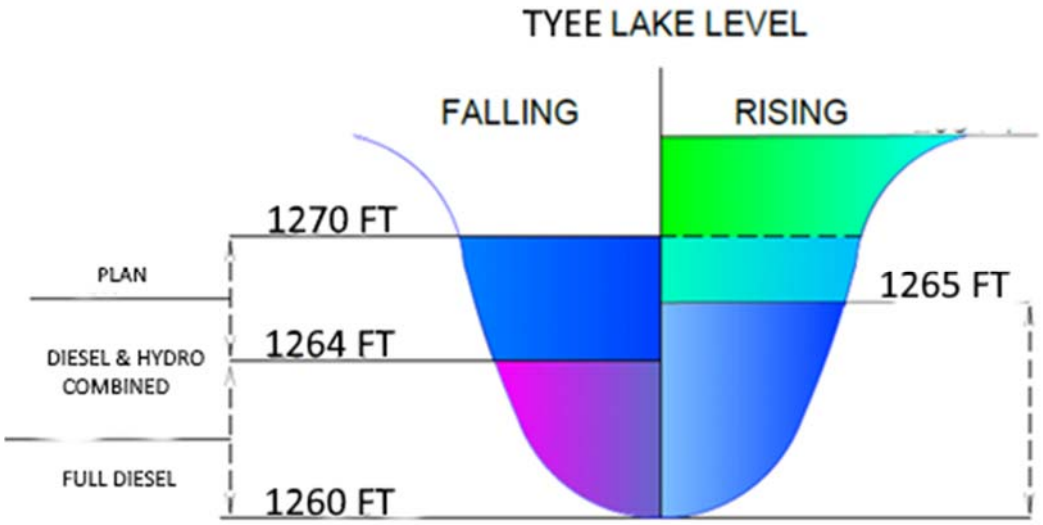


Figure 10: PTG & WRG Tyee Diesel Ops Plan

During a drafting period of Tyee Lake (typically early Spring), at an elevation of 1264ft, Petersburg and Wrangell may utilize supplemental diesel generation to slow the draft rate at Tyee Lake until the Draft Limit of 1260ft is reached. Once the Draft Limit of 1260ft has been reached, Tyee Lake generators may remain off and Petersburg and Wrangell may utilize full diesel generation to meet Petersburg and Wrangell's Full Power Requirements until an elevation of 1265ft is reached. During a rising recovery period, Petersburg and Wrangell diesel generation should be terminated at elevation 1265ft and Tyee Lake should be utilized to meet the Firm Power Requirements of Petersburg and Wrangell if Tyee Lake has generating capacity to do so. At elevations above the curtailment curve (once the sales curve is reached) in Figure 9 (red line), SEAPA may utilize Tyee Lake for Additional Dedicated Output to maximize utilization by sending power from Tyee Lake, across the STI, to Ketchikan (see Balancing Lakes section for further details).

7.0 Balancing Lakes

The Power Sales Agreement requires SEAPA to maximize utilization and optimize output of Tyee Lake and Swan Lake facilities through the use of water management and other efficient dispatch procedures adopted by the Agency. Water management and efficient dispatch is referred to by the Agency as balancing lakes. The following sections discuss how the Agency uses load tables, efficient dispatch and generation plans for balancing lakes to maximize utilization and optimize output of Tyee and Swan.

7.1 Load Tables

Operations Table

	STCS MW	S1	S2	T1	T2
1	4.00	0.00	0.00	2.00	2.00
2	10.00	0.00	0.00	5.00	5.00
3	12.00	5.00	0.00	3.50	3.50
4	14.00	6.00	0.00	4.00	4.00
5	15.00	7.00	0.00	4.00	4.00
6	16.00	8.00	0.00	4.00	4.00
7	17.00	9.00	0.00	4.00	4.00
8	18.00	9.00	0.00	4.50	4.50
9	19.00	9.00	0.00	5.00	5.00
10	20.00	9.00	0.00	5.50	5.50
11	22.00	9.00	0.00	6.50	6.50
12	24.00	9.00	0.00	7.50	7.50
13	26.00	9.00	0.00	8.50	8.50
14	28.00	10.00	0.00	9.00	9.00
15	29.00	10.00	0.00	9.50	9.50
16	30.00	10.00	0.00	10.00	10.00
17	31.00	11.00	0.00	10.00	10.00
18	32.00	11.00	0.00	10.50	10.50
19	33.00	11.00	0.00	11.00	11.00
20	34.00	11.00	0.00	11.50	11.50

Figure 11: STCS Load Table

The Swan-Tyee Control System (STCS) is used by the Agency to automate Swan Lake generators for maximizing efficiency, delivering Firm Power Requirements and balancing lake levels. STCS is a visual basic program that utilizes Load Tables (Figure 11) to input Swan Lake generation setpoints into the governors at specific total SEAPA system loads. Load tables are developed on a weekly basis. Changing Swan Lake generator setpoints in the load tables allows SEAPA to draft Swan and Tyee lakes at increased or decreased rates, to follow guide/sales curves and stay above curtailment curves if possible.

Load Tables are developed weekly based on lake levels, draft rates, load forecasts, weather forecasts and efficiency curves (Figure 12 and Figure 13). SEAPA forecasts total system loads weekly by using historical data from the previous week and adjusting according to new loads (fish loads etc.) to include temperature corrections for the upcoming week. On average, SEAPA total system loads change in the winter months as a function of temperature at a rate of 0.67% per degree-day Fahrenheit. Adjusting load tables change the draft rates however if load table adjustments do not slow the draft rate at Tyee and the curtailment curve is reached, net sales from Tyee to Ketchikan will be curtailed. To maximize efficiency at Swan and Tyee during a curtailment period, transfer of energy across the STI will be balanced daily, with zero net sales. The overall sum of energy transferred across the STI (continuously summed and recorded weekly) will be maintained at zero total megawatts. During a curtailment period, Tyee will be used exclusively for Petersburg and Wrangell Firm Power Requirements and for maximizing efficiencies as discussed in the following sections.

7.2 Efficiency Curves

Swan Lake generators have Francis, reaction type turbines designed specifically for full load operation in a range from approximately 270 feet to 350 feet of net head. Figure 12 (below) illustrates the efficiency curves for the Swan Lake turbines at various lake elevations. As seen from the figure below, efficiency of the Swan Lake turbines drops off significantly as loads are reduced below 9.5MW. If for example Swan Lake was operated at 5MW at elevation 290 feet, the efficiency of the turbine would be at 83%. The turbine efficiency curves below do not include penstock losses, generator windage losses, I^2R losses and all other stray losses that can reduce the efficiency by another 5-10%. By operating the Swan Lake generators in the efficiency zone, 92-94% turbine efficiencies can be achieved, thereby saving over 10% of wasted water (for a 5MW target). For SEAPA to operate Swan Lake turbines in their efficiency zones, cycling the units on-and-off (once a day or every few days) may be required to meet target MW and manage lake levels.

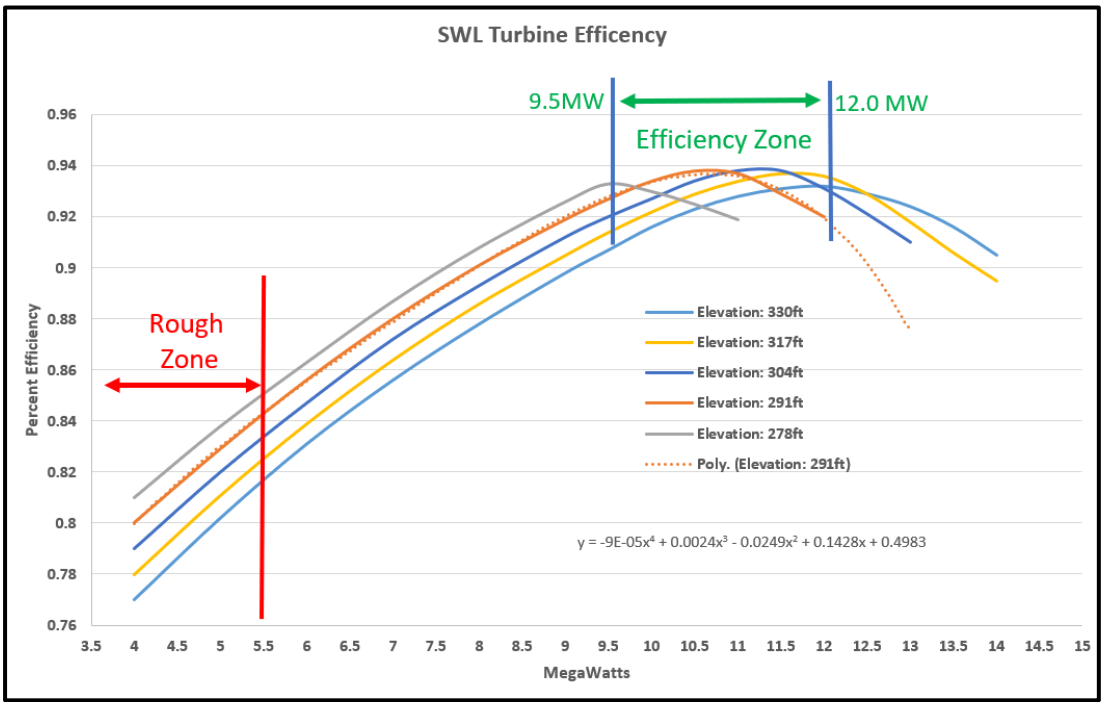


Figure 12: Swan Lake Turbine Efficiency Curves

Swan Lake generators begin to vibrate significantly as the turbines cavitate in the rough zone. The rough zone for Swan Lake generators is approximately between 2.5MW and 5.5MW. Rough zone operation causes abnormal wear and tear due to vibration and cavitation. Maintenance costs are greatly increased by operation in this zone to include increased cavitation repair, bearing damage, fatigue cracking, electrical generator winding damage and much more. Due to increased maintenance, operation in the rough zone will also reduce availability while making repairs. For reasons as stated above, SEAPA will not operate Swan Lake generators in the rough zone for extended periods of time.

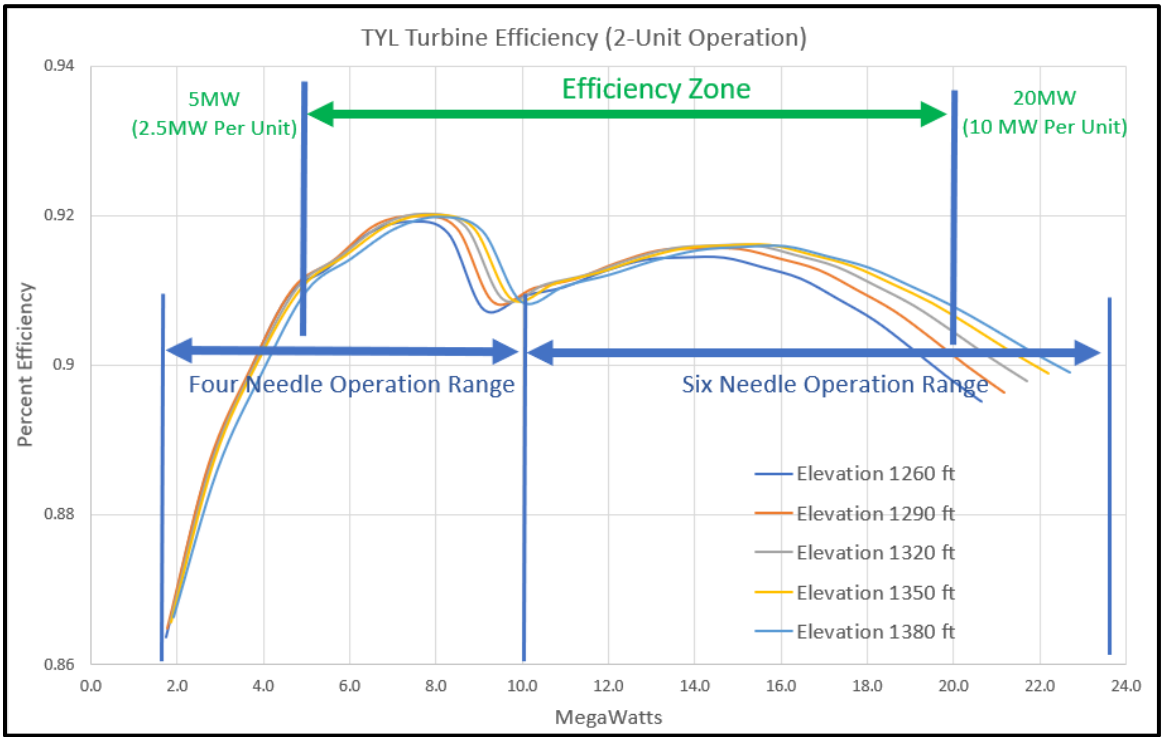


Figure 13: Tyee Lake Turbine Efficiency Curves'

Tyee lake generators have Pelton, impulse type turbines designed specifically to operate in a range from 1250 feet to 1396 feet net head. Figure 13 (above) illustrates the efficiency curves for the Tyee Lake turbines at various lake elevations. As shown in the figure above, operation of the Tyee Lake turbines has a very broad efficiency range. Impulse machines generally have a much flatter/broader range for efficiency compared to reaction machines, which allow them to operate at lower MW and remain in their efficiency zone. What is also evident is the efficiency gains achieved in the governors at Tyee by sequencing the needle valves from 6-valves to 4-valves at specific cfs ranges.

7.3 Optimizing Output

The Swan Lake load forecast (Table 2) illustrates that for the lake to maintain levels above the Draft Limit (in Figure 7), an average of 3.7MW to 10.4MW will likely be required throughout the year. Operating Swan Lake below 8MW will cause the machine(s) to run extremely inefficient (upwards of 20% of the water could be wasted in turbine efficiency losses at 2MW loads). To maximize Swan Lake efficiency, the generators will be operated using load tables or fixed generation points inside the efficiency zone as much as practicable. When isochronous support is requested by KPU during curtailment periods, Tyee will be used for isochronous support only. Megawatt-hours sent to the South for isochronous frequency support from Tyee during a curtailment period will be summed up daily and returned to the North from Swan on a daily or multi-day basis. The net transfer of energy during curtailment periods will be zero (recorded at the Tyee ST-11 breaker) and reported weekly during the Tuesday Operations meetings.

7.3.1 Example: Optimizing Output by Increasing Efficiency

Start Date of Operations Plan: July 1

Swan Lake Elevation (on start date): 290ft

Average Inflows: 288cfs

Average MW to match Inflows: 5MW

For the above numbers, where Swan Lake is at elevation 290 feet and the inflows due to precipitation are an average of 288 cfs, Swan Lake can be operated at an average of 5MW to maintain a lake elevation of 290 feet. If Swan Lake is operated continuously at this rate for 10-months as an example, the total number of megawatt-hours produced would be approximately 36,000MWhrs.

Operating Swan Lake generators at 5MW continuously would cause the average turbine efficiency of the Swan Lake generator(s) to be 83% (see Figure 12). To maximize efficiency of the generators, the unit(s) could be operated 50% of the time at 10MW (at a turbine efficiency of 93%), thereby gaining over 10% in efficiency. Over the same 10-month period, the 10% gains in efficiency (for this example) would equate to 3,600 MWhrs or 1 more month of operations for the same amount of water.

Under normal operating circumstances for this example, KPU would operate isochronous diesel generators 50% of the time when the Swan Lake unit is off to provide for the frequency support that the Swan Lake generator(s) provide when in service. Under circumstances whereas isochronous diesel generator support is not available from KPU due to mechanical or ADEC time/fuel limitations, the STI would be utilized and Tyee generators would provide isochronous frequency support. Operating Swan Lake at 10MW greatly increases efficiency in this case. For Tyee isochronous support periods, 5MW of the 10MW total generation from Swan Lake would be sent to the North 50% of the time (half-day), When Swan Lake is turned off (the other 50% or half-day), 5MW would then be sent from Tyee to the South. The result would be a net of zero megawatt-hours transferred across the STI (or used from Tyee for support) and an increase of 3,600 MWhrs of Swan Lake outputs due to efficiency gains for the 10-month period. This example is a way SEAPA may operate facilities by balancing lakes through the use of water management and efficient dispatch to optimize outputs.

7.4 Maximizing Utilization

Precipitation in Southeast Alaska has historically had large swings from year-to-year. For example, in 1996, the precipitation was recorded at 108 inches. The next year, in 1997, precipitation increased to 165 inches. The third year, in 1998, precipitation was recorded at a record low of 102 inches, 63-inches less than 1997. Year-over-year, precipitation swings of as much as 60-inches have been recorded. On average (depending on saturation and lake levels), an inch of rain is equal to over two feet of water in Tyee lake and approximately one foot of water in Swan lake. To equate that to lake levels, Tyee would have had nearly 120 more feet of water in 1997 than in 1996.

To maximize utilization of both Tyee and Swan, as an example for this three-year period, would require drafting Tyee and Swan as much as possible in 1996 to capture the high inflows in 1997 and use the stored energy from 1997 to make it through the drought in 1998. On average, Petersburg and Wrangell use approximately 200 feet of lake from Tyee per year as Dedicated Output to meet Firm Power Requirements. In 1997, the amount of inflows (160 inches) would have equated to approximately 320 feet of water in Tyee lake. Without the STI, Tyee would have spilled approximately 120 feet of water from the lake under 2018 load requirements. For a reference, 120 feet of water in Tyee lake is approximately 51,600 MWhrs.

Drafting Tyee great enough to capture potential spilled energy requires dispatch of Additional Dedicated Output from Tyee to Ketchikan. Without Additional Dedicated Output, Tyee would spill excessively. However, maximizing utilization has inherent risk as it pertains to Dedicated Output.

7.4.1 Draft Limits

A Swan Lake Draft Limit was informally adopted by KPU prior to the installation of the STI to maintain contingency for diesel generators when lake levels were low. If a KPU diesel generator failed, water in Swan Lake could have been used for a limited number of contingency days until necessary repairs could be made. A Tyee Draft Limit was not taken into consideration prior to the STI because Tyee at the time was a stranded asset, with more than twice the lake capacity required to meet the Firm Power Requirements of Petersburg and Wrangell.

The Power Sales Agreement signed in 2009 did not take into consideration Draft Limits because it would have been contradictory to the term maximum utilization. When for example a Draft Limit is reached and hydro generation is displaced by diesel generation, maximum utilization is reduced by the lesser of the amount of energy available from water in the lake below the Draft Limit (to the FERC limit) or the amount of energy from diesel generation that displaced hydro generation.

Every year since the 2009 Power Sales Agreement, the Operations Plan has had provisions for Draft Limits at both Swan and Tyee. SEAPA continues to recommend lowering Draft Limits to maximize utilization of both Swan and Tyee, however understands generation and operational constraints of its Member Utilities. Since the installation of the STI, contingency for diesel generation has continued to be a concern. In 2019, prominent members of all three communities began discussing utilizing diesel generators from other communities (dispatched through SEAPA transmission lines) as contingency. Using diesel generators for diesel contingency (instead of SEAPA hydro) would be prudent and would improve SEAPA utilization of both Tyee and Swan lake reservoirs.

Another area of consideration that could potentially maximize utilization at Swan Lake is revisiting the licensed FERC limit. Currently, SEAPA has a FERC license to operate Swan Lake down to an elevation of 271.5 feet. The top of the intake at Swan Lake is 251 feet. With hydraulic modeling and possibly reduced generation, utilization of Swan Lake below 271.5 feet is realistic and has a potential to provide upwards of 20 additional feet of capacity.

SEAPA will continue to encourage and facilitate discussion amongst Member Utilities to conceivably resolve diesel-for-diesel contingency solutions and research methods to maximize SEAPA hydro.

7.4.2 Tyee Lake Draft

Optimizing water resources is important for maximizing resource outputs as required by the Power Sales Agreement (Section 5: Operations Plan) and insuring FERC licensed limits are retained. It is however also SEAPA's mission to ensure Dedicated Outputs are delivered to meet the Firm Power Requirements of the Purchasing Utilities. In February and March of 2019, continued drought conditions in conjunction with a cold front (Polar Vortex) caused increased loads and reduced inflows at Tyee. As a result, Tyee Lake approached the Draft Limit constituting a diesel campaign in Petersburg and Wrangell.

The curtailment curve in Figure 9 illustrates utilizing a worst-case scenario (a repeat of 2018). For this inflow case, Tyee will have 30 feet of water in the lake at maximum draft. 30 feet in Tyee lakes is approximately equivalent to 12,450 MWh of available capacity.

7.4.3 Swan Lake Spill

The maximum Swan Lake reservoir height was raised from elevation 330 ft to elevation 345 ft at the end of 2016. Calendar year 2017 was the first year that the benefits of this effort were realized. In September 2017, Swan Lake reached an elevation of 335.8 ft. This added 3,723MWh of energy captured, that would have otherwise been lost to spill. With recent water conditions, the energy captured in 2017 has already and will in the future continue to displace Diesel Generation (up to the maximum energy captured). Similar to that of the 2018 Ops Plan, SEAPA plans to operate Swan Lake above elevation 330 ft. in the following manner:

- Elevations 330 ft. to 339 ft. - Both generating units will be fully available and the vertical gate will be operable. Water will be stored for future use.
- Elevations 339 ft. to 342 ft. - Both units will operate to their highest levels that loads permit to draft the reservoir back down to 339 ft. or below, this will most likely occur in spring and fall and assist with refilling Tyee Lake as increasing Swan Generation will reduce Tyee Generation for a given SEAPA delivery schedule.
- For the first few years, water above elevation 342 ft. will be immediately spilled by automatic operation. At elevation 335.8 ft. as seen in September 2017, there were little signs of Flashboard leakage. Testing is still required at higher elevations. Flashboards automatically release at elevation 347 ft.

7.4.4 Tyee Dedicated Output

As stated in preceding sections, Petersburg and Wrangell typically require approximately 200 feet of water from Tyee Lake a year to meet their Firm Power Requirements for that respective year. Tyee Lake has a capacity to only hold 146 feet of water (Elevation 1250ft to 1396ft) before it spills. Because Petersburg and Wrangel require more water from Tyee lake to meet their Firm Power Requirements than the lake has capacity for, any sales to Ketchikan could potentially be Dedicated Output. For example, consider the following scenario:

> *Tyee has a lake level elevation of 1396 feet. The lake is completely full whereas a single inch of rain would cause it to spill. If SEAPA dispatches one MWhr from Tyee to Ketchikan and there is no rain for the rest of the year, that one MWhr would have been dispatched as Dedicated Output and not Additional Dedicated Output.*

On an average year, Tyee Lake receives between 250 feet and 350 feet of water from precipitation in a water cycle (year). Without dispatch of Tyee to Ketchikan, all inflows (water) in the lake greater than 200 feet would be spilled (lost energy). As a result, SEAPA sales could be greatly reduced and reinvestment in SEAPA infrastructure such as generators, transformers, transmission lines and submarine cables would be reduced. Maximum utilization is required for reinvestment to maintain reliable power.

Dispatch of Tyee Additional Dedicated Output benefits all three Member Utilities and allows the Agency (in part) to maintain the lowest Wholesale Rate possible. For reasons as stated above, there are risks associated with dispatch of Tyee to the South on both ends of the spectrum. Under-dispatch of Tyee could cause the lake to spill. Over-dispatch of Tyee could cause the Northern Communities to burn diesel that would have been avoided by use of Tyee's Dedicated Output that was dispatched to the South. In theory, ideal dispatch of Tyee Lake's Additional Dedicated Output occurs if Tyee Lake reach's the Draft Limit at maximum draft and Petersburg and Wrangell are not required to burn diesel unnecessarily.

When Additional Dedicated Output from Tyee is dispatched to the South, it either reduces the draft rate or increases the recovery rate of Swan Lake. In either case, water levels in Swan Lake (over a discreet time interval) are directly impacted (increased) by the amount of Additional Dedicated Output sent South from Tyee.

8.0 Emergency Operations Plan Deviation

Deviation from this Operations Plan by SEAPA or a Member Utility shall not be permitted except under the following circumstances:

- Safety concerns whereas any human life is at risk of injury or death
- Declaration of an emergency by a Member Utility whereas immediate action is required to prevent rolling blackouts
- Equipment damage concerns whereas immediate action is required to prevent damage to SEAPA or Member Utility equipment or assets

- Supermajority vote of the Board of Directors dictates otherwise

In the event of a deviation, a Special Board Meeting shall be held as soon as practicable to discuss necessary actions. If a non-emergency deviation is requested by SEAPA or Member Utility, a Special Board Meeting shall be held for approval prior to any deviation.

9.0 Communication

SEAPA's Operations Manager is the primary point of contact for SEAPA operations. In the event that the Operations Manager is not available, a designee will be assigned. For the purposes of Tuesday Operations Calls and disseminating information with regard to SEAPA operations to respective Member Utility communities and prominent leaders, each respective Member Utility shall assign a primary point of contact. The primary point of contact or designee shall be provided to SEAPA. All SEAPA communications regarding Operations shall be routed through each Member Utility's established point of contact or designee. The Member Utilities primary contact will be responsible for disseminating information to the Tuesday Operations Call group and any other respective community leader as each Member Utility deems appropriate.

10.0 2020 Operations Plan Summary

Section 5 of the Long-Term Power Sales Agreement provides the following:

> **Operations Plan Development.** … The objectives of the Operating Plan shall include maximizing the utilization of the output of the Agency Facilities and optimizing the output of the Agency Facilities in order to serve the Purchasing Utilities' Firm Power Requirements as set forth pursuant to this Agreement, through the use of water management and other efficient dispatch procedures adopted by the Agency, subject to Dedicated Parties' priority access to Dedicated Output. … [Emphasis added]

For the reasons demonstrated in the proposed Operations Plan and pursuant to the Power Sales Agreement, SEAPA staff proposes guide/curtailment curve elevations be used by the scheduling group as guides. If lake levels fall below the guide/curtailment curves, SEAPA will manage water resources, in consideration of current conditions, with an overall objective of restoring lake levels to their respective guide/curtailment curves. As lake levels approach the annual minimum Board approved draft limits (Tyee: 1260 ft. and Swan: 280 ft.), SEAPA and the dedicated resource holder(s) will enter into discussions as to whether draft limits should be adjusted. Guide/Curtailment curve elevations and minimum draft limits for Swan Lake and Tyee Lake are listed in Figure 7 and Figure 9 and correspond with the table below.

SEAPA 2020 Operations Plan Guide Curve Values

Mth/Day	12/5	1/5	2/5	3/5	4/5	5/5	6/5	7/5	8/5	9/5	10/5	11/5	12/5
SWL Guide Curve Elevation (ft)	323.2	326.1	318.5	302.4	290.4	297.1	313.1	311.6	296.2	286.3	280	289.9	287.8
TYL Guide/Curtailment Curve Elevation (ft)	1373.6	1348.9	1333.3	1309.3	1287.9	1283.5	1320.4	1329.9	1325.6	1317.4	1308.3	1317.2	1313.8

For reference, past Operations Plan minimum draft limits are listed below. With the predicted inflows for CY2020, the 2020 Operations Plan proposes that Swan Lake and Tyee Lake draft limits be 280ft and 1260ft respectively.

SEAPA Historical Draft Limits							
	2014	2015	2016	2017	2018	2019	2020
Swan Lake	275 ft	285 ft	275 ft	273 ft	273 ft	280 ft	280 ft
Tyee Lake	1265 ft	1280 ft	1270 ft	1261 ft	1261 ft	1260 ft	1260 ft

Please consider the following suggested motion:

SUGGESTED MOTION
I move to approve the 2020 SEAPA Operations Plan as presented in the December 12, 2019 Board packet.

SOUTHEAST ALASKA POWER AGENCY
CEO REPORT

DATE: December 6, 2019

TO: SEAPA Board of Directors

FROM: Trey Acteson, Chief Executive Officer

SUBJECT: CEO Report

GOVERNMENTAL AFFAIRS:

The Senate voted 70-15 on December 2nd to confirm Dan Brouillette as the next Secretary of Energy to replace outgoing Secretary Rick Perry. Mr. Brouillette was previously Deputy Secretary.

The Federal Energy Regulatory Commission (FERC) currently has a quorum with Commissioners Glick, Chatterjee, and McNamee. James Danly was nominated for FERC Commissioner by President Trump on September 30th. He was previously General Counsel to FERC and will fill the Republican seat vacated by the passing of Chairman Kevin McIntyre. The Democratic Commissioner seat vacated by Commissioner Cheryl LaFleur remains unfilled. Recent relevant activity of the Commission includes identifying key cyber security program priorities and a Notice of Proposed Rulemaking (NOPR) regarding sections 201 and 210 of the Public Utility Regulatory Policies Act (PURPA).

At the State level, there are a few important dates to keep on your radar. December 15th is the deadline that the Governor is required by law to submit a proposed budget for the next fiscal year (2021) to the Legislature. January 10th and 17th are the two dates when the Legislature releases pre-filed bills. These releases can provide some insight as to focal points for the upcoming session, which begins on January 21st. This session is the second year in the two-year legislative cycle.

As reported earlier to the Board, HB151 (and sister SB123) "An Act relating to the regulation of electric utilities and electric reliability organizations; and providing for an effective date." was introduced on May 3rd near the end of the regular session in Juneau. The Senate version appears to be leading the way at this time and I have reached out to Senator Coghill's office to remind them we still have concerns over proposed language. I have also been working with our Juneau lobbyist to initiate engagement necessary for a committee substitute (CS). The committee has not yet met. So far, those close to the issue have acknowledged the original legislation was specifically intended only for the Railbelt and expressed a willingness to work with SEAPA to make necessary changes to exempt the Agency.

I currently serve on Alaska Power Association's (APA) Government Affairs Committee. The committee met on November 20th and finalized APA's policy positions. They include both Federal

and State position statements and were approved by the APA Board of Directors on December 5th (Attachment 1). I also serve as a Director on the APA Board.

The APA's Manager's Forum meeting is scheduled for January 28th in Juneau, the day before the APA's State Legislative Conference. I am co-chair of this important forum that brings together utility managers from across the state to discuss common challenges and share best practice solutions. We also strategize on policy challenges and work together to formulate unified support.

The State-specific Roadless Rule Draft Environmental Impact Statement (DEIS) was released on October 15, 2019. At our last meeting I conveyed to the Board that this was an important opportunity for our Member Communities to file comments. As you know, SEAPA has supported repeal of the 2001 Roadless Rule for nearly a decade. There is a misconception that renewable energy already has a clear exemption for road building and associated tree clearing for development. This simply is not true. The current language is very subjective and ambiguous, creating uncertainty for developers. This translates into longer permitting durations, higher construction costs, and potentially higher long-term operations and maintenance (O&M) costs.

The Kake-to-Petersburg Intertie (KPI), whether you support the project or not, is an example of the negative impact of the Roadless Rule on electric utility infrastructure. The permitting process was delayed due to controversy over utilization of roads for construction and maintenance. The Agency was forced to propose temporary "shovel trails" as opposed to roads to access pole installation locations. Helicopters would be required in some areas, and expensive helipads would be necessary to access several locations. To help put things in context, installation cost per mile for a 69kV line with road access was estimated at $611K vs. 1M without roads. Long-term O&M costs would be excessive due to lack of roads. Although SEAPA eventually was granted an affirmative Record of Decision to construct the KPI, the combination of cost escalations due to permitting delays and restricted access eventually tabled the project.

As previously reported to the Board, SEAPA has worked with various groups seeking regulatory relief and will file independent comments in support of a full Alaska exemption for the Roadless Rule. Recently, there has been some public opposition expressed in Petersburg regarding SEAPA's position. I called in to the Petersburg Assembly's December 2nd meeting at their request to discuss SEAPA's position and have also provided email responses to inquiries by an individual Petersburg Assembly Member. Public opposition testimony at the meeting was primarily focused on logging and perceptions of impacts to climate change. However, some speakers also stated that the Roadless Rule does not have a negative effect on renewable energy development. It is important to note that this viewpoint is not universal in the region, and certainly not amongst electric utilities. When I served on the Governor's State Specific Roadless Rule Citizen's Advisory Committee, which included environmentalist, conservationists, and fish interests, there was broad support for renewable energy development to minimize transport and burning of fossil fuels in the region. The committee acknowledged there is ambiguity in the current Roadless Rule regarding renewable energy and supported language to correct that. The deadline for submitting comments on the DEIS is December 17th.

SEAPA OFFICE:

Welsh/Whiteley is developing a conceptual design for the future SEAPA office location. We are still working to refine layout criteria and develop a rough order of magnitude for construction costs to present to the Board. SEAPA's building site is relatively small, so it naturally limits the building footprint, parking, and laydown areas. We anticipate remaining in our current location for another

two years while we work toward consolidation of office space, reception, Board room facilities, warehousing, vehicle shop, IT, engineering workspace, and traveler housing in a single location.

BEST PRACTICES AND PROCESS IMPROVEMENTS:

Staff has been working a lot of overtime and weekends to prepare and implement the new accounting system software. Anyone that has gone through this process can appreciate the tremendous amount of effort that goes into a successful software migration. The ledger had to be re-constructed from scratch, other programs have to be integrated, and new reports have to be developed. Individual user profiles and authorities have to be created, and staff must be trained. All systems must be validated and ran in a test environment before rollout. All this must be done while maintaining full functionality of the existing system with perfect accuracy. This monumental effort is advancing well and will efficiently serve SEAPA's needs well into the future.

Good progress is being made in the development of a formal Vegetation Management Plan for our transmission system. This will allow us to improve budgetary forecasting and ensure timely clearing of all areas. It will also reduce risk of system outages and equipment failures due to tree contacts.

A standard operating procedure (SOP) has been developed and implemented for flight operations associated with Swan Lake. Tyee's flight operations SOP was implemented earlier in the year.

A standard operating procedure (SOP) has been developed for the Swan Lake Dock Facility. SEAPA owns, operates, and maintains the dock facility which includes designated moorage for public use.

PERSONNEL:

All regular positions are filled at this time.

Attachment 1:
APA 2020 State and Federal Policy Positions

Attachment #1
to
CEO Report

Alaska Power Association
2020 State and Federal Policy Positions

Alaska Power Association 2020 State Policy Positions

Support funding for the Renewable Energy Fund and for continued deployment of economically feasible renewable energy

APA's member utilities have integrated numerous renewable generation sources into their energy portfolios and are constantly seeking other economically feasible renewables to continue that mission. The state legislature can support this work by providing funding for the list of renewable energy projects recommended by the Alaska Energy Authority (AEA) for funding under the Renewable Energy Fund (REF) program. APA also supports funding for the Emerging Energy Technology Fund that assists with the research, development and application of alternative energy sources into the Alaska electric utility generation portfolio.

Support statutory clarity on wildfire liability

Alaska's electric utilities work hard to maintain their rights-of-way for transmission and distribution lines but have no control over vegetation that grows outside their rights-of-way. This creates a scenario in which trees or other vegetation outside the right-of-way but tall enough to fall into the right-of-way can cause damage, such as a wildfire.

The Alaska legislature can protect electric ratepayers by making clear in statute that electric utilities can only be held liable for damage, death, or personal injury from contact between vegetation and the utility's facilities if the vegetation is located entirely within the boundaries of the utility's right-of-way. The state can help mitigate fire risk by providing funding for spruce beetle-killed trees, which are a significant problem in many parts of the state.

Alaskans already pay some of the highest costs for electricity in the country. Making Alaska utilities and ultimately their customers responsible for damages caused by vegetation will drive those costs even higher.

Support for preserving the Power Cost Equalization Endowment, using the Endowment only for its statutory purpose, and for funding the PCE program in FY 2021

Alaska Power Association supports preserving and maintaining the Power Cost Equalization (PCE) Endowment and the PCE program, which is a vital, lifeline program that makes it feasible for rural Alaskans to have access to affordable electric power and for rural communities to have affordable electricity for streetlights, water and sewer facilities, and other essential infrastructure. The PCE Endowment should only be used for its statutory purpose.

Furthermore, Alaska Power Association urges the Legislature to fund the PCE program from PCE Endowment earnings at 100 percent for FY 2021.

The Power Cost Equalization Endowment was established in 2000, and subsequently funded by several legislatures to create a continuing source of funds to ensure the continuity of the Power Cost Equalization program. Recent legislatures have reaffirmed the importance of the PCE program and have enacted changes to the Endowment Fund to strengthen the program for the future and to provide funding streams for other vital programs during years in which the Fund performs well fiscally.

Until there is a permanent solution to the high cost of energy in rural Alaska, the PCE program must continue its purpose of providing economic assistance to customers in areas of our state where the cost of electricity per kilowatt-hour can be three to five times the cost in more urban areas.

Support for work performed to obtain a FERC license for the Susitna-Watana Hydro project

The state administration and the legislature should support the Alaska Energy Authority's efforts to complete the work necessary to submit a FERC license application for the Susitna-Watana Hydroelectric Project. The State of Alaska has invested nearly $200 million in the project since 2011, and studies performed to support licensing are at risk of being disqualified by permitting agencies if too much time passes after their completion and before a license is granted by FERC. A FERC license is a valuable asset for the State of Alaska and does not mandate the project immediately move to construction. Once a license is in hand, it can be held for several years while financing and power sales details are solidified. Therefore, securing the FERC license is necessary to allow utilities to make business decisions about the prospective power sales agreements that will ultimately pay for the project.

Support Railbelt electric utilities' continued cooperation for the benefit of consumers

Alaska's Railbelt electric utilities have been working collaboratively to identify and implement new approaches that will bring about more efficiencies and benefits to consumers. Substantial progress has been made on economic dispatch, system planning, efficient generation, and reliability standards. Within the present environment the Railbelt electric utilities can work together, independent of state mandates. This has contributed to the Railbelt electric utilities' ability to craft solutions that provide the most benefits to consumers. The Railbelt electric utilities have also made regular reports to the Regulatory Commission of Alaska. Legislation giving the Regulatory Commission of Alaska (RCA) additional oversight authority should not mandate that electric utilities form or join organizations.
Going forward, the Railbelt electric utilities should be allowed to continue their efforts voluntarily to maximize efficiency in the Railbelt in a self-directed manner.

Alaska Power Association
2020 Federal Policy Positions

Protect electric cooperatives' non-profit status

Alaska Power Association supports the federal Revitalizing Underdeveloped Rural Areas and Lands (RURAL) Act (S. 1032/H.R. 2147), which would amend the Internal Revenue Code to ensure tax-exempt cooperative organizations do not lose their tax-exempt status when they use certain government grants, contributions, and assistance, including FEMA disaster relief funds

The legislation would fix an unintended consequence contained in the Tax Cuts and Jobs Act of 2017 that is impacting the 85/15 rule electric cooperatives must abide by. Historically, government grants and FEMA reimbursements were exempt from counting against the 15 percent non-member revenue limit; this exemption was removed in the 2017 tax bill.

Federal support for infrastructure and innovation

Congress and the Executive Branch should provide funding for the deployment of needed electric transmission infrastructure that brings reliable electricity to Alaskans. The benefits of federal assistance to construct electric infrastructure should be afforded to Alaska just as it was many parts of the United States during the 20th Century.

APA also supports the following bills, which will help with electric infrastructure development and protection:

S. 2610 – Tribal Energy Reauthorization Act: Sen. Lisa Murkowski is co-sponsoring this bill, which seeks to accomplish a number of items:

- Addresses overly restrictive Indian land requirements for energy project grants.
- Allows non-profit electric cooperatives to apply for Office of Indian Energy (OIE) funding.
- Reauthorizes the Office of Indian Energy through Fiscal Year 2030.
- Provides for cost-share requirement flexibility.
- Encourages OIE to foster relationships with and utilize local and community expertise.

- Ensures OIE will more consistently make tribes aware of relevant funding opportunities across all federal agencies.
- Requires OIE to develop a forward-looking energy strategy for Indian communities in the Arctic that considers the effects of climate change.

S. 1602 – Better Energy Storage Technology (BEST) Act: The bill includes several provisions:

- **Research and Development:** Requires the Department of Energy (DOE) to establish a cross-cutting energy storage system research and development program with the goal of reducing the cost and extending the duration of energy storage systems.
- **Demonstration Projects:** Requires DOE to undertake at least five energy storage system demonstration projects, including a minimum of one project designed to address long-term storage needs.
- **Joint Long-Duration Demonstration Initiative:** Establishes a joint program between DOE and the Department of Defense to demonstrate long-duration storage technologies.
- **Technical and Planning Assistance:** Establishes a program at DOE to assist electric utilities with identifying, evaluating, planning, designing, and developing processes to procure energy storage systems.
- **Recycling Prize:** Establishes a prize competition at DOE to advance the recycling of critical energy storage materials such as lithium, cobalt, nickel, and graphite.
- **Regulatory Actions:** Requires the Federal Energy Regulatory Commission (FERC) to conduct a rulemaking to develop standard processes for utilities to recover energy storage system costs in FERC-regulated rates.

S. 2556 - Protect Resources On The Electric grid with Cybersecurity Technology (PROTECT) Act: Sen. Lisa Murkowski is co-sponsoring this bill.

- **(Applicable to Alaska)** Establishes a grant program at DOE for utilities that are not regulated by FERC to deploy advanced cybersecurity technology.
- **(Not applicable to Alaska)** Directs FERC to issue a rulemaking on rate incentives for advanced cybersecurity technology. This will enable and incentivize utilities to invest in new technologies that improve their cybersecurity defenses.

Support for policies that increase the deployment of renewables

Congress should enact polices that support and remove barriers to the increased development of renewable energy in Alaska.

For instance, Congress and the Administration can help ease the burden on hydro development by supporting a more streamlined approach for relicensing of hydro projects. The current process requiring a multi-year, multimillion-dollar effort is not in the best interest of electric utilities and their consumers, who ultimately bear the costs through

rates. If a project has been operating for 50 years without issue, the relicensing process should be much shorter and less costly. It is also important for Congress to establish necessary authorities to enforce agencies' comment deadlines in the FERC licensing process.

The federal government should not disadvantage any form of renewable energy and should recognize hydropower as renewable. By not recognizing hydropower as renewable, the federal government fails to give proper weight to the zero-emissions generation hydropower provides.

Alaska has the potential for significant renewable development. APA supports the following renewable-focused bill:

S. 2657 – Advanced Geothermal Innovation Leadership Act of 2019 (the AGILE Act): Sponsored by Sen. Lisa Murkowski and Sen. Joe Manchin (D-W.Va and Ranking Member of the Senate Energy Committee). The bill includes provisions for:

- Research and development of both existing and enhanced geothermal systems.
- Resources assessment updates.
- Grant program authorization.
- Improved permitting.
- Directs the U.S. Geological Survey to assess overall geothermal potential in Alaska, Hawaii, and Puerto Rico.

Support for innovative clean energy resources for power generation in Alaska

Congress should pass legislation designed to foster innovative clean energy from new or updated technologies. Advances in nuclear energy, especially micro-nuclear projects, have the potential to power remote communities with stable, low-cost energy that displace the need for fossil fuels. Since many communities in Alaska are islanded systems, the ability to integrate long-lasting and reliable generation is critical to the economies and livability of many places in the state.

APA supports to following innovative energy bill:

S. 903 – Nuclear Energy Leadership Act (NELA): A bi-partisan sponsored by Sen. Lisa Murkowski, NELA aims to reestablish U.S. leadership in nuclear energy. It will bring together private and public sector innovators to develop next-generation advanced reactor concepts. The bill will:

- Authorization of Long-Term Power Purchase Agreements;
- Long-Term Nuclear Power Purchase Agreement Pilot Program;
- Advanced Nuclear Reactor Research and Development Goals;
- Nuclear Energy Strategic Plan;
- Versatile, Reactor-Based Fast Neutron Source;
- Advanced Nuclear Fuel Security Programs; and a
- University Nuclear Leadership Program

Consideration of impacts on Alaska when enacting environmental policy

APA supports the U.S. Forest Service's proposed exemption of the Tongass National Forest from the 2001 Roadless Rule (Alternative 6 under the draft environmental impact statement developed under the National Environmental Policy Act). We urge the Secretary of Agriculture to formally adopt this alternative, and to strongly consider expanding the exemption to the Chugach National Forest, where regulatory relief can be similarly beneficial to electric consumers.

The federal government needs to recognize the severe impacts that many environmental regulations have on Alaska electric consumers that may not exist in the Lower 48. APA supports the Administration's direction requiring the Environmental Protection Agency and other regulatory agencies to consider the costs of a regulation before its finalization. Congress must continue pushing for this, as well.

Support for programs that lower or stabilize the cost of energy in Alaska

At a minimum, Congress and the federal Administration should restore funding for the USDA High Energy Cost Grant Program to $30 million and restore meaningful energy funding to Alaska's Denali Commission. The High Energy Cost Grant Program was authorized by Congress in the 2000 Rural Electrification Act. The funds are dispersed via a national competitive process.

The Denali Commission has played an important role in power supply facilities and bulk fuel tank farms in numerous rural Alaskan communities. However, tens of thousands of Alaskans are still without necessary infrastructure. Alaska residents, like those in other states, must be assured reliable and affordable electric service.

Congress and the Administration should continue funding to the Lower Income Home Energy Assistance Program (LIHEAP) in the FY21 budget. According to National Rural Electric Cooperative Association data, electric cooperatives serve 93 percent of the persistent poverty counties in the country, and the LIHEAP program is an important tool to continue helping our most vulnerable consumers. The need for this program remains high in Alaska. Congress should at least maintain the current funding level of $3.39 billion.

SOUTHEAST ALASKA POWER AGENCY

Date: December 2, 2019

To: Trey Acteson, Chief Executive Officer

From: Clay Hammer, Operations Manager

Re: Report for December 12, 2019 Board Meeting

MAJOR CONTRACTS and PROJECTS

Tyee Road Access to Tidewater Project

Access to the Tyee facility has long been problematic since the only two means of access are by contract aircraft and runway, or by boat, through a tidal river estuary. This presents complications when weather and tides are not favorable creating serious logistical challenges for getting crew and major equipment to and from the plant as well as any form of outside assistance in the event of an emergency.

At this time, a preferred road route and relocated small dock option has been identified following a 2019 feasibility study conducted by R&M Engineering. The next step is to follow up with Preliminary Design work to firm up the road route and design, quantify required material amounts, and determine permitting costs and requirements.

Funds were budgeted for this next phase of work in FY2019, however quotes received from qualified engineering firms fell outside of the budgeted amount. An updated estimate for that work has been included in the FY2020 budget for the Board's consideration.

Figure #1 Tyee Road Prefered Route

Fire Control Panel Replacement, Tyee Lake Facility

Earlier this year staff discovered that the existing Kidde Fire Control Panel at Tyee Lake was dated and no longer supported with parts and service by the factory. Funds were approved in the FY2019 budget for engineering and replacement of the dated panel and a dedicated suppression zone for the diesel-powered station service generator.

SEAPA contracted with C&T Fire of Anchorage for the engineering and replacement of the panel. The engineer's design work is complete, and plans have been submitted to the State Fire Marshall for approval. The Kidde factory replacement panel has been delivered to Tyee Lake and work is expected to start on the installation of the panel pending approval of the plans. C&T Fire anticipates completion of this work by year end.

Figure #2 Kidde Aries Series Fire Control Panel

Swan-Tyee Line Guy Thimble Project

The original design for guy wires on the Swan-Tyee Intertie (STI) allowed the end of the guy wire to work its way to the side of the steel pipe insert and chaff against the cable resulting in cutting of the cable. Transmission engineering consultant Dryden & Larue recommended wire rope thimbles with inserts to correct the guy wire tower connections.

There are 118 towers with a total of 466 thimbles in service. As part of an earlier R&R Project, 60 towers with 214 guy thimbles have been changed out over a three-year period. Currently, there are 252 thimbles on 58 towers that still need to be replaced. This work is scheduled as a part of the annual line maintenance and is expected to take another 3 years to complete.

Another 20 towers and 90 thimbles are expected to be serviced in FY2020.

Figure #3 Guy Thimble to Be Replaced

Heat Pump Wrangell Office/Warehouse

SEAPA's Wrangell Warehouse and Office Building is an insulated steel structure housing administrative space, document archives, and also serves as a workshop/storage area. Heating the building has always been expensive during the winter months due to the nature of the building's construction. Heat pump technology has advanced in recent years and is a proven cost-effective alternative to oil or resistance based electric heat. Funding has been approved for the purchase and installation of a heat pump at the Wrangell Warehouse. The heat pump will be a DAIKIN 24,000 BTU unit with multizone capability. Both the warehouse and the office space will

have its own zone and heat register. It is expected that this model will provide approximately 366% more heat per watt of electricity when compared to a traditional resistance-based heat method. This installation is expected to be complete by the end of FY2019. This will add one more element of energy conservation to the warehouse as we had already installed a large ceiling fan to more evenly distribute the heat in the large work bay and replaced six 400-watt overhead lights with more efficient LED lighting. The lighting improvement alone cut lighting consumption by more than 2000 watts.

Figure #4 DAIKIN Heat Pump w/ Multi Zone Heat Registers

Brushing Program

SEAPA's Brushing Program continues to evolve into a long-term vegetation management plan with a predictive schedule. One of the components of that plan is up-to-date spread sheets of all 178 miles of right-of-way complete with tower numbers, span width, distance and elevation figures, and an assessment of the type of brush within given spans as well as an estimation of growth expectation and a cutting schedule. Although it is a lot to process, we are making progress.

An important milestone was accomplished this season with the filming of the entire length of the right-of-way using a GoPro camera mounted to a helicopter. This gives us an easily accessible visual reference to every foot of the right-of-way. This is helpful not only from a brush management perspective but also for line maintenance.

This fall after the close of the regular brushing season, the Brushing Foreman was tasked with completing the work of getting the span and right-of-way data pulled from SEAPA's as-built prints and entered into the appropriate spread sheets. This work is largely complete now. The next step will be to review the data from the video files span-by-span and add that information to the spreadsheets creating an easily accessible format for predictive brush scheduling.

For the upcoming FY2020 season, review of those video files has helped identify 50 acres of high priority work to be done on the Mitkof transmission line and another 18 acres of work on the STI. Due to the size of the areas in question this will be contract work with funds to cover that work requested in the FY2020 Budget.

Figure #5 Pollux Aviation R-66 with FAA approved camera attachment

Helipads Cleveland Peninsula

The Helipads under the Tyee line along the Cleveland Peninsula have been in service for over 35 years and are showing their age. These pads are not only the oldest in the system but also located in some of the highest, most remote, rugged and weather-beaten stretch of SEAPA transmission lines. It was first estimated that repairs to the decks and support members could prolong their life cycle, but a visual inspection showed that many were beyond repair and that an engineer's survey would be needed to fully document their overall condition. A survey was completed by Tongass Engineering this summer which revealed that of the 43 pads in service, 20 have failed completely and another 13 have significant deterioration that threatens structural integrity and severely limits their remaining service life. While on site, one additional location was noted as needing a helipad.

There are 11 new aluminum Helipads in inventory. During the FY2020 construction season, staff plans to schedule change out of the 10 pads that have failed from the Helipad inventory. As a follow up, 14 more Helipads will be requested in the FY2021 budget for installation during FY2021 for a project total of 24 new pads.

Figure #6 Failed Helipad located in the Cleveland Peninsula

Wooden Pole Testing

The SEAPA Wood Pole Testing Program officially got off the ground this season. SEAPA's maintenance contractor, Electric Power Constructors, fielded a team of two to Mitkof Island and over the course of two days sampled 22 poles at four different locations on each pole. The results were promising. Of the 22 poles sampled only two showed any signs of softness in the wood and of those two, neither were serious enough to warrant concern. These two poles will be resampled again on a regular schedule to document any change in their condition.

This marks the first field test of the Agency's IMR Resistograph and overall it was successful. It provided us with a benchmark of the condition of the Mitkof pole line as well as a realistic idea of how many poles can be sampled in an average workday with a two-man work crew. There are 211 wood poles total on the Mitkof line so a sample of 22 poles is just over 10%. Of the 10% sampled, all were in reasonable health which would indicate that overall the condition of the line is good.

The next phase of testing is scheduled for the Swan/Bailey line. Unlike the Tyee line or the STI, this line is supported almost entirely by wood poles. The focus will be on the 301 wooden poles within the Swan/Bailey remote cross-country section. A total of 30 poles will be sampled during FY2020's Spring maintenance outage. This will provide an important benchmark as to the condition of that line and dictate whether or not an accelerated test schedule is warranted.

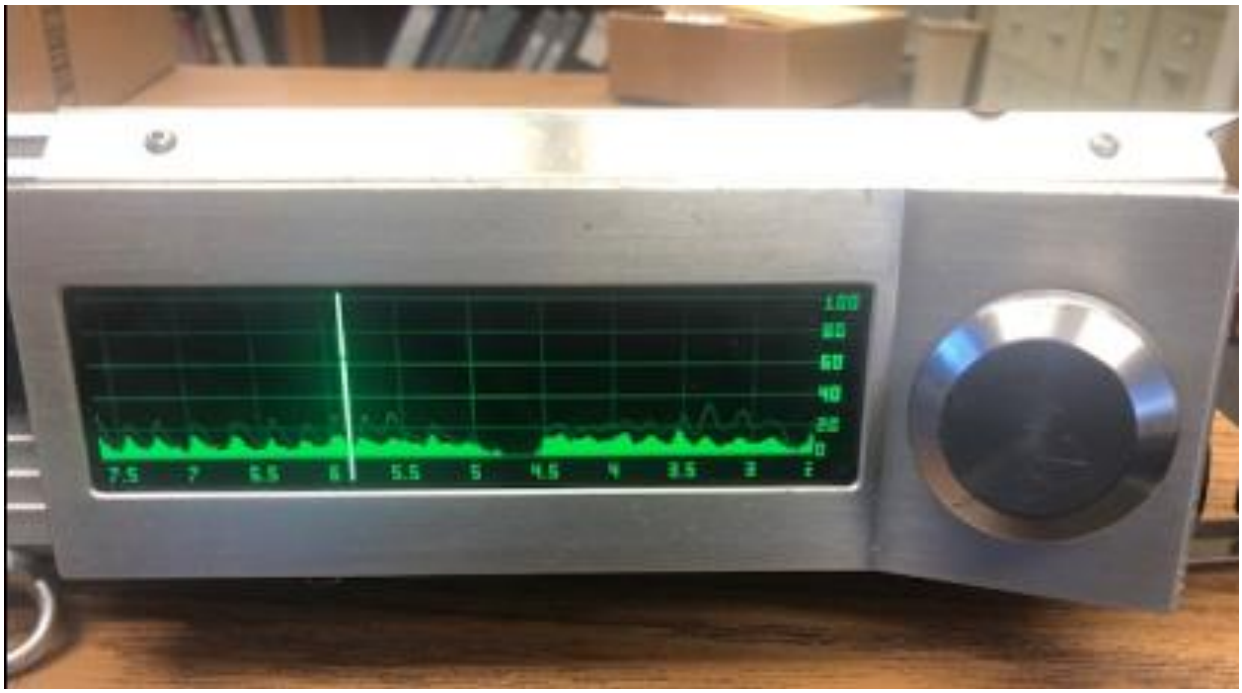


Figure #7 Resistograph reading of PML&P pole sampled at their request.

Tyee Lake Plant Report

It has been a comparatively busy fall quarter for the crew at the Tyee Plant. They were able to complete the fabrication of the Tyee Snow Pillow antenna tower as well as the pillow platform. When that work was complete, they assisted with equipment installation and commissioning at its location in the Tyee Valley overlooking the lake.

The crew also assisted SEAPA staff with commissioning of the SAT pad test platform by the Bradfield river. When fully operational this site could provide an additional communications route for internet access and SCADA communication. So far, the data looks promising as both staff and crew continue to refine different aspects of the installation and improve both the reliability and quality of the satellite connection.

The Tyee crew rapidly mobilized and worked quickly and efficiently to reconfigure a spare cable to get power restored to Petersburg when Submarine Cable #1 failed in the Stikine Strait Crossing. They performed the required testing for fault verification on the failed cable positively identifying it as the source of the outage and initiated the Emergency Response Plan as outlined by Poseidon Engineering, SEAPA's long standing submarine cable consultant.

The Fall barge run went smoothly. The fuel tanks at Tyee have all been topped off; Petro was also able to include fuel for TEMSCO on this run, topping off their supply of Jet-A. The savings of sharing space in the delivery truck enables SEAPA to receive a break in cost for remote Helicopter fuel ups getting that cost down to the equivalent of an in-town filling.

Also included in this Fall's barge run was 30 yards of DOT spec airport grade road sand. This material was delivered in large 1 cu yard Super Sacks that will be kept in dry storage and loaded directly into the sanding truck as required to service the runway. It is estimated that this amount of sand should be enough to cover the next two seasons depending on the severity of the weather. This greatly reduces the risk of getting unwanted contaminants or foreign material on the runway compared to using unscreened local material.

In addition to the regularly scheduled PM's the crew also performed the following:

- Changed out defective sync scope, Petersburg Substation
- Wrecked out and disposed of abandoned/obsolete UPS system Petersburg Substation
- Prepped sites for remote camera installations at powerhouse and runway
- Serviced Winterized Forest Service Admin cabins
- Replaced failed refrigerator in Forest Service cook house
- Replaced failed dishwasher in crew bunkhouse
- Replaced cutting edges on Kenworth mounted snowplow

For Safety Training SEAPA's safety consultant, TSS, Inc., provided the following on-site training:

- Review of Draft Hazardous Energy Control Plan
- Fire Prevention Plans/Emergency Escape Routes
- Cold Weather Safety
- Review and training, Alaska OSHA Physical Agent Data Sheets

Staff is available for any questions.

SOUTHEAST ALASKA POWER AGENCY

Power System Specialist Board Report

Date: December 3, 2019

To: Trey Acteson, CEO

From: Ed Schofield, Power System Specialist

Subject: Report for December 12, 2019 SEAPA Board Meeting

Swan Lake Operations & Maintenance Report

The following items are highlights of special projects performed by the Swan Lake crew. Special projects are activities beyond the standard preventative maintenance activities scheduled by MAPCON for each month of the year.

The Swan Lake and Tyee Lake crews completed a three-day onsite MAPCON training session in October at each facility. MAPCON is the Preventative Maintenance (PM) software program used at both of SEAPA's plants. The training was facilitated by a MAPCON trainer who traveled to the plants from the MAPCON headquarters located in Des Moines, Iowa. The training focused on the basic implementation guidelines for PM Work Orders (WO). After basic implementation skills were mastered, advanced training skills were provided. This training consisted of the development of WO's for scheduled equipment repairs beyond the standard PM task requirements. The training also covered development of After-the-Fact WO's. After the Fact WO's are designed to document all emergency or unscheduled repairs of facility equipment after the tasks are complete. Both the scheduled WO's and unscheduled WO's have never been implemented in the past. The implementation of these new WO processes will provide the means to track and document the maintenance tasks between rotating personnel and shift teams.

With the higher reservoir elevation this fall, the Swan Lake crew was able to reassemble the secondary reservoir debris boom. The secondary debris boom separated and was stranded along the shoreline for the last year. With this boom in place, the majority of the floating debris remains in the main body of the reservoir and lessens the amount of debris that must be handled and removed from the primary spillway boom. The Swan Lake crew has exhibited a major effort in reorganizing a long-neglected parts and operating supply inventory. This reorganizing effort has identified quantities of items on hand and established uniform storage criteria.

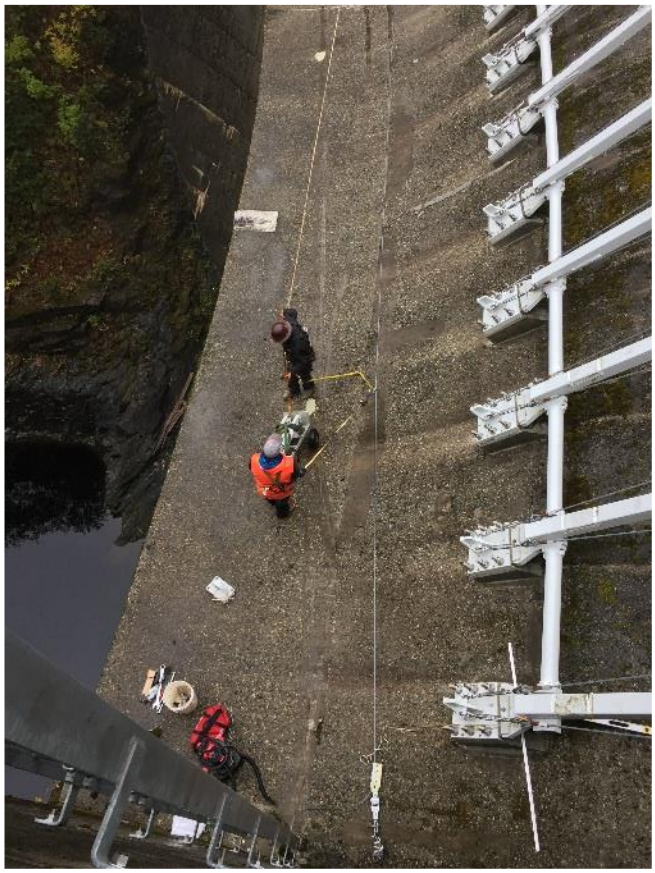
Swan Lake Dam Flash Board Gate Trigger Modifications

Modifications to the spillway flash board gate trigger components are complete. The trigger modifications were required due to the partial trigger trip incident that occurred in 2018 due to thermal expansion of the dam. The modifications to the flash board gate trigger system included a redesign of the trigger bucket lever and the addition of a new flashboard kicker energy accumulator. The redesign of the bucket lever enabled the lever balance weights to be moved to assure a positive empty bucket weight is maintained. The addition of the kicker accumulator between the last flash board kicker and the south pier will assure a positive load is applied to the trigger under all reservoir elevations and all climate conditions.

Installing New Trigger Bucket Lever

Flash Board Gate Trigger

Lowering Accumulator to Spillway



Transporting Accumulator across Spillway

Lifting Accumulator into Mounting Position

Mounting the Accumulator into Position

Flash Board Gate Trigger Modifications Complete

Swan Lake Gangway & Pier Replacement

The Swan Lake Gangway and Pier Replacement Project was awarded to Western Dock and Bridge (WD&B) of Ketchikan. WD&B started the project on September 26th and completed it on October 2nd, ahead of schedule and within the bid amount. The scope of this project was to first remove the existing wood pier, the supporting creosote piles, and steel gangway. WD&B then installed the replacement aluminum pier, gangway, and galvanized steel support piles. Mantle Industries of Blaine, Washington, an aluminum subcontractor, manufactured the aluminum pier and gangway. The Swan Lake crew completed the installation of the pier uplands bulkhead and the dock utilities, water, and electrical power supply.

Old Pier and Gangway Removed

First of Three Sets of new Galvanized Steel Piles Driven

All Three Sets of New Pile Driven

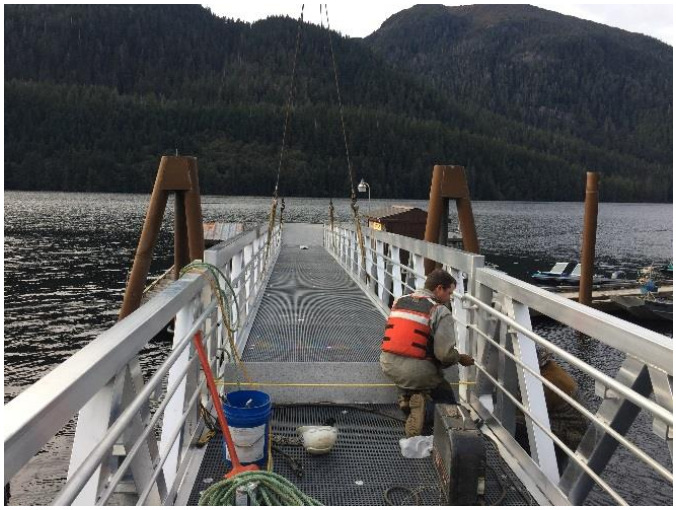
Old Gangway and Pier Removed and Staged Pending contractor Barge for Demobilization

Placement of New Pier on to Piling

Surveying Pier Alignment

Placement of New Gangway

New Pier Uplands Bulkhead



Placement of Gangway Hinges

Completed Pier

Completed Pier and Gangway

SWAN LAKE SAFETY TRAINING

Safety training by SEAPA's consultant, TSS, Inc. in October consisted of three parts:

1. A review of the top ten OSHA citations nationwide for 2018. This brings the employees up-to-date on what standards, industries and issues in the workplace are being targeted by OSHA. Of the top ten standards cited, employees were able to see that all of the top ten were things that they do as part of their jobs.

   Examples:
   - Fall protection
   - Forklift operation
   - PPE (eye and face safety)

2. Eye and face protection. This was new to OSHA's top ten list and covered:
   - Various types of eye and face protection
   - Proper selection based upon the activity and hazard
   - Proper care, cleaning and maintenance
   - Understanding the ANSI Z-87 2010 standard for approved eye and face protection, wear to find the standard on the PPE and how to interpret the printed numbering.
   - Employees were quizzed at the end of the session to verify understanding

3. TSS reviewed sections of a Swan Lake site safety audit with all employees. Each section and item were discussed with the intent of asking questions to better understand employees' knowledge of safety policies and procedures. In several cases this led to discussions about how and why certain things were done certain ways. The purpose for this is to familiarize employees with the types of questions an inspector may ask, or things they may ask to see when on-site. Sections reviewed included:
   - Required Employer Postings
   - General Safety Program
   - Medical Services and First Aid
   - Fire Protection
   - Personal Protective Equipment (PPE)
   - General Work Environment
   - Walkways
   - Floor and Wall Openings
   - Stairs and Stairways
   - Elevated Surfaces
   - Exiting or Egress
   - Exit Doors
   - Portable Ladders
   - Portable (Power Operated) Tools and Equipment
   - Abrasive wheel grinders (bench and pedestal mount grinders)
   - Lockout Tagout Procedures
   - Welding, Cutting, and Brazing
   - Hoist and Auxiliary Equipment
   - Powered Industrial Trucks (Forklifts)
   - Confined Spaces
   - Flammable and Combustible Materials

- Hazard Communication
- Electrical
- Occupational Noise
- Fueling Operations
- Material Handling

November training primarily concentrated on scaffold safety pursuant to OSHA standards, which included:

- Proper erection and dismantling of scaffold
- Proper decking and access
- Dropped object protection
- What fall protection and PPE is required when working on scaffold
- Where to find the information in the General Industry Standard 29CFR 1910
- Definitions of Qualified Person and Competent Person
- Employees were quizzed at the end of the session to verify understanding

In addition, sections of the Standard relative to portable flammable liquid (gas) cans and the need to dispose of red plastic jerry jugs in favor of metal DOT approved cans quantities five gallons or more were reviewed. A previous site inspection was reviewed. The crew provided a status update on correcting the items that had been noted.

SOUTHEAST ALASKA POWER AGENCY

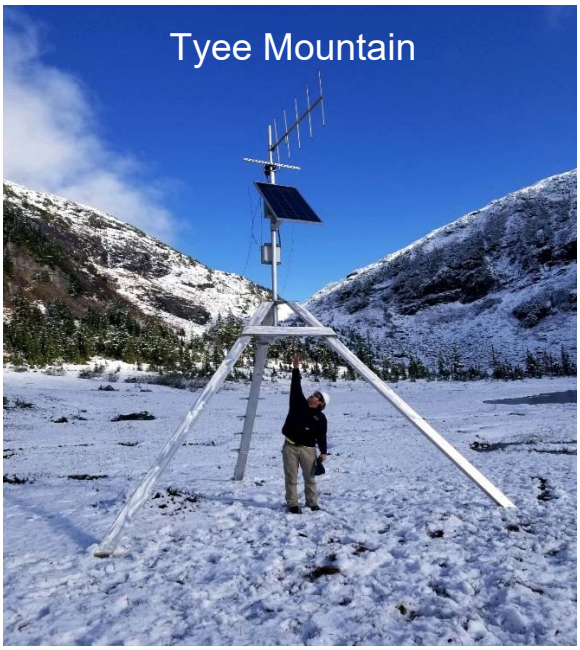
Date: December 5, 2019

To: Trey Acteson, CEO

From: Robert Siedman, P.E., Director of Engineering & Technical Services

Subject: Report for December 12 Board Meeting

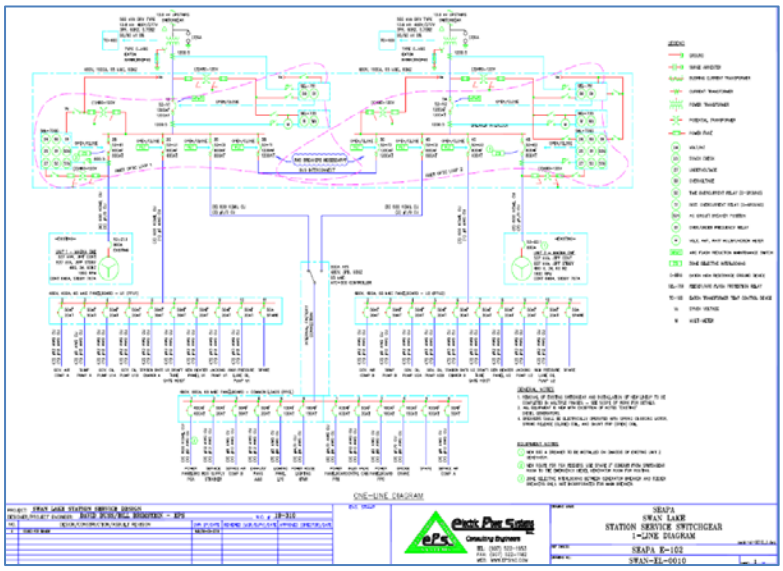
Tyee and Swan Lake Snow Pillows



The Tyee and Swan Lake snow measurement pillows were assembled, RF radios programmed, and all equipment installed by SEAPA in-house staff. The snow measurement pillows are located on the ground and powered by a solar panel. The RF radio transmits the snow pillow analog signal from the respective mountain (Swan or Tyee). With snow levels as high as 20ft (past records), a stand was designed and built to mount the power and radio transmit equipment.

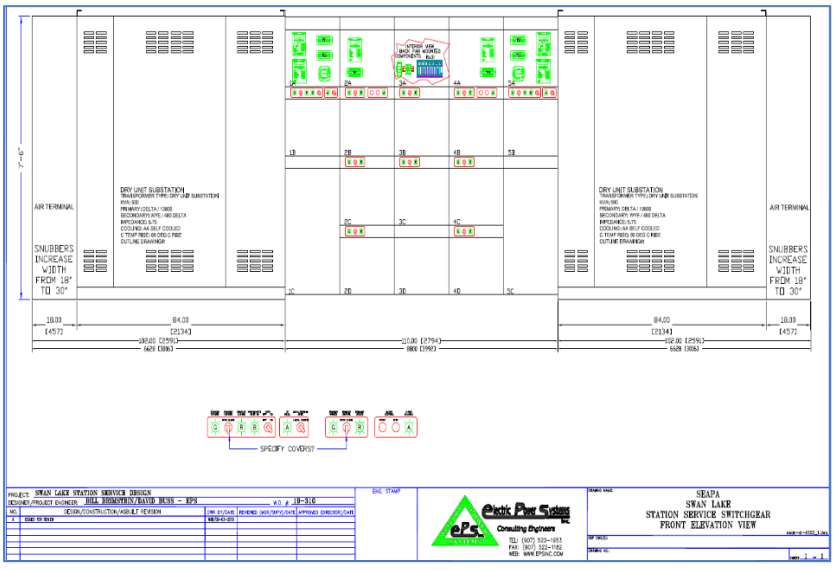
As of December 5, 2019, Tyee Mountain has 3.5 inches of Snow Water Equivalent (SWE) reported to SCADA by the Snow Pillow. At 20% density, that is equal to 17.5 inches of snow. Swan Mountain has 1.5 inches of SWE, or 7.5 inches of snow.

Swan Lake Station Service Switchgear

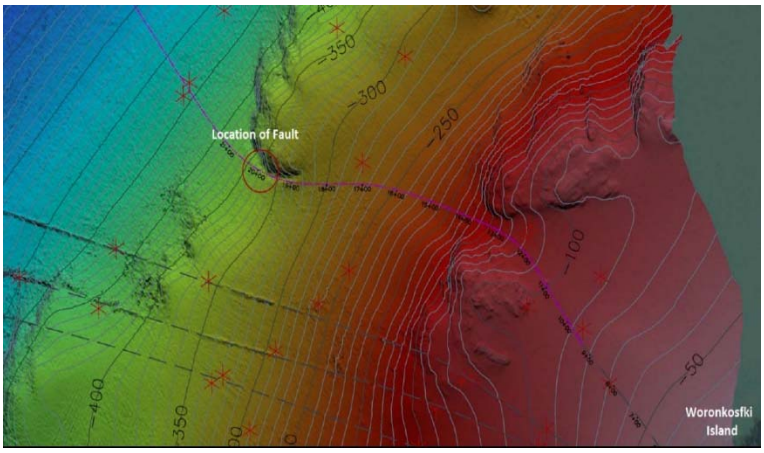


The Swan Lake Station Service Switchgear project was awarded to EPS for the design phase. The 90% design over-the-shoulder review was submitted and reviewed by SEAPA personnel on December 3. A site visit was performed by Bill Brimstein in August to identify embedded conduit and transition panels for connecting the new switchgear with existing circuits.

As discussed in the RR writeup (19314), the Swan Lake 38-year-old switchgear is at the end of its useful life and currently has a breaker that is stuck in the racked-in position. The 100% design submittal is scheduled for January 2020.



Stikine Crossing Submarine Cables

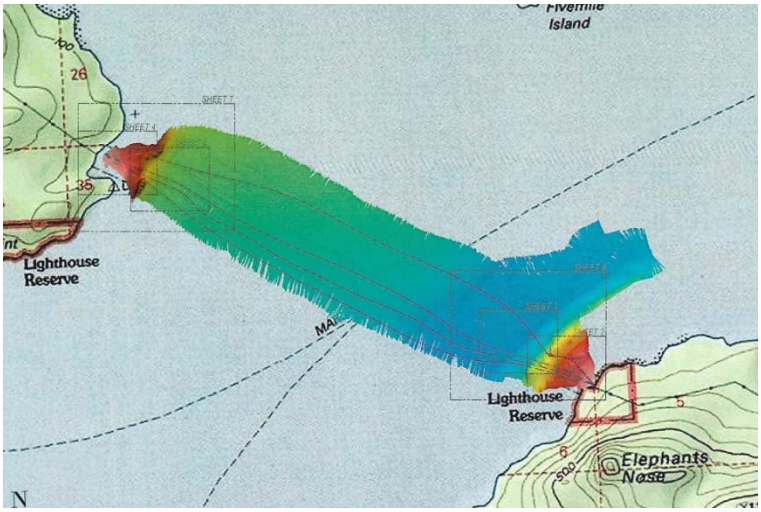


A fault occurred on the Stikine cable crossing between the islands of Woronkofski and Vank on Sunday September 29. SEAPA immediately took remedial actions to hydraulically lock the cable to prevent fluid escapement and water ingress. Time Domain Reflectometer (TDR) measurements were performed by SEAPA staff to identify the location of the fault. Detailed mapping of the Stikine Straight was performed by Etrac in October.

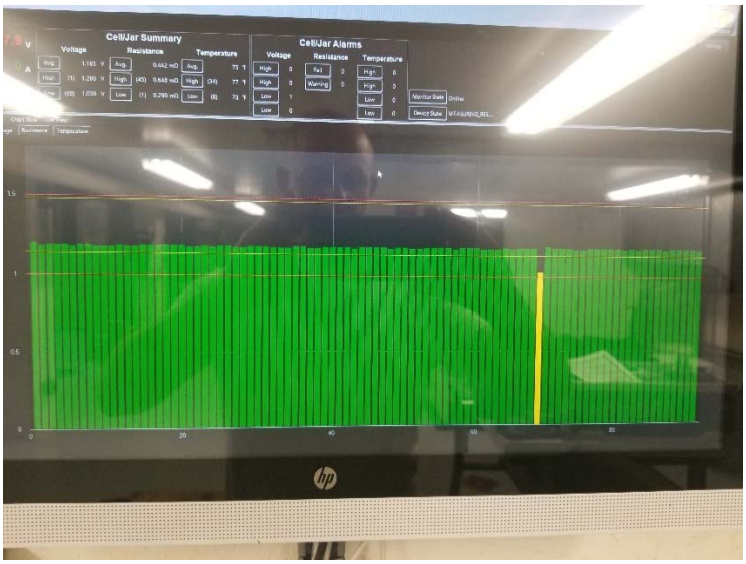
With assistance from SEAPA's submarine cable consultant, the following items have been completed:

- Review of all cable assessments
- Additional expert opinions consulted
- Cost estimates of new cables
- Cost estimates of repair
- Cost estimates for remediation
- Contract with permitting firm
- Contract with sub-bottom firm

Due to the extent of information, SEAPA staff will provide a lay-on-table document with more detailed updates on the current status of the submarine cable repair/replacement.

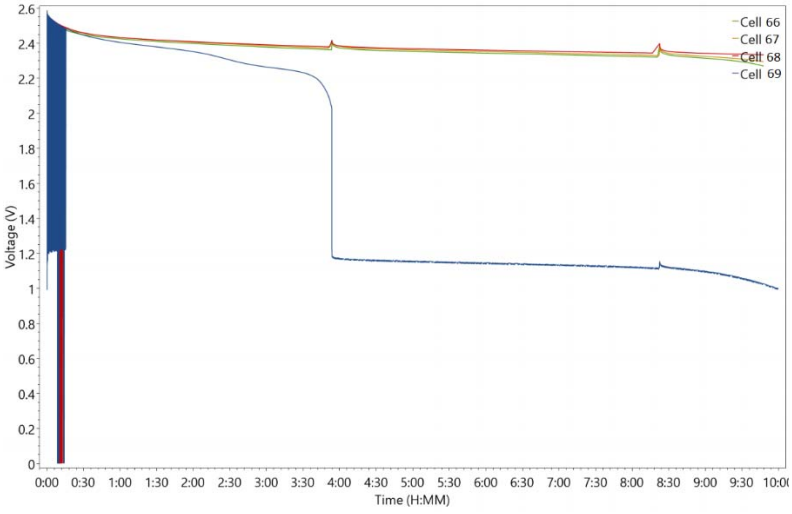


Tyee 125V Battery Bank



Battery Capacity discharge testing at Tyee lake identified 2 cells at the end of their useful life. Cell 69 voltage dropped off significantly at approximate 3.5hrs into the 10hr test. The cell was bypassed to continue the test per IEEE-450 recommendations. At approximately 8hrs, cell 25 voltage dropped off significantly. The end result of the battery capacity discharge testing at Tyee demonstrated that the 125V battery bank is at the end of its useful life and should be replaced.

The date code on the batteries has a manufacture date of 2005. At nearly 15 years in-service, Tyee batteries have served a useful life and are due for replacement. On September 26, the Board approved RR (19333) for the replacement of the Tyee battery bank. Cost estimates have been received and engineering design is currently in progress.



SEAPA 2020 BOARD MEETING DATES

Date(s)		Weekday(s)	Location	Comments
February	**21-22**	Friday-Saturday	Seattle	Proposed Strategic Planning Meeting 02/21 – 1:00 to 5:00 PM 02/22 – 9:00 to 1:00 PM
March	**11-12**	Wednesday-Thursday	Wrangell	Regular Board Meeting
June	**30**	Tuesday	Ketchikan	Regular Board Meeting
September	**29-30**	Thursday-Friday	Petersburg	Regular Board Meeting
December	**10**	Thursday	Ketchikan	Regular Board Meeting

2020

January

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May

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10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

June

S	M	T	W	T	F	S
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28	29	30				

July

S	M	T	W	T	F	S
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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

August

S	M	T	W	T	F	S
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16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

September

S	M	T	W	T	F	S
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27	28	29	30			

October

S	M	T	W	T	F	S
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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

November

S	M	T	W	T	F	S
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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

December

S	M	T	W	T	F	S
		1	2	3	4	5
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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

(See attached for additional information on 2020 meeting dates and events)

2020 MEETING DATES | EVENTS

DATE	ORGANIZATION/EVENT	LOCATION
	JANUARY	
1	**SEAPA Holiday (New Year's Day)**	**N/A**
2	Ketchikan City Council	Ketchikan
6	Petersburg Borough Assembly	Petersburg
14	City & Borough of Wrangell Assembly	Wrangell
16	Ketchikan City Council	Ketchikan
21	Petersburg Borough Assembly	Petersburg
28	City & Borough of Wrangell Assembly	Wrangell
28-30	APA Manager's Forum & State Legislative Conference	Juneau
	FEBRUARY	
3	Petersburg Borough Assembly	Petersburg
4-6	SE Conference Mid-Session (4th-5th) & Health Care Summit (6th)	Juneau
6	Ketchikan City Council	Ketchikan
11	City & Borough of Wrangell Assembly	Wrangell
17	**SEAPA Holiday (President's Day)**	**N/A**
18	Petersburg Borough Assembly	Petersburg
20	Ketchikan City Council	Ketchikan
18-21	NWHA Annual Conference & FERC Meeting	Seattle
21-22	**PROPOSED SEAPA STRATEGIC PLANNING MEETING**	**SEATTLE**
25	City & Borough of Wrangell Assembly	Wrangell
	MARCH	
2	Petersburg Borough Assembly	Petersburg
5	Ketchikan City Council	Ketchikan
10	City & Borough of Wrangell Assembly	Wrangell
11-12 (W-T)	**SEAPA BOARD MEETING**	**WRANGELL**
16	Petersburg Borough Assembly	Petersburg
19	Ketchikan City Council	Ketchikan
24	City & Borough of Wrangell Assembly	Wrangell
	APRIL	
2	Ketchikan City Council	Ketchikan
6	Petersburg Borough Assembly	Petersburg
14	City & Borough of Wrangell Assembly	Wrangell
TBD	SEAPA ANNUAL AUDIT	Ketchikan
16	Ketchikan City Council	Ketchikan
16-17	NWHA Strategic Planning Meeting	Seattle
20	Petersburg Borough Assembly	Petersburg
28	City & Borough of Wrangell Assembly	Wrangell
	MAY	
4	Petersburg Borough Assembly	Petersburg
7	Ketchikan City Council	Ketchikan
12	City & Borough of Wrangell Assembly	Wrangell
18	Petersburg Borough Assembly	Petersburg
19-21	NHA Waterpower Week (hydro/marine energy)	Washington, D.C.
21	Ketchikan City Council	Ketchikan
25	**SEAPA Holiday (Memorial Day)**	**N/A**
26	City & Borough of Wrangell Assembly	Wrangell
	JUNE	
1	Petersburg Borough Assembly	Petersburg
2-4	APA Federal Legislative Conference	Washington, D.C.
4	Ketchikan City Council	Ketchikan
9	City and Borough of Wrangell Assembly	Wrangell
15	Petersburg Borough Assembly	Petersburg
18	Ketchikan City Council	Ketchikan
23	City and Borough of Wrangell Assembly	Wrangell
30 (Tues)	**SEAPA BOARD MEETING**	**KETCHIKAN**

JULY		
2	Ketchikan City Council	Ketchikan
3	**SEAPA Holiday (Independence Day)**	**N/A**
6	Petersburg Borough Assembly	Petersburg
14	City and Borough of Wrangell Assembly	Wrangell
13-16	AEGIS Policy Holder's Conference	San Diego
14-16	Hydrovision International	Minneapolis
16	Ketchikan City Council	Ketchikan
20	Petersburg Borough Assembly	Petersburg
28	City & Borough of Wrangell Assembly	Wrangell
AUGUST		
3	Petersburg Borough Assembly	Petersburg
6	Ketchikan City Council	Ketchikan
11	City and Borough of Wrangell Assembly	Wrangell
17	Petersburg Borough Assembly	Petersburg
20	Ketchikan City Council	Ketchikan
25	City and Borough of Wrangell Assembly	Wrangell
25-28	Alaska Power Assoc./AIE Annual Mtg	Homer
SEPTEMBER		
3	Ketchikan City Council	Ketchikan
7	**SEAPA Holiday (Labor Day)**	**N/A**
8	Petersburg Borough Assembly and City and Borough of Wrangell Assembly	Petersburg and Wrangell, respectively
17	Ketchikan City Council	Ketchikan
21	Petersburg Borough Assembly	Petersburg
22	City and Borough of Wrangell	Wrangell
24	City & Borough of Wrangell Assembly	Wrangell
29-30 (T-W)	**SEAPA BOARD MEETING**	**PETERSBURG**
OCTOBER		
1	Ketchikan City Council	Ketchikan
5	Petersburg Borough Assembly	Petersburg
8-9	APA Accounting & Finance Workshop	Anchorage
13	City & Borough of Wrangell Assembly	Wrangell
15	Ketchikan City Council	Ketchikan
19	Petersburg Borough Assembly	Petersburg
27	City & Borough of Wrangell Assembly	Wrangell
NOVEMBER		
2	Petersburg Borough Assembly	Petersburg
5	Ketchikan City Council	Ketchikan
11	**SEAPA Holiday (Veteran's Day – Observed)**	**N/A**
10	City & Borough of Wrangell Assembly	Wrangell
16	Petersburg Borough Assembly	Petersburg
19	Ketchikan City Council	Ketchikan
24	City & Borough of Wrangell Assembly	Wrangell
26-27 (T-F)	**SEAPA Holiday (Thanksgiving & Day After)**	**N/A**
DECEMBER		
2-3	APA Annual December Meeting Series	Anchorage
3	Ketchikan City Council	Ketchikan
7	Petersburg Borough Assembly	Petersburg
8	City & Borough of Wrangell Assembly	Wrangell
10 (Thursday)	**SEAPA BOARD MEETING**	**KETCHIKAN**
17	Ketchikan City Council	Ketchikan
21	Petersburg Borough Assembly	Petersburg
22	City & Borough of Wrangell Assembly	Wrangell
24-25	**SEAPA Holiday (Christmas Eve and Christmas Day)**	**N/A**

(Assembly and Council Meetings noted on the calendar above are estimated as a result of the schedule below)

- Petersburg Borough Assembly Meetings — 1st & 3rd Monday every month
- City & Borough of Wrangell Assembly Meetings — 2nd & 4th Tuesday every month
- Ketchikan City Council Meetings — 1st & 3rd Thursday every month