ORCAS POWER AND LIGHT COOPERATIVE 2019 BUDGET REPORT

MEMORANDUM

Date: November 9, 2018 (Revised December 14, 2018)

To: Board of Directors

From: Foster Hildreth, General Manager

Re: 2019 Budget Presentation

At the November Board Meeting, the Board requested staff to run additional rate sensitivity options (see page 14 and 15).

Attached please find our 2019 Budget Presentation. Consistent with last year's projections, staff is recommending a 5.2% revenue increase for the 2019 budget year only. Staff is recommending that our 2019 budget revenue increase from $28.8M (projected 2018) to $30.3M to meet our financial, operational and capital project commitments. The majority (36%) of the required $1.5M increase includes $560k for depreciation and interest expense (primarily submarine cable project) and $320k in power cost. The projected figures for years 2020 thru 2023 are for reference only, as future years will be reviewed annually during our normal budgeting process.

The 2019 budget continues to align our operations to the mission statement of providing safe, reliable, cost effective, and environmentally sensitive utility services. This budget prepares OPALCO to meet the marks set out in our energy road map:

> TODAY: Make the most of our available resources. Reduce members' total energy bills through electrification of transportation and heating while continuing to modernize the grid to meet future needs.
>
> TOMORROW: Increase local resilience. Bring more local renewables on, leveraging our dynamic grid and building emergency back-up power for emergency services.
>
> FUTURE: Give members more control. In the coming "transactive" energy world, members will dynamically buy and sell local power, make decisions about their power usage in response to real time price signals and integrate energy storage (EVs, batteries…) into the Co-op grid.

The Board held two rate work sessions in 2018, in preparation for a full Cost of Service Analysis (COSA), which was performed by an independent contractor, Guernsey Consultants. Results, available at www.opalco.com, informed the Board's discussion on rates for 2019.

The 2019 Budget includes a battery storage project on Decatur Island, planning for the next Community Solar project (est. 2020) and the launch of a new on-bill finance program to encourage members to switch to electricity for heating and transportation. The budget also includes the delayed sewer remodel of our Eastsound headquarters.

This will be the Board's first reading of the rates, which will be brought back to the Board in December for their approval. A budget narrative is provided detailing the basis, assumptions and notable drivers.

Staff recommends Board make a motion to approve the 2019 budget as submitted.

BUDGET NARRATIVE

Mission:

OPALCO serves our members with safe, reliable, cost effective and environmentally sensitive utility services. Our mission drives our budget in the following ways:

✓ Safety – The expansion of OPALCO's grid, built on our fiber backbone provides a tremendous boost to public safety. Using the fiber and devices connected into our system throughout the islands, OPALCO can reroute power quickly to our members and puts data in the hands of crew members in the field to rapidly locate and resolve outages. First responders, including OPALCO linemen, can reach out for help in the field; members and tourists can get help in times of crisis and our County is connected to real-world services for education, economic development and quality of life.

✓ Reliability – We continue to budget for replacement of the old unjacketed underground cable (referred to as URD) system wide. This trend will continue with prioritization of replacement targeted at the areas with higher failure rates. With each URD project, where needed, we include fiber and increase the reach of our fiber network and therefore the reach of our monitoring and control system. In 2019, we will complete the first Energy Storage System (0.5MW/2 MWh battery) on our system at Decatur substation. This battery, along with the 504kW-DC Community Solar array, completes the first step toward a local power supply in case of emergency.

✓ Cost Effective – Our capital construction plan is designed to maximize system efficiency and make best use of member resources. The continual expansion of our grid and fiber-connected devices on our system, helps to contain costs by putting control of the system in the hands of crew members wherever they are. The days of sending linemen out in a storm, in a boat, on a dark night, are going away. The battery storage bank at the Decatur substation will create cost savings through load shifting and peak shaving, as well as store local power generated by our Community Solar project. With equipment replacements scheduled for 2019, greater efficiency and cost savings will contribute to our sustainability as a co-op. The higher cost of managing a remote, rural utility in our island environment is tempered through prudent use of technology best practices.

✓ Environmentally Sensitive – OPALCO has significant infrastructure installed throughout our beautiful and sometimes fragile island environs. Doing the right thing comes at a cost that is reflected in our cost of service and OPALCO is committed to good stewardship, working within the County's Critical Areas Ordinance, complying with all permitting requirements and keeping as low a profile as possible to maintain island character. OPALCO is contributing to the County Comprehensive Plan review (2017-2019) to align our energy future policies and practices with this vision of stewardship and sustainability.

Load Forecast:

The Load Forecast is the heart of the budget and the most precarious aspect of our forecasting. The energy management team of PNGC (Pacific NW Generating Cooperative) assisted us with load forecasting for this budget. They bring valuable industry expertise and resources to our Co-op to help us navigate the rapidly evolving energy market.

OPALCO's load peaks in the winter, in large part due to increased heating and lighting load. Weather drives heating load. Predicting the weather for a year ahead is fraught with uncertainty due to variations of temperature, wind and humidity and yet we depend on weather forecasting to meet our budgetary commitments. In 2019, the forecast is for a return to a warmer El Niño weather pattern with projected kilowatt hour purchases from PNGC of 206M kWh. As a point of reference, OPALCO's load has averaged 215M kWh, ranging between 204M (2015) – 229M (2017) kWh.

While predicting the weather beyond a few days or weeks with any certainty is not possible, we can use trends to forecast likely scenarios. Weather drives how much energy co-op members consume, which drives how much revenue the Co-op generates to pay for expenses. Most of OPALCO's expenses are fixed costs. Most of OPALCO's revenue is highly variable and dependent on the weather.

To gauge what impact the weather may have on our Cooperative, we incorporate analysis from various sources which include BPA's climatologist, the National Oceanic and Atmospheric Administration (NOAA), the Office of the Washington State Climatologist, and other Northwest climatologists. We also consider local weather data, including air temperature, water temperature, wind speed, and precipitation, to name but a few.

After considering about a dozen scenarios, we then estimate our kWh load. With that information, we set rates accordingly – to generate the revenue to pay for the expenses. An accurate forecast is important: if it ends up being colder than we forecast, members are over-charged and we end up with more money than needed to cover co-op expenses; if weather was warmer than forecast, members are under-charged and we end up with less money than needed to cover co-op expenses.

BUDGET ASSUMPTIONS

GENERAL:

1. **General Inflation Rate**:

   The general annual inflation rate has been projected at 3.25% for years 2019, 3.50% for 2020 and 4.0% for years 2021 through 2023. We use the US Department of Labor, Bureau of Statistics, Seattle-Tacoma-Bellevue consumer price index as the baseline for inflation. (https://www.bls.gov/regions/west/data/consumerpriceindex_seattle_table.pdf)

2. **2019-23 Budget Basis:**

   The 2019-223 budgetary figures have been forecast with the use of actual activity from January through September 2018 and adjusted 4th quarter 2018 projections.

3. **BPA Power Cost Projections:**

- BPA operates on a two-year rate cycle. 2019 is the first year of a new rate case. In 2019, we are budgeting for BPA increases of 5% over 2018 to cover fish spill surcharge, power cost recovery adjustment clause (CRAC) increase, BPA financial reserves CRAC, and residential exchange charges. OPALCO works with PNGC to identify these cost increases.
- For 2019, we are using PNGC's power purchase forecast of 5%. From 2021 through 2023, we have maintained a 5% BPA cost increase for each year.
- Load growth is expected to be slightly less than 1% per year.

4. **Labor:**

- Staffing levels are budgeted at 51 full-time OPALCO employees in 2019 (see organization chart). This includes two new apprentice linemen positions as part of our line crew succession planning.
- The general wage increase is in accordance with the current Collective Bargaining Agreement, which is based on the CPI index.
- The benefit growth assumptions are in accordance with 2019 NRECA and LineCo rate projections based on the changes to the benefits package.

5. **Capital Projects:**

- The 2019 capital projects are based on the 2017 – 2020 RUS Construction Work Plan (CWP). The CWP is derived from outage analysis, system monitoring and system modeling based on load growth projections along with current system loading. The goals are to achieve voltage stability, greater system reliability and overall system efficiency.
- Distribution System:
    - New Services continue to trend upward since the lows of the recession (2008-13). For 2019, $372k is budgeted with an average of $400k per year projected in future years. Please note: contributions in aid of construction (CIAC) offset the expense, but the uptick represents significant project work for our crews.
    - Underground Residential Distribution (URD) replacement will continue based on the following criteria: age, cable type, neutral degradation and, most importantly, outage frequency and outage duration. There is approximately 140 miles of unjacketed URD to replace system-wide over time with problem areas mapped for priority scheduling. In 2019, 18 miles of URD is slated for replacement at a budgeted cost of $1.4 M. Staff expect an average annual spending of $1.5 - $2M for the foreseeable future for replacement of unjacketed URD.

- Conversions, Line Changes and Tie Lines - ~$750k is budgeted in 2019 for conversion to large conductors: upgrading lines to carry greater capacity and increased ability to reroute power.
- Sectionalizing Equipment shows an uptick in expense for the next four years as we replace aging switches and protective devices. Automated switches on our system improve reliability and give us greater visibility into our system.
- SCADA spending is business as usual in 2019 ($116k) with security upgrades planned as we segment our SCADA system away from our business networks.
- Grid Control Communications Infrastructure (fiber) expansion for 2019 ($150k) is budgeted to connect generators to active sites for power back-up and reliability.

- Transmission System – Projects include the routine replacement of transmission poles and a rebuild of the north Shaw submarine cable terminal foundations for cable #2.
- Facilities – Increased spending budgeted for 2019 ($500k) to replace the degraded plumbing and sewer systems in the Eastsound headquarters. This was budgeted in 2018 but pushed out to 2019 due to permitting and planning delays.
- Transportation – Capital expense for fleet are expected to average ~$575K per year.
- Community Solar Project
  - Energy Storage System (ESS) – The 2019 budget includes $1.2M to match a DOE grant of $1M for a battery storage bank. We plan to use a single versatile 0.5MW/20 MWh ESS to provide four complementary functions that enhance grid reliability and operation, and community solar array performance, while increasing storage system “capacity factor” and saving money on our power bill from BPA:
    1. Community solar array conditioning: Conditioning of intermittent solar array output and store energy for later use.
    2. Peak shaving: Discharging battery system during normal system peaks and large outage restoration events to reduce peak charges while restoring the systems quicker.
    3. Load Shifting: Shifting system usage from peak intervals to off peak intervals.
    4. Substation battery backup during system outages: Use of this system to ensure switching capability during extended outages. This is a first step toward an emergency power supply during major mainland outage.
  - Planning for Next Community Solar Project – The 2019 budget includes planning expenses for a potential next project in 2020 including siting, scoping and communication.

6. **Energy Savings:**

- Staff have applied for RESP funds from RUS to provide on-bill financing to members for efficiency / fuel switching measures. Program administration will begin in 2019.
- Staff has applied for grants through the WA Department of Commerce for vehicle-to-grid, solar, and battery storage projects. New sites will be evaluated in 2019 for these projects.
- BPA/PNGC pass-through rebates will continue for ductless heat pumps, weatherization, commercial lighting, and appliances.
- Beneficial electrification (fuel-switching) rebates are offered again in 2019. More self-funded incentives for ductless heat pumps and EV charging stations are available. These conversions bring new load (kWh usage) and revenue, and help members breach the cost barrier for these appliances.
- Low-income weatherization partnership with the Opportunity Council will be offered in 2019. This program provides a whole house weatherization and efficiency upgrade for qualified members. OPALCO provides up-front costs ($30-50K) and is reimbursed by BPA.
- Staff will continue to get support for energy education and outreach via the San Juan Islands Conservation District.

7. **Capital Credits**

- Capital credit pay out cash planning is based on an average 25 year pay back cycle (1994 capital credits in 2019) plus an additional “smoothing” payout amount (52% portion of 1995 in 2019). For the next five years, $1.3M in capital credits are expected to be retired per year. The goal is to smooth out the low and high year payouts by using an average rather than strict year total.

8. **Energy Assistance Program:**

- The 2019 Budget includes a continuation of ~$116k for low-income monthly bill credits, which range from $25 (single person household) to $55 (six or more person household) per month, and not to exceed the total bill amount. The Energy Assistance Program is funded as a line item on all member bills (approximately $0.60 on the average residential bill). Approximately 418 members participated in 2018, up from 284 in 2017. Outreach continues to encourage participation.

OVERALL SUMMARIZATION:

1. **Revenue:**

   Staff recommends a total revenue increase of ~5.2% for 2019. The recommended increase applies equally to both the facility charge and energy usage charge, while balancing the cost of service between rate classes. Based on the 2018 cost of service study, we will begin a five-year phased approach to balancing equitability between the rate classes.

2. **Margins:**

   Per Staff recommendation, projected margins are as follows: $ 1.9M in 2018 (projected), $1.8M in 2019 (budget), $1.8M in 2020 (forecast), $2.5M in 2021 (forecast), $3.0M in 2022 (forecast), and $3.5M in 2023 (forecast).

3. **TIER:**

   Per Staff recommendation, TIER is as follows: 2.07 in 2018 (projected), 1.93 in 2019 (budget), 1.88 in 2020 (forecast), 2.18 in 2021 (forecast) 2.40 in 2022 (forecast), and 2.53 in 2022 (forecast).

4. **Equity % of Total Capitalization (OPALCO):**

   Per Staff recommendation, Equity % of Total Capitalization is as follows: 40.3% in 2018 (projected), 38.8% in 2019 (budget), 37.9% in 2020 (forecast), 37.8% in 2021 (forecast), 38.6% in 2022 (forecast), and 39.9%in 2023 (forecast).

5. **Debt:**

   OPALCO is expected to borrow $4M RUS in year 2019, $3M each year through 2022 and $3.5M in 2023, for capital projects. $5.8M in RUS Rural Energy Savings Program funds will be borrowed at 0% over a 10-year period to provide on-bill financing to members for efficiency / fuel switching measures. We anticipate using our approved RUS (FFB) loan funds and have estimated interest rates between 3% and 4% for 2019 through 2022.

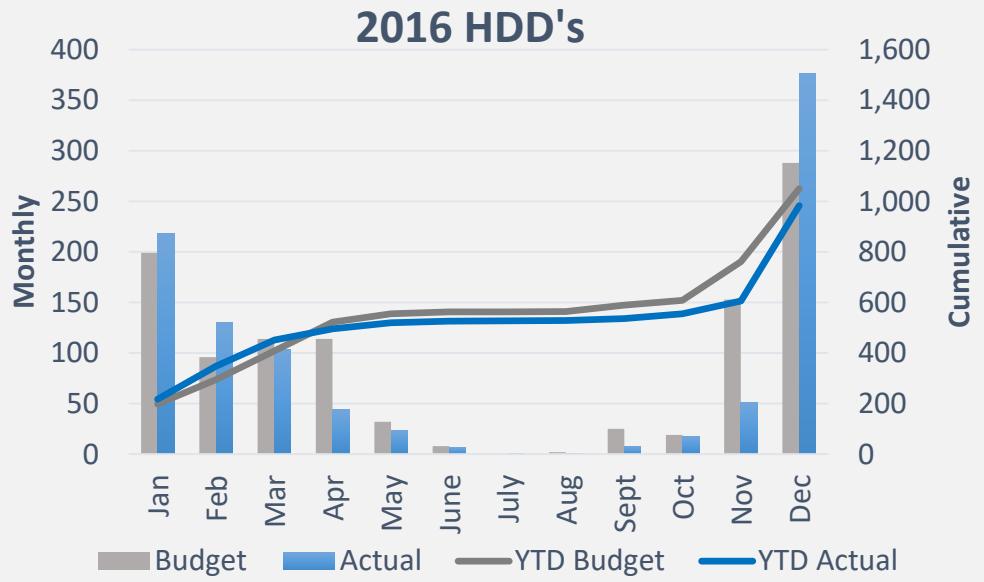
6. Rate Detail:

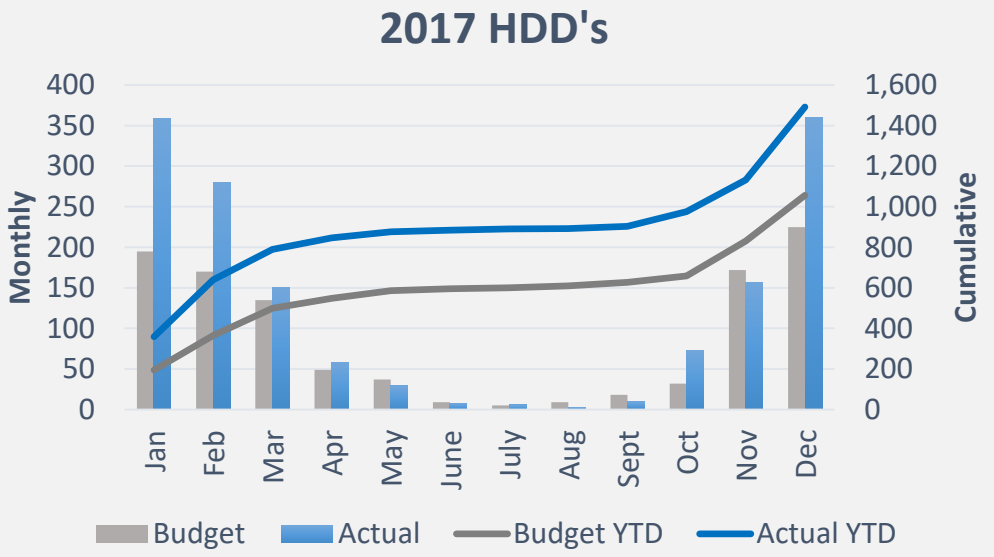
- The chart below details the impact on average residential members Energy Assistance Program and PAL recipients. An average residential member (13,228 meters) would see a bill increase of about $9.38 including the Energy Assistance Program line item.

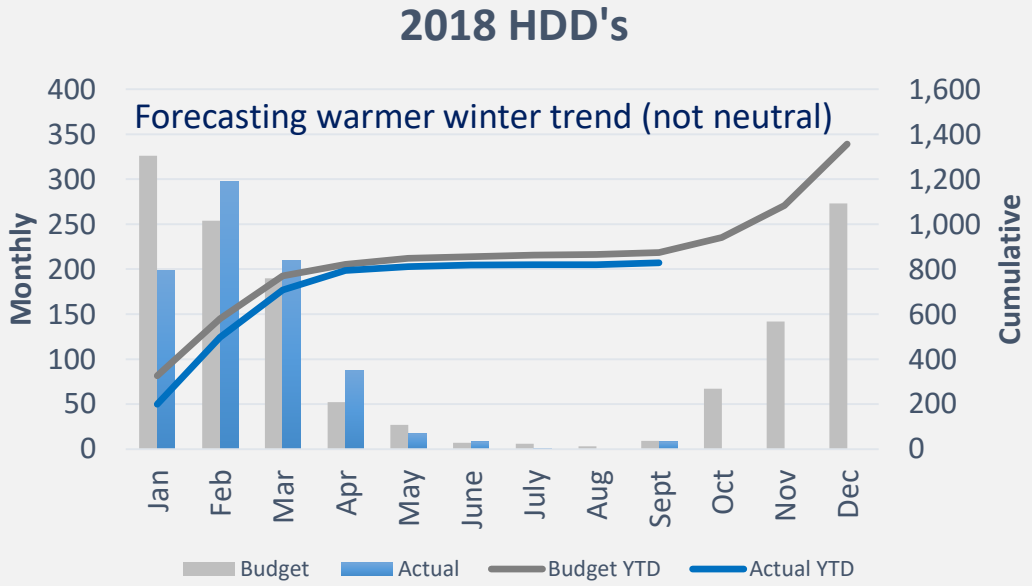
	Average Residential User		Average EAP Recipients	Average PAL Recipients	Average Seasonal Occupancy
Number of Services (Meter Points)	13,228		321	421	1,553
Average Months of Usage	12		12	12	12
Average Usage (kWh) per month	991		909	794	781
Average Monthly Bill using Existing Rate (2018)	142.87		134.57	122.93	121.62
Average Monthly Bill using Recommended Rate (2019)	152.25		143.55	131.33	129.96

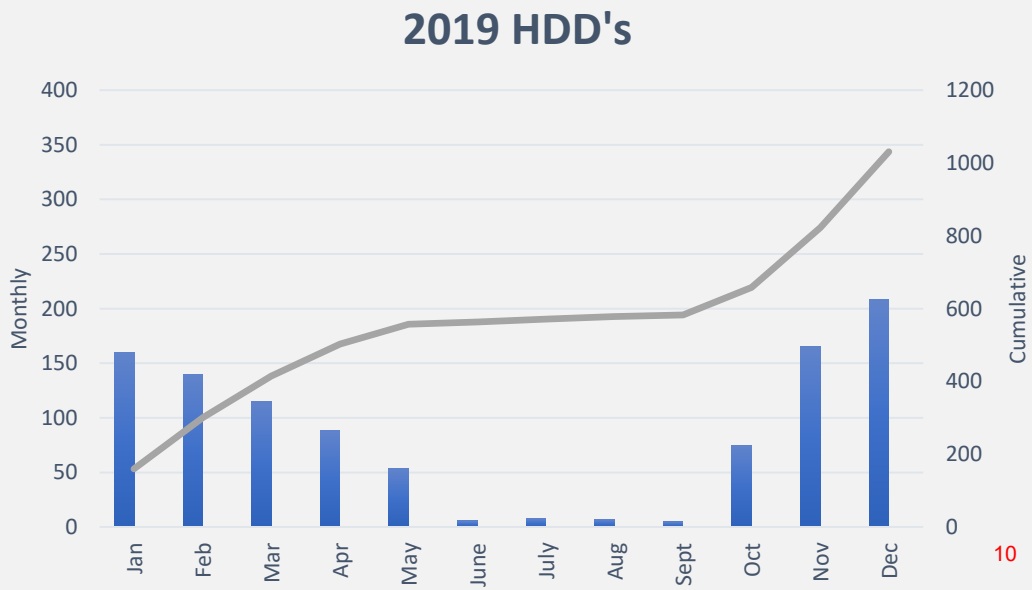
Notes:
1) Data period from November 2017 to October 2018.
2) Seasonal Occupancy based on greater usage on May through September than rest of year.
3) PAL and EAP accounts based on those in database who received assistance during data period.

2019 Budget: Heating Degree Days



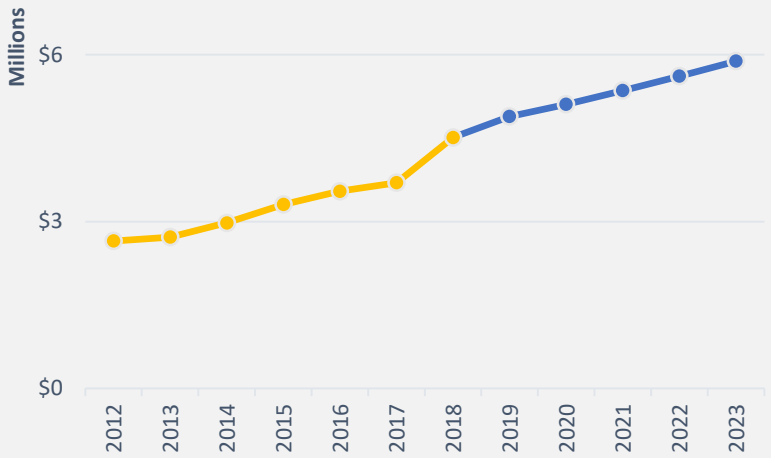




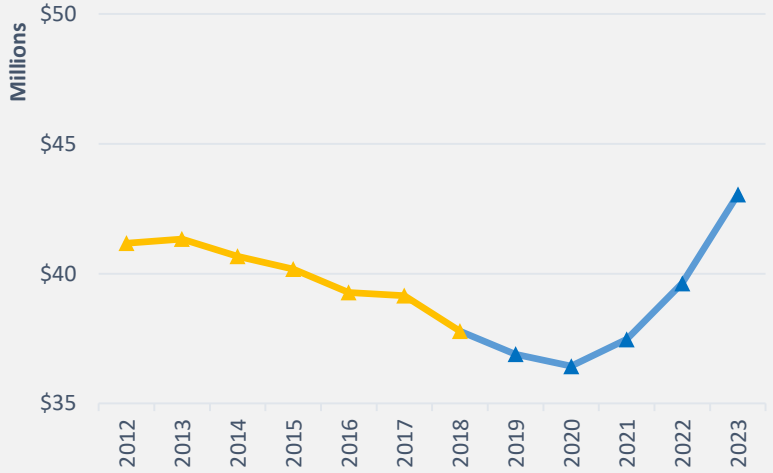


2019 Budget: Financial Metrics

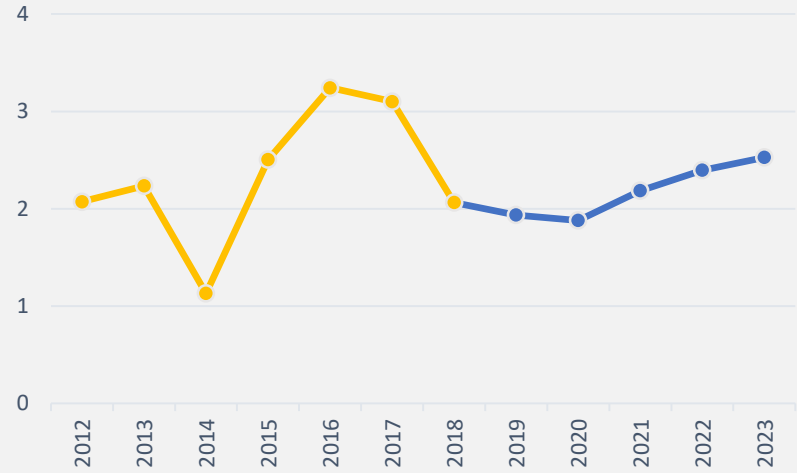
Depreciation & Amortization



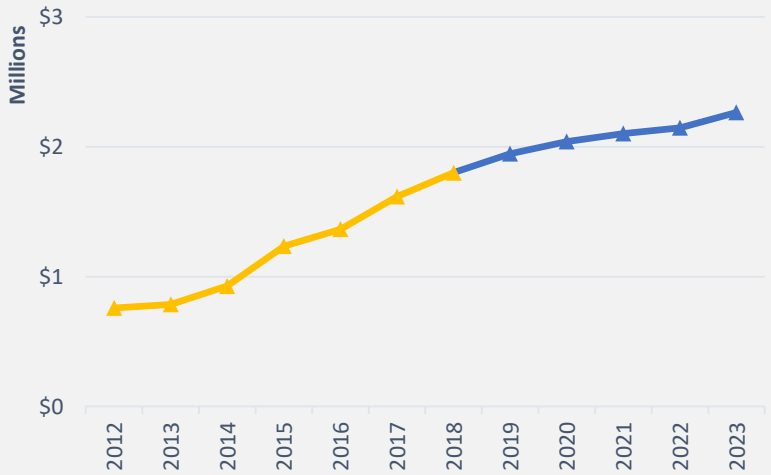
Equity



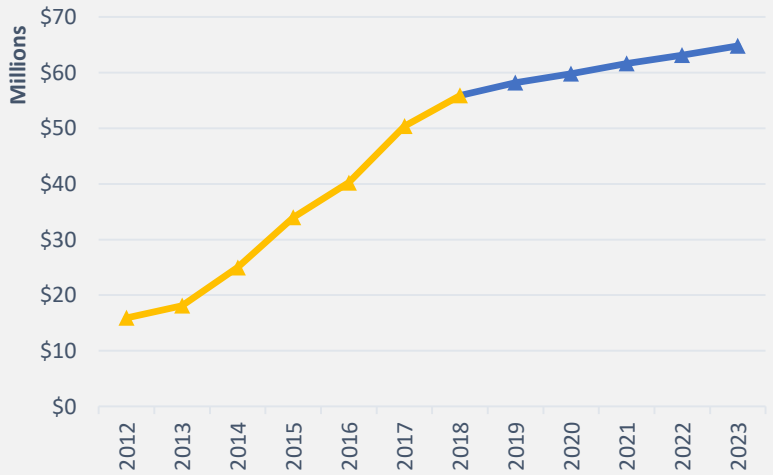
TIER



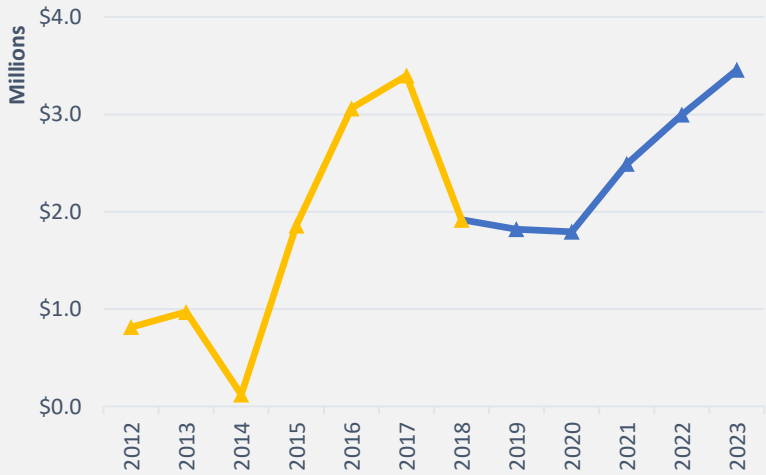
Interest



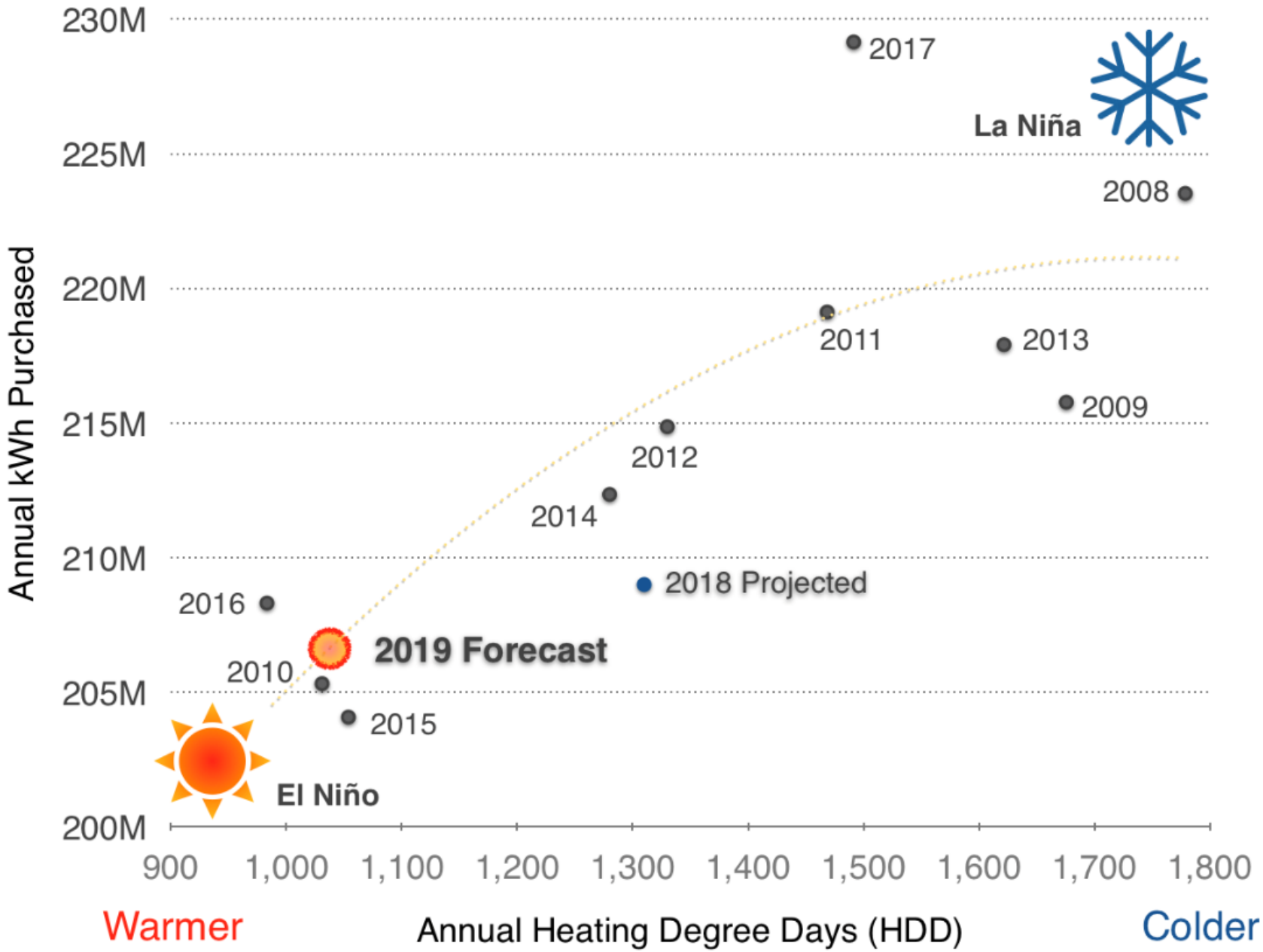
Debt



Margin



Load Forecast - Future: 2019 Forecast - warmer than normal



Notes

- NOAA has been increasing the probability of El Niño for the coming winter and spring. Combining that expected warming weather with the longterm climate changed HDD downward warming trend, we are erring on the conservative side of winter heating load.

ORCAS POWER AND LIGHT COOPERATIVE

BUDGET EXECUTIVE SUMMARY

		A. Audited Year End 12/31/2016	B. Audited Year End 12/31/2017	C. Approved Budget 12/31/2018	D. Projected Year End 12/31/2018	**E. Proposed Budget 12/31/2019**	F. % Change from 2018	G. Forecast 12/31/2020	H. Forecast 12/31/2021	I. Forecast 12/31/2022	J. Forecast 12/31/2023	Comments
1	kWh Purchases	208,313,000	229,154,627	216,993,070	209,893,000	**206,000,000**	-1.9%	208,060,000	210,141,000	212,242,000	214,364,000	OPALCO estimate conservatively below BPA estimate of 211M kWh
2	% Rate Increase *	5%	5%	5%	5%	**6.0%**		6.0%	6.0%	6.0%	6.0%	
3	% Total Revenue Increase	3%	10%	5%	2%	**5.2%**		6.5%	6.5%	6.4%	6.4%	
4	Total Revenue	25,661,000	28,310,000	29,664,000	28,787,000	**30,283,000**	5.2%	32,258,000	34,347,000	36,558,000	38,898,000	Revenue necessary to meet budget and cash flow requirements
5	Cost of power	7,943,000	8,916,000	9,189,000	9,038,000	**9,358,000**	3.5%	10,089,000	10,521,000	11,158,000	11,833,000	BPA rate increases for fish spill surcharge, power and financial reserve cost recovery estimated at > +5%
6	Operations & G&A	8,877,000	9,971,000	10,678,000	10,416,000	**11,034,000**	5.9%	11,806,000	12,361,000	13,040,000	13,761,000	General inflation of 3.25% and 2019 employee count target of 51 includes full staffing of system engineer, journyman lineman, ad two new apprentices
7	Depr, Int & Taxes	5,779,000	6,023,000	6,999,000	7,414,000	**8,072,000**	8.9%	8,567,000	8,974,000	9,364,000	9,848,000	Largest budget driver is depreciation on new assets & interest on related borrowings
8		22,599,000	24,910,000	26,866,000	26,868,000	**28,464,000**	5.9%	30,462,000	31,856,000	33,562,000	35,442,000	
9	Net Margins	$ 3,062,000	$ 3,400,000	$ 2,798,000	$ 1,919,000	**$ 1,819,000**	-5.2%	$ 1,796,000	$ 2,491,000	$ 2,996,000	$ 3,456,000	Lower end of acceptable margin in order cover capital credit retirements only, especially moving into El Nino weather conditions.
10	TIER	3.24	3.10	2.61	2.07	**1.93**		1.88	2.18	2.40	2.53	Willing to go to lower end of TIER range provided we impliment recommended Energy Charge Adjustment. Fluctuates with changes in weather & borrowing rates.
11	**Equity % of Total Cap**	**49.4%**	**43.7%**	**43.8%**	**40.3%**	**38.8%**		**37.9%**	**37.8%**	**38.6%**	**39.9%**	Conitinue to manage closely over next several years to ensure we start trending upwards for future capital investment.
12	Equity	39,277,000	39,152,000	38,828,000	37,785,000	**36,897,000**	-2.4%	36,436,000	37,470,000	39,630,000	43,049,000	Equity trending upwards (gradual building for next large capital investment)
13	Long Term Debt	40,231,000	50,398,000	49,921,000	55,899,000	**58,181,000**	4.1%	59,823,000	61,654,000	63,150,000	64,790,000	Borrowings growth slowed as operations generate cash flow to cover much of the new capital project investment
14	Capital Spending	(14,486,000)	(18,598,000)	(8,658,000)	(9,024,000)	**(6,342,000)**	-29.7%	(6,041,000)	(6,892,000)	(6,836,000)	(8,167,000)	Capital spending returning to normal range of $6-8M in 2019-2023
15	Capital Credit Retirement (net)	(1,218,000)	(1,102,000)	(1,051,000)	(1,003,000)	**(1,051,000)**	4.8%	(1,051,000)	(1,051,000)	(1,051,000)	(1,118,000)	Smoothing of capital credit retirements (reduces volatility in margin, cash and equity requirements)
16	Annual HDD	983	1,491	1,356	1,283	**1,031**		1,300	1,313	1,327	1,340	HDD definition: Number of degrees that a day's average temperature is below 50 degrees Fahrenheit
17	kWh per HDD	211,916	153,692	160,024	163,595	**199,806**		160,046	160,046	159,941	159,973	

18 * Assumes average residential usage of 1000 kWh / month

ORCAS POWER AND LIGHT COOPERATIVE

RATE SENSITIVITY

Proposed 2019 Budget Figures; Future Years for Reference Only

	A. Budget 12/31/2019	B. Forecast 12/31/2020	C. Forecast 12/31/2021	D. Forecast 12/31/2022	E. Forecast 12/31/2023	F. Total	Comment
kWh Purchases	**206,000,000**	**208,060,000**	**210,141,000**	**212,242,000**	**214,364,000**		
BASE LINE: No Rate Change (Not Financially Viable)							
% Avg. Residential Rate Increase	0.0%	0.0%	0.0%	0.0%	0.0%		
% Revenue Increase (Decrease)	-0.6%	0.7%	0.7%	0.7%	0.7%		Baseline only to see the implication of no rate increase.
Incremental Debt	$ 4,000,000	$ 5,500,000	$ 7,000,000	$ 8,500,000	$ 11,500,000	**$ 36,500,000**	
Margin	$ 150,367	$ (1,640,513)	$ (2,823,992)	$ (4,316,921)	$ (5,993,011)		
Equity % of Total Capital	37.7%	34.4%	30.5%	25.7%	19.7%		
TIER	1.08	0.20	(0.34)	(1.01)	(1.65)		
Incremental Cash flow	$ 431,000	$ 522,000	$ 502,000	$ 357,000	$ 430,000	**$ 2,242,000**	
OPTION 1							
% Avg. Residential Rate Increase	4.0%	4.0%	4.0%	4.0%	4.0%		
% Revenue Increase	3.3%	4.7%	4.7%	4.7%	4.8%		TIER insufficient to maintain capital credit retirement cycle and build equity needed for future capital projects.
Incremental Debt	$ 4,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,500,000	**$ 16,500,000**	
Margin	$ 1,263,214	$ 650,235	$ 719,801	$ 559,472	$ 307,367		
Equity % of Total Capital	38.4%	36.7%	35.5%	34.8%	34.4%		
TIER	1.65	1.32	1.34	1.26	1.14		
Incremental Cash flow	$ 1,544,000	$ 813,000	$ 546,000	$ 733,000	$ 730,000	**$ 4,366,000**	
OPTION 2							
% Avg. Residential Rate Increase	5.0%	5.0%	5.0%	5.0%	5.0%		
% Revenue Increase	4.2%	5.6%	5.6%	5.6%	5.6%		Management strives to reach financial targets with a minimum '2' TIER level. This option, however viable, leaves little room for weather fluctuations and increasing costs impacting 2019 & 2020. Equity building in future years is insufficient.
Incremental Debt	$ 4,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,500,000	**$ 16,500,000**	
Margin	$ 1,541,704	$ 1,223,256	$ 1,606,154	$ 1,779,063	$ 1,883,065		
Equity % of Total Capital	38.6%	37.3%	36.7%	36.7%	37.3%		
TIER	1.79	1.60	1.76	1.83	1.83		
Incremental Cash flow	$ 1,823,000	$ 886,000	$ 932,000	$ 953,000	$ 306,000	**$ 4,900,000**	
OPTION 3 - Recommended							
% Avg. Residential Rate Increase	6.0%	6.0%	6.0%	6.0%	6.0%		
% Revenue Increase	5.2%	6.5%	6.5%	6.4%	6.4%		Recommended rate increase as this profile allows for rate stability and adequate equity increases in future years. Please note we will be revisiting these rate increases annually.
Incremental Debt	$ 4,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,500,000	**$ 16,500,000**	
Margin	$ 1,819,222	$ 1,795,117	$ 2,490,703	$ 2,996,158	$ 3,455,535		
Equity % of Total Capital	38.8%	37.9%	37.8%	38.6%	39.9%		
TIER	1.93	1.88	2.18	2.40	2.53		
Incremental Cash flow	$ 2,100,000	$ 1,458,000	$ 1,817,000	$ 2,170,000	$ 1,879,000	**$ 9,424,000**	

ORCAS POWER AND LIGHT COOPERATIVE

RATE SENSITIVITY

Proposed 2019 Budget Figures; Future Years for Reference Only

	A. Budget 12/31/2019	B. Forecast 12/31/2020	C. Forecast 12/31/2021	D. Forecast 12/31/2022	E. Forecast 12/31/2023	F. Total	Comment
kWh Purchases	**206,000,000**	**208,060,000**	**210,141,000**	**212,242,000**	**214,364,000**		
OPTION 4 - (Option 2 w/ out years from Option 3)							
% Avg. Residential Rate Increase	5.0%	6.0%	6.0%	6.0%	6.0%		
% Revenue Increase	4.2%	6.5%	6.5%	6.4%	6.4%		This option, while feasable, pushes rate pressures to future years, and when margin is net with capital credit retirements, provides very minimal addition to equity.
Incremental Debt	$ 4,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,500,000	**$ 16,500,000**	
Margin	$ 1,541,704	$ 1,499,202	$ 2,175,324	$ 2,660,180	$ 3,097,754		
Equity % of Total Capital	38.6%	37.5%	37.2%	37.8%	39.0%		
TIER	1.79	1.73	2.03	2.24	2.37		
Incremental Cash flow	$ 1,823,000	$ 1,162,000	$ 1,501,000	$ 1,834,000	$ 1,521,000	**$ 7,841,000**	
OPTION 5 - (TIER of 2)							
% Avg. Residential Rate Increase	6.8%	6.2%	3.8%	4.5%	4.9%		
% Revenue Increase	5.9%	6.9%	4.5%	5.2%	5.6%		Shooting for a TIER of 2.0 in each year creates a larger-than-desired revenue requirement in 2019 and adds rate volatility each year as anticipated weather conditions fluctuate.
Incremental Debt	$ 4,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,500,000	**$ 16,500,000**	
Margin	$ 1,946,654	$ 2,040,168	$ 2,102,553	$ 2,145,705	$ 2,264,927		
Equity % of Total Capital	38.9%	38.1%	37.8%	38.0%	38.8%		
TIER	2.00	2.00	2.00	2.00	2.00		
Incremental Cash flow	$ 2,227,654	$ 1,703,168	$ 1,428,553	$ 1,319,705	$ 687,927	**$ 7,367,007**	
OPTION 6 - (2% 2019 rate increase)							
% Avg. Residential Rate Increase	2.0%	7.0%	7.0%	7.0%	7.0%		
% Revenue Increase	1.8%	7.5%	7.5%	7.5%	7.5%		This option leaves little room for weather/revenue and expense deviation as our anticipated TIER approaches the RUS limit of 1.25. This approach also requires larger revenue increases in out-years to get equity back on course. Equity decrease is significant, as we retire more than generate in margin.
Incremental Debt	$ 4,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,500,000	**$ 16,500,000**	
Margin	$ 765,382	$ 940,713	$ 1,885,552	$ 2,695,450	$ 3,520,465		
Equity % of Total Capital	38.1%	36.6%	36.2%	36.8%	38.3%		
TIER	1.39	1.46	1.90	2.26	2.55		
Incremental Cash flow	$ 1,046,382	$ 603,713	$ 1,211,552	$ 1,869,450	$ 1,943,465	**$ 6,674,562**	
OPTION 7 - (2.8% 2019 rate increase)							
% Avg. Residential Rate Increase	2.8%	7.0%	7.0%	7.0%	7.0%		
% Revenue Increase	2.5%	7.5%	7.5%	7.5%	7.5%		See option 6 description.
Incremental Debt	$ 4,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,500,000	**$ 16,500,000**	
Margin	$ 964,515	$ 1,154,919	$ 2,115,972	$ 2,943,311	$ 3,787,088		
Equity % of Total Capital	38.3%	36.9%	36.6%	37.4%	39.0%		
TIER	1.50	1.57	2.01	2.37	2.67		
Incremental Cash flow	$ 1,245,515	$ 817,919	$ 1,441,972	$ 2,117,311	$ 2,210,088	**$ 7,832,805**	

ORCAS POWER AND LIGHT COOPERATIVE

STATEMENT OF OPERATIONS

		A. Audited Year End 12/31/2016	B. Audited Year End 12/31/2017	C. Approved Budget 12/31/2018	D. Projected Year End 12/31/2018	E. **Proposed Budget 12/31/2019**	% Change from 2018	F. Forecast 12/31/2020	G. Forecast 12/31/2021	H. Forecast 12/31/2022	I. Forecast 12/31/2023
1	OPERATING REVENUES										
2	kWh Purchases	208,313,020	229,154,627	216,993,000	209,000,000	**206,000,000**		208,060,000	210,141,000	212,242,000	214,364,000
3	Residential	$ 18,104,756	$ 20,153,220	$ 20,942,108	$ 20,642,506	**$ 21,779,381**	6%	$ 23,222,006	$ 24,748,385	$ 26,363,682	$ 28,073,288
4	Commercial	6,463,561	7,063,321	7,548,978	7,535,423	**7,950,218**	6%	8,476,568	9,033,475	9,622,825	10,246,583
5	Other	680,713	768,644	749,965	230,536	**230,536**	0%	230,536	230,536	230,536	230,536
6	Total operating revenue	25,249,029	27,985,185	29,241,051	28,408,465	**29,960,135**	5%	31,929,110	34,012,396	36,217,043	38,550,407
7											
8	OPERATING EXPENSES										
9	Cost of power	7,942,885	8,916,059	9,188,856	9,038,276	**9,357,588**	4%	10,089,186	10,521,390	11,157,906	11,832,932
10	Transmission	94,462	210,740	159,989	399,145	**262,099**	-34%	279,606	292,732	307,631	323,414
11	Distribution - operations	3,215,893	3,617,096	3,813,151	3,326,434	**3,665,670**	10%	3,980,338	4,177,889	4,425,826	4,691,632
12	Distribution - maintenance	1,692,345	1,767,342	1,712,581	2,014,283	**2,197,512**	9%	2,367,327	2,476,904	2,602,351	2,735,198
13	Consumer accounts	947,326	982,216	1,064,826	1,026,410	**1,116,869**	9%	1,190,703	1,246,565	1,320,023	1,398,544
14											
15	General and administration										
16	Administration G&A	2,787,995	2,957,169	3,384,697	3,238,424	**3,355,745**	4%	3,528,815	3,683,989	3,878,717	4,083,346
17	Energy services G&A	103,671	401,970	506,939	376,272	**400,348**	6%	423,418	446,953	469,350	493,180
18	Subsidiary Charges	34,920	34,920	36,055	34,920	**36,055**	3%	36,055	36,055	36,055	36,055
19	Total general and administration	2,926,586	3,394,059	3,927,691	3,649,616	**3,792,148**	4%	3,988,288	4,166,997	4,384,122	4,612,581
20											
21	Depreciation and amortization	3,546,977	3,699,958	4,368,126	4,512,266	**4,887,249**	8%	5,104,713	5,351,914	5,611,476	5,884,015
22	Taxes	1,137,058	1,261,409	1,352,517	1,326,710	**1,424,613**	7%	1,506,459	1,593,035	1,680,612	1,773,124
23											
24	Total operating expenses	21,503,532	23,848,878	25,587,737	25,293,140	**26,703,748**	6%	28,506,620	29,827,426	31,489,947	33,251,440
25											
26	Operating margins before fixed charges	3,745,497	4,136,307	3,653,314	3,115,325	**3,256,387**	5%	3,422,490	4,184,970	4,727,096	5,298,967
27											
28	FIXED CHARGES										
29	Interest on long-term debt	1,095,316	1,061,579	1,278,462	1,575,433	**1,760,491**	12%	1,955,763	2,028,885	2,072,034	2,191,264
30											
31	Total fixed charges	1,095,316	1,061,579	1,278,462	1,575,433	**1,760,491**	12%	1,955,763	2,028,885	2,072,034	2,191,264
32											
33	Operating margins after fixed charges	2,650,181	3,074,728	2,374,852	1,539,892	**1,495,896**	-3%	1,466,727	2,156,085	2,655,062	3,107,703
34											
35	PATRONAGE CAPITAL CREDITS	81,361	77,586	77,627	88,259	**90,907**	3%	94,089	97,853	101,767	105,838
36											
37	Net operating margins	2,731,543	3,152,314	2,452,479	1,628,151	**1,586,803**	-3%	1,560,816	2,253,938	2,756,829	3,213,541
38											
39	NON-OPERATING MARGINS										
40	Interest income	217,758	223,696	238,485	187,208	**129,208**	-31%	130,958	133,028	135,181	137,420
41	Other income	112,957	23,279	106,839	102,910	**103,211**	0%	103,343	103,737	104,148	104,574
42											
43	Net non-operating margins	330,715	246,975	345,324	290,118	**232,419**	-20%	234,301	236,765	239,329	241,994
44											
45	NET MARGINS	$ 3,062,257	$ 3,399,289	$ 2,797,803	$ 1,918,269	**$ 1,819,222**	-5%	$ 1,795,117	$ 2,490,703	$ 2,996,158	$ 3,455,535
46											
47	TIER	3.24	3.10	2.61	2.07	**1.93**	-6%	1.88	2.18	2.40	2.53
48	Equity % of Total Capital	49.4%	43.7%	43.4%	40.3%	**38.8%**	-4%	37.9%	37.8%	38.6%	39.9%

ORCAS POWER AND LIGHT COOPERATIVE

STATEMENT OF CASH FLOW

NON GAAP

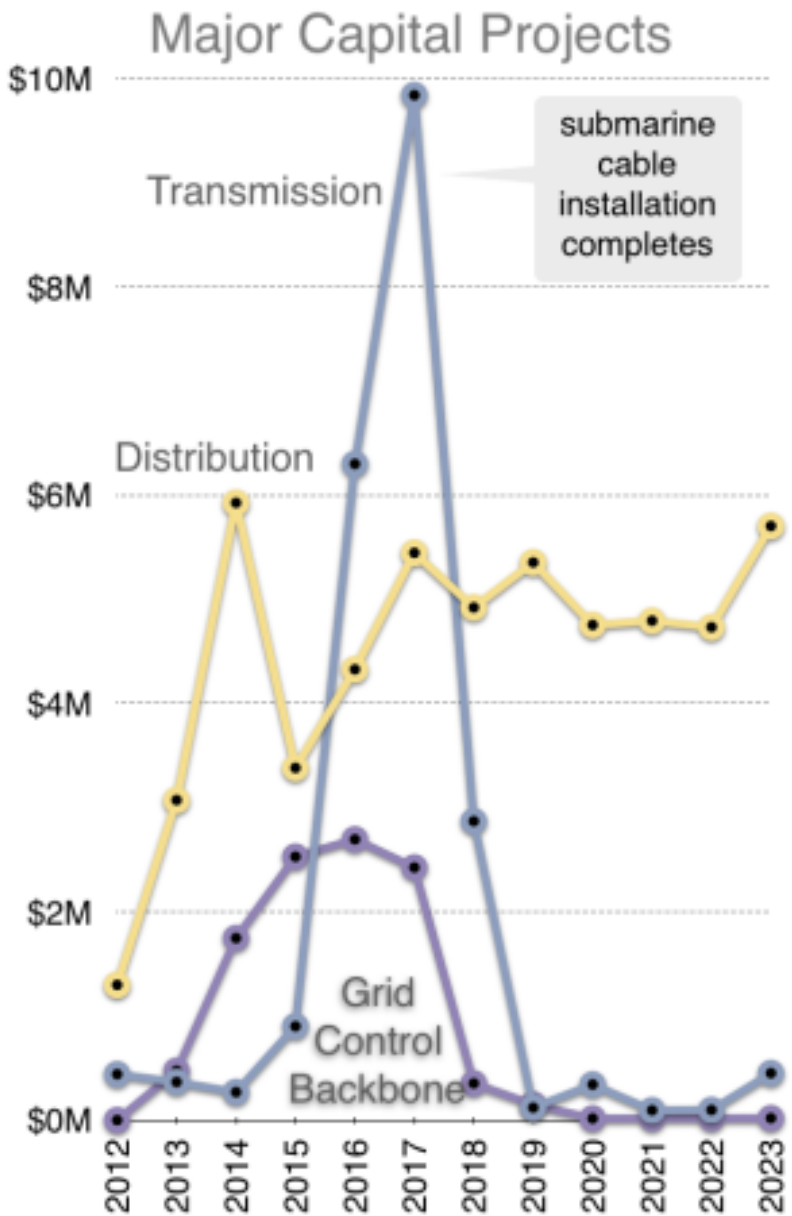
		A.	B.	C.	D.	E.	F.
		Projected Year End 12/31/2018	**Proposed Budget 12/31/2019**	Forecast 12/31/2020	Forecast 12/31/2021	Forecast 12/31/2022	Forecast 12/31/2023
1	% Total Revenue Increase		5.2%	6.5%	6.5%	6.4%	6.4%
2	Operating Activities						
3	Margins	$ 1,918,000	**$ 1,819,000**	$ 1,795,000	$ 2,491,000	$ 2,996,000	$ 3,456,000
4	Plus Depreciation/Amortization	4,512,000	**4,887,000**	5,105,000	5,352,000	5,611,000	5,884,000
5	Cash Flow Operations	6,430,000	**6,706,000**	6,900,000	7,843,000	8,607,000	9,340,000
6							
7	Plant Investment (Net)	(8,928,000)	**(6,257,000)**	(5,966,000)	(6,820,000)	(6,770,000)	(8,109,000)
8	Cash Flows from Patronage Capital	(1,003,000)	**(1,051,000)**	(1,051,000)	(1,051,000)	(1,051,000)	(1,118,000)
9	Net Borrowings	4,881,000	**2,702,000**	1,575,000	1,845,000	1,384,000	1,766,000
10	Annual Estimated Cash Increase (decrease)	$ 1,380,000	**$ 2,100,000**	$ 1,458,000	$ 1,817,000	$ 2,170,000	$ 1,879,000
11							
12	Gross Borrowings	4,500,000	**4,000,000**	3,000,000	3,000,000	3,000,000	3,500,000

ORCAS POWER AND LIGHT COOPERATIVE

CAPITAL PROJECTS BUDGET

			RUS CWP DESCRIPTION	A. Actual 12/31/2016	B. Actual 12/13/2017	C. Budget 2018	D. Projected Year End 2018	E. **Proposed Budget 2019**	F. Forecast 2020	G. Forecast 2021	H. Forecast 2022	I. Forecast 2023	J. Strategic Directives: Safety	K. Strategic Directives: Reliability	L. Strategic Directives: Environ	M. Strategic Directives: Cost
1	DISTRIBUTION															
2	100		New Services	$ 384,240	$ 348,971	$ 361,000	$ 324,931	**$ 372,000**	$ 384,000	$ 396,000	$ 408,000	$ 421,000				
3	200		New Tie Lines	(13,438)	596	-	3,268									
4	300		Conversions and Line Changes	679,000	1,381,722	410,000	942,759	**750,000**	1,030,000	1,298,000	1,337,000	1,378,000		*	*	*
5			Loop Feeds						925,000					*	*	
6	400		New Substations, switching station, metering point, etc.	-	-	-	-									
7	500		Substation, Switching Station, Metering Point Changes	2,443	677,046	2,450,000	1,207,726	**156,000**	350,000							
8			Energy Storage					**2,150,000**		1,350,000	1,215,000	1,094,000		*		
9	600		Miscellaneous Distribution Equipment													
10		601	Transformers & Meters	671,830	569,966	545,000	775,018	**600,000**	624,000	643,000	663,000	683,000	*	*	*	*
11			AMI Meters									1,000,000		*		
12		602	Sets of Service Wires to increase Capacity	-	-	-	-									
13		603	Sectionalizing Equipment	(185,844)	266,215	440,000	100,726	**300,000**	300,000	75,000	78,000	81,000		*		*
14		604	Regulators	-	26,429	150,000	113,649	**127,000**	80,000							
15		605	Capacitors	-	-	-	-									
16		606	Ordinary Replacements	291,336	78,098	123,000	143,102	**127,000**	131,000	135,000	140,000	145,000		*		
17		608	Underground Dist. Cable Replacement	3,137,344	2,506,256	1,712,000	1,687,886	**1,414,000**	1,593,000	1,641,000	1,691,000	1,742,000		*	*	*
18	700		Other Distribution Items													
19		701	Engineering Fees	-	-	-	-									
20		704	LMS & SCADA	87,054	77,985	162,000	69,056	**116,000**	119,000	62,000	32,000	17,000	*	*		
21		705	AMR Station Equipment (No Meters)	-	-	270,000	217,203									
22		706	Communications													
23		706.0	Island Network	-	-	-	-									
24		706.1	Fiber/Microwave Infrastructure (1)	2,694,821	2,425,185	538,000	353,137	**150,000**	16,000	17,000	18,000	19,000	*	*	*	*
25	TRANSMISSION															
26	800		New Tie Line	-	-	-	-									
27	900		New Substations, switching station, metering point, etc.	68,174	1,373,235	-	357,964									
28	1000		Line and Station Changes	6,229,978	8,463,865	1,730,000	2,511,408	**120,000**	342,000	95,000	98,000	101,000	*	*		
29			Submarine Cable Cathodic Protection									350,000		*		
30	1100		Other Transmission	-	-	-	-	**-**	-	-	-	-				
31	GENERATION															
32	1200		Generation	-	-	-	-	**-**	-	-	-	-				
33			Utility Solar							1,017,500	979,500	943,000		*	*	*
34	OTHER															
35	1300		Facilities	178,301	100,451	675,000	73,630	**630,000**	70,000	73,000	76,000	80,000	*			
36	1400		Acquisitions	-	-	-	219,235	-	-	-	-	-				
37	1500		All Other													
38		1501	Transportation/Equipment/Tools/Radios	604,272	477,967	613,000	536,326	**593,000**	534,000	556,000	579,000	603,000	*	*	*	
39		1502	Office Equipment/Furniture/Etc.	44,740	24,769	41,000	-	**22,000**	23,000	24,000	25,000	26,000				
40		1503	Computer/Servers/Software	339,289	286,305	274,000	246,677	**293,500**	303,000	316,000	329,000	343,000	*	*		
41		1504	Community Solar (member funded) (2)		-	900,000	984,846	**-**	1,300,000	-	-	-		*	*	*
42	1600		Minor Projects	205,310	295,589	170,000	138,312	**175,000**	180,000	186,000	192,000	198,000				
43			**RUS CWP SUBTOTAL**	15,418,851	19,380,653	11,564,000	11,006,859	**8,095,500**	8,304,000	7,884,500	7,860,500	9,224,000				
44	**CONTRIBUTION IN AID OF CONSTRUCTION (CIAC)**															
45			New Services	(495,959)	(231,464)	(307,000)	(413,125)	**(350,000)**	(361,000)	(372,000)	(384,000)	(396,000)				
46			Meters and Transformers	(398,561)	(243,750)	(304,000)	(228,616)	**(288,000)**	(297,000)	(306,000)	(316,000)	(326,000)				
47			Joint Projects	(38,549)	(308,646)	(287,000)	(161,333)	**(296,000)**	(305,000)	(315,000)	(325,000)	(335,000)				
48			Island Network Department			-	-									
49			WA DOC Grant Funding			(1,000,000)	(180,000)	**(820,000)**								
50			Community Solar Member Contributions			(900,000)	(1,007,532)		(1,300,000)							
51			**RUS CWP NET TOTAL**	14,485,782	18,596,794	8,766,000	9,016,253	**6,341,500**	6,041,000	6,891,500	6,835,500	8,167,000				

2019 Budget: Capital Projects



Headline

- Transmission: peak is Lopez San Juan submarine cable
- Distribution: Normal under-grounding to improve reliability, Decatur substation upgrade, grid storage project
- Grid Control Backbone: Expansion to improve
  - reliability
  - field communications
  - preparing for intermittent local renewable energy resources

ORCAS POWER AND LIGHT COOPERATIVE

2019 - 2023 BUDGETED STAFFING LEVELS

	A. DEPARTMENT	B. ACTUAL # EMPLOYEES 2018	C. APPROVED BUDGET # EMPLOYEES 2019	D. APPROVED # EMPLOYEES 2019 - 2023
1	Operations[1]	20.5	24.5	24.5
2	Engineering[1]	7.5	8.5	8.5
3	General Management	5	5	5
4	Technical Services	1	1	1
5	Member Services[2]	6.5	6.5	6.5
6	Administration	4	4	4
7	Energy Savings[2]	1.5	1.5	1.5
8	Total	46	51	51

Notes:

1 Engineering & Operations Manager split between departments

2 Member & Energy Services Manager split between departments

OPALCO ORGANIZATIONAL CHART - 2019 BUDGET

OPALCO MEMBERSHIP

BOARD OF DIRECTORS

DIRECTOR MADSEN (D1)

DIRECTOR GARLOCK (D3)

VICE PRESIDENT WHITFIELD (D4)

PRESIDENT DAUCIUNAS (D1)

SECRETARY/TREASURER SILVERSTEIN (D3)

DIRECTOR CHRISTMAS (D2)

DIRECTOR STRUTHERS (D2)

GENERAL MANAGER
HILDRETH

MANAGER OF ENGINEERING & OPERATIONS
GUERRY

MANAGER OF FINANCE & MEMBER SERVICES
LOOMIS

EXECUTIVE ASSISTANT
VACANT/FUNDED

PUBLIC RELATIONS ADMINISTRATOR
OLSON

COMMUNICATIONS SPECIALIST
BOUCHEY

SYSTEM ENGINEER
VACANT/FUNDED

GIS TECHNICIAN
MARTZ

WORK ORDER CLERK
BOSSERT

E&O ADMIN SPECIALIST
VACANT/UNFUNDED

SYSTEM DESIGN ENGINEER
VEKVED

ENGINEERING TECHNICIANS
TURNER
LAGO

STAKING TECHNICIANS
BROZIO (FH)
DEINES (ES)

SOFTWARE SPECIALIST
HEINZ

INFO SYSTEM SPECIALIST
VACANT/UNFUNDED

SAN JUAN GENERAL FOREMAN
EYLER

SAN JUAN CREW
GUARD - **LF**
HEBERT
FURBER
PARSONS
SUB TECH
BELCHER
APPRENTICE
ROSS
VACANT/FUNDED

ORCAS GENERAL FOREMAN
FOWLER

ORCAS CREW
WATTERS - **LF**
LOOCK
VACANT/FUNDED
SUB TECH
MINNIS
APPRENTICE
VACANT/FUNDED

LOPEZ GENERAL FOREMAN
DENGLER

LOPEZ CREW
SWANSON - **LF**
BURLESON
STANLEY
STEINBRUECK
SUB TECH
ZOERB
APPRENTICE
VACANT/FUNDED

COMMUNICATIONS TECH
HAROLD (FH)

COMMUNICATIONS TECH
TILSTRA (ES)

METER TECHNICIAN
HISER

ASSISTANT MANAGER OF MEMBER SERVICES
ORR

ENERGY SERVICES SPECIALIST
VACANT
UNFUNDED

ENERGY SERVICES COORDINATOR
CURTIS

MEMBER SERVICES SUPERVISOR
BRASHIER

MEMBER SERVICE REPRESENTATIVES
GOFF - LEAD (FH)
EVANS (FH)
PENWELL (FH)
GRISWOLD (ES)
DANIELSON (ES)

HEAD ACCOUNTANT
NEAL

ACCOUNTANT
BEAL

SPECIAL PROJECTS COORDINATOR
KELLY

PURCHASING
BECKER

ROCK ISLAND COMMUNICATIONS
SEE SEPARATE ORG CHART

LEGEND

NON-BARGAINING UNIT POSITION

BARGAINING UNIT POSITION