

Integrated Program Review and Capital Investment Review

Kick-off Meeting, June 2016

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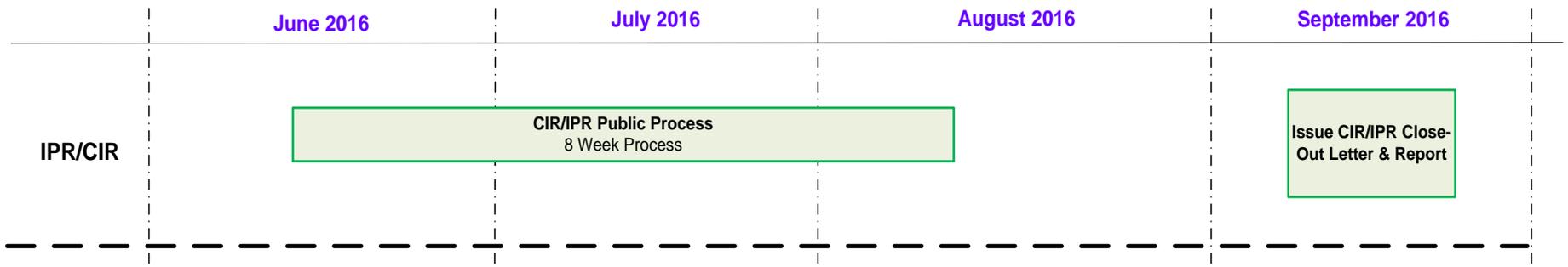


Agenda

Topic		Presenter
9:00-9:05	Introduction	Mary Hawken
9:05-9:10	Opening Remarks	Elliot Mainzer
9:10-9:55	Power Expense & Capital Overview	Mark Gendron Lorri Bodi
9:55-10:40	Transmission Expense & Capital Overview	Richard Shaheen
10:40-10:55	Break	~
10:55-11:35	Agency Services Expense & Capital Overview	Claudia Andrews
11:35-11:50	BPA Expense & Capital Overview Capital Related Costs Key Strategic Initiatives	Nancy Mitman
11:55-12:00	Next Steps	Mary Hawken
12:00-12:25	Open Discussion	IPR Audience
12:25-12:30	Closing Remarks	Elliot Mainzer
Topic		Presenter
12:30-1:30	Lunch	~
1:30-2:45	Reference Case Workshop	Brian McConnell, Rebecca Fredrickson, Peter Williams
2:45-3:00	Break	~
3:00-4:00	Capital Portfolio Management Workshop	Doug Ballou

Introduction

- BPA has consolidated the IPR and CIR into a single process.
- Today's meeting focuses on key elements in proposed capital and expense spending levels for Power, Transmission and Agency Services for FY 2018-2019.
- BPA looks forward to hearing your comments and having a robust discussion with the region regarding proposed IPR/CIR levels.



Administrator's Opening Remarks



Power





Overview

Power Services' preliminary estimate of the rate increase is 4 to 9 percent¹.

Power Services minimized proposed IPR expense spending level increases to \$73 million, on average annually, by:

- scrutinizing program costs and focusing on areas with the most flexibility, such as Power Services' internal operations
- funding the highest priorities and deferring or eliminating other programs, projects and contracts
- taking a hard look at staffing levels and assigning employees to focus on the highest priority work

Power is proposing to ramp up its FRPS capital program to \$300 million annually to unlock significant long-term benefits, such as increased power production, with minimal near-term rate impacts and slightly lower future rates.

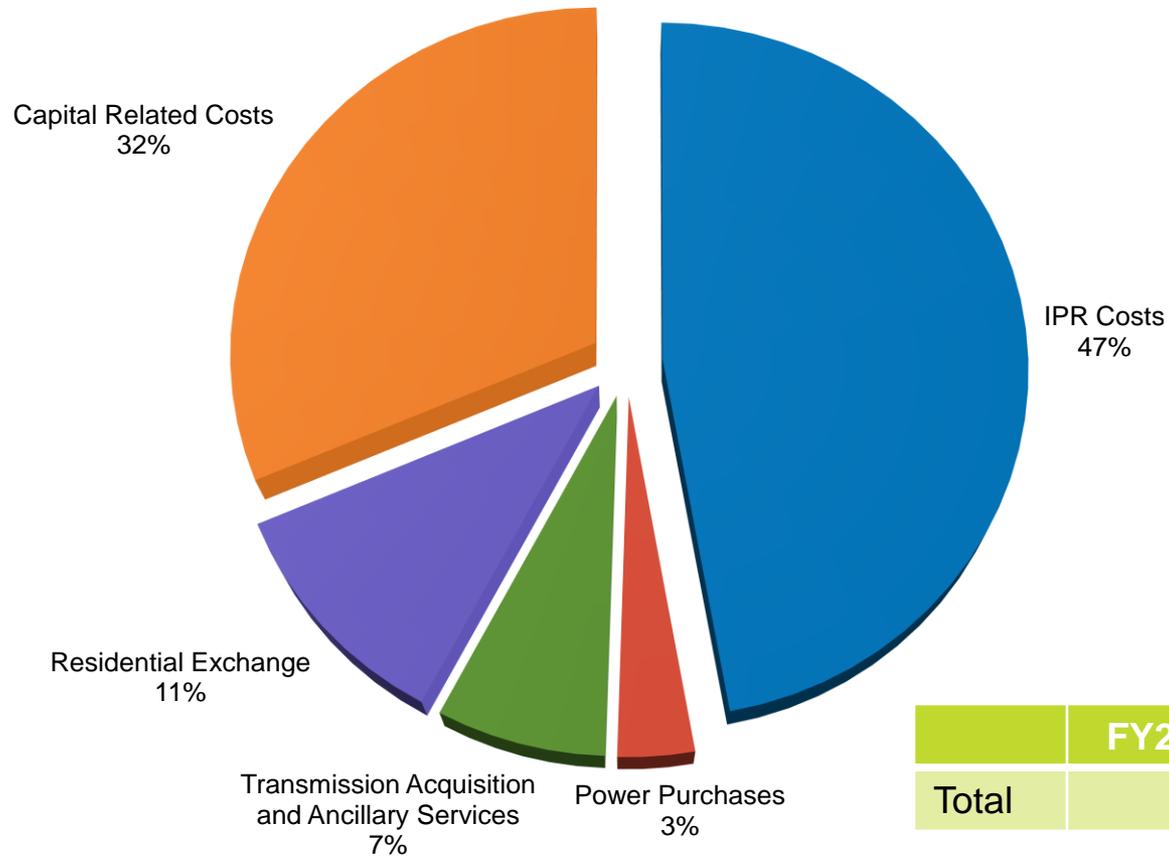
¹Significant rate uncertainty remains primarily due to uncertainty in gas and electricity price forecasts.



Revenue Requirement

Potential Power Revenue Requirement

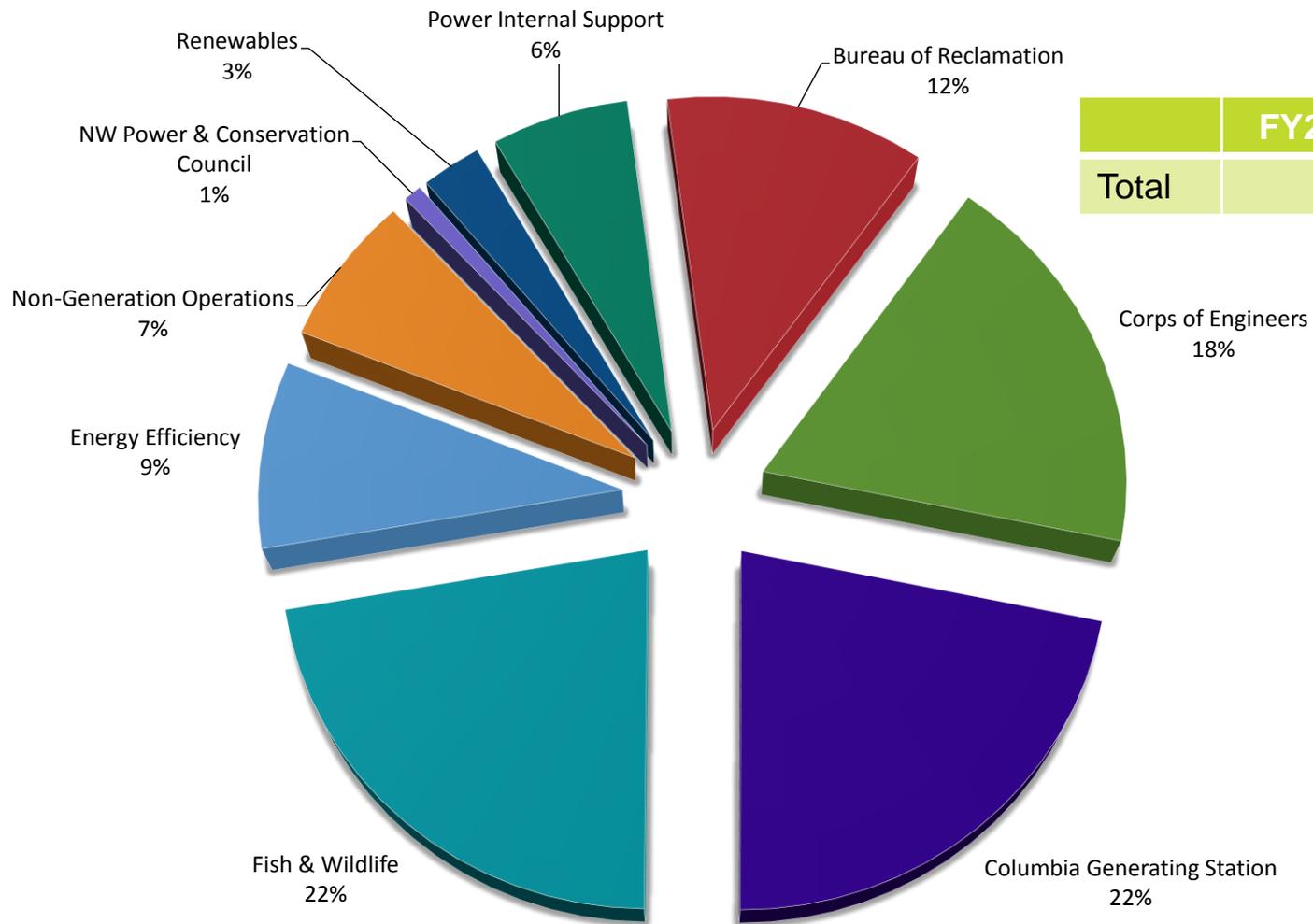
FY 2018-2019 Average



FY2018-19 Average	
Total	\$2.9 Billion



IPR FY 2018-19 Average



	FY2018-19 Average
Total	\$1.4 Billion



Potential Power Rate Effects

	A	B
	Estimated Change FY 16/17 to FY 18/19	
	% Change	
	\$ (million)	in Rates

Revenue Requirement Costs

1 Columbia Generating Station	14	0.7%
2 Bureau of Reclamation	10	0.5%
3 Corps of Engineers	10	0.5%
4 Fish & Wildlife	8	0.4%
5 Renewables	(3)	-0.1%
6 Energy Efficiency ^{1/}	0	0.0%
7 Internal Operations ^{2/}	15	0.8%
8 Undistributed Reduction ^{3/}	20	1.0%
9 IPR Expense Sub-Total	73	3.7%
10 Capital Related Costs ^{4/}	(77)	-3.8%
11 Other Costs ^{5/}	(3)	-0.1%
12 Residential Exchange	22	1.1%
13 Transmission and Ancillary Services	22	1.1%
14 Energy Efficiency Expense Offset	9	0.4%
15 Non-IPR Cost Sub-Total	(27)	-1.3%
REVENUES		
16 Rate Discounts	1	0.0%
17 Net Power Purchase and Sale	(14)	-0.7%
18 4(h)10(c)	(8)	-0.4%
19 Generation Inputs	22	1.1%
20 DSI Sales	5	0.2%
21 Other Revenues ^{6/}	30	1.5%
22 Revenues Sub-Total	36	1.7%
23 Uncertainty ^{7/}	100	5.0%
24 Load Change to Rate [1/(1+delta)]		0.2%
25 Total Change in Net Revenue Requirement ^{8/}	82 to 182	4% to 9%

1. Energy Efficiency - Excludes Legacy and EE Reimbursable Development Program, those estimates are captured in Other Costs.

2. Internal Operations - includes Power's Non-Generation Operations, Agency Services G&A, Post Retirement Benefits and KSI Costs.

3. Undistributed Reduction is estimated at \$10 million on average, annually for FY 2018-19.

4. Capital Related Costs include Depreciation, Amortization, MRNR, Net Interest and Non-Federal Debt Service. Also includes a portion of debt management actions not otherwise allocated to offsetting the effect of moving Energy Efficiency from capital to expense. Forecast based upon expected refinancing of ENW debt. Based on 2016 proposed CIR levels.

5. Other Costs - included LT Gen Projects, Colville Settlement, WNP 1&3 O&M, EE Legacy and Reimbursable EE Development Program.

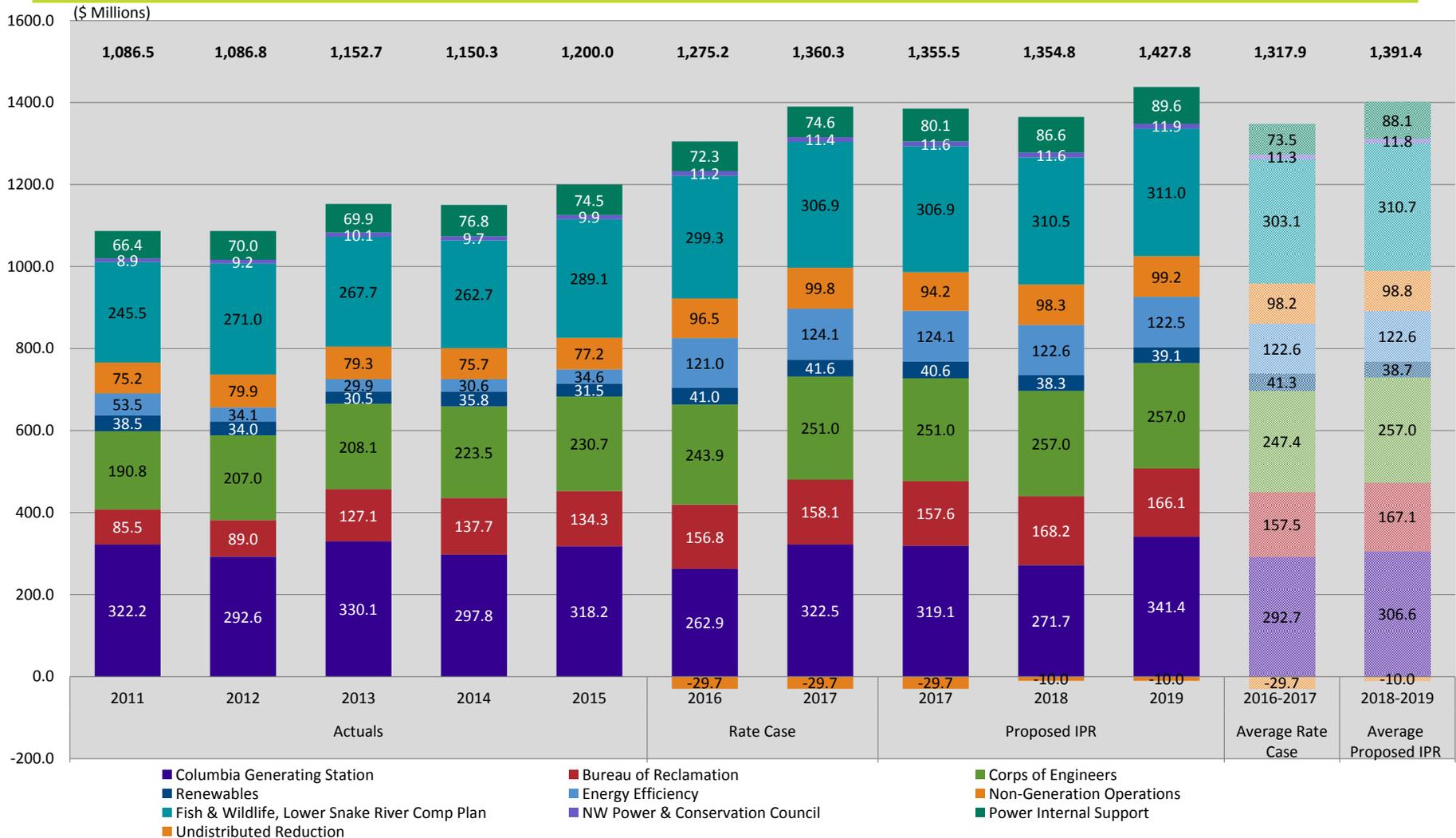
6. Other Revenues - This is primarily driven by the roll-off of the WNP-3 settlement revenues from Puget along with expiration of Clark capacity revenues, Hungry Horse revenues, and lower anticipated EE reimbursables.

7. Uncertainty includes changes to loads, resources, generation inputs, financial reserves and updated market price expectations.

8. These are not final results and Initial Proposal PF Rates will change as market and other expectations change.



Expense Summary





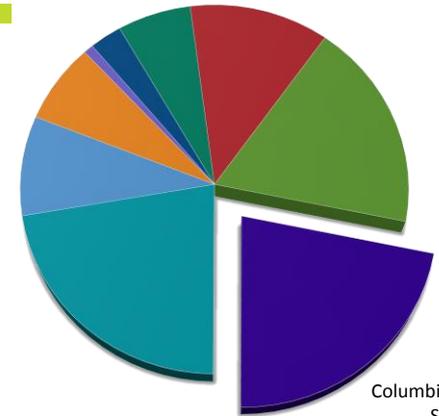
Columbia Generating Station

Proposed spending levels for the Columbia Generating Station (CGS) are based on Energy Northwest's 2017 Proposed Long Range Plan.

2-Year Average Increase from BP-16: \$14 million (a decrease from the previous Long Range Plan)

Other Drivers for the change from BP-16:

- Fuel costs included in proposed spending levels are based on fuel purchases per contracts/forecasts and not by escalating previous fuel purchases.
- Increased cost of employee health and other benefits; increased state generation taxes; increased spares program funding; higher decommissioning trust fund costs.
- Escalation of regulatory fees, labor, contracts and other costs.



Columbia Generating Station
\$306,558
22%

(\$Thousands)	Actuals	Rate Case		Proposed IPR		
	2015	2016	2017	2017	2018	2019
Columbia Generating Station	318,231	262,948	322,473	319,053	271,669	341,447
Grand Total	318,231	262,948	322,473	319,053	271,669	341,447

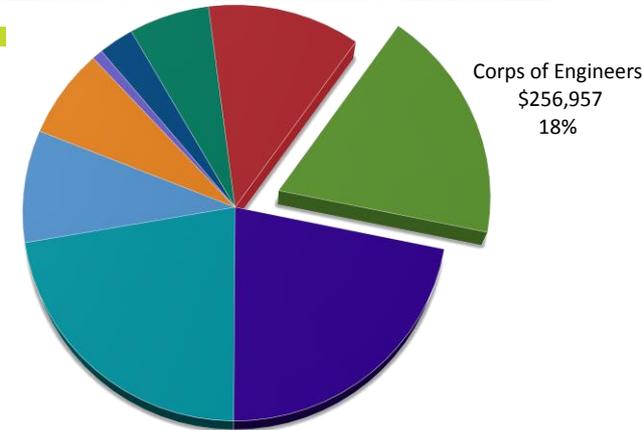
Risks of operating at the proposed levels:

- Include emergent reliability issues, length of refueling outages, unknown regulatory requirements, and increases in employee benefits.



Corps of Engineers

Proposed spending levels for the Corps of Engineers (COE) are lower than levels identified in their 5-year O&M plan presented in the 2014 IPR; a result of the COE's baseline budgeting process. This process determines the minimum funding required to meet operating reliability and performance requirements.



2-Year Average Increase from BP-16: \$10 million

Drivers for the increase from BP-16:

- Increased routine and non-routine maintenance requirements address declining hydro AMP equipment ratings and the continued risk of significant forced outages and loss of hydro generating capacity.
- Since last IPR, there have been multiple long-term forced outages at John Day and The Dalles.
- Cost increases are associated with expected wage increases for the ~65% of funding devoted to labor, as well as expansion of the engineering intern program and long-term planning positions to support AIEI.

(\$Thousands)	Actuals	Rate Case		Proposed IPR		
	2015	2016	2017	2017	2018	2019
Corps of Engineers	230,742	243,885	250,981	250,981	256,957	256,957
Grand Total	230,742	243,885	250,981	250,981	256,957	256,957

Risks of operating at the proposed levels

- As the Corps continues to manage non-routine extraordinary maintenance needs within proposed funding levels, there will continue to be reliability risk and increased O&M cost pressures. In order to keep proposed spending flat from FY 2018 to FY 2019, multiple non-routine projects will be deferred into future rate periods.



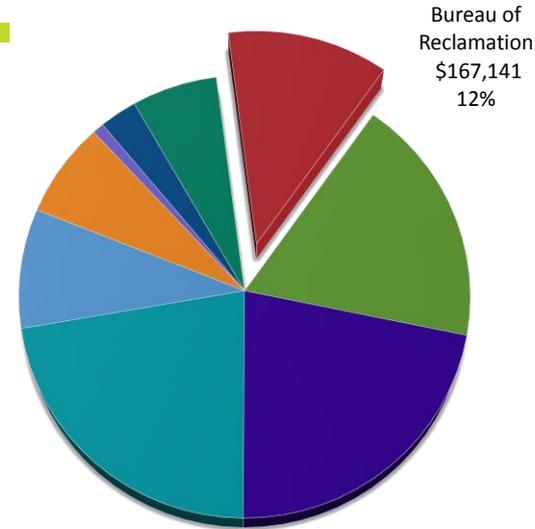
Bureau of Reclamation

Proposed spending levels for the Bureau of Reclamation (BOR) are consistent with levels identified in the 5-year O&M plan presented in the 2014 IPR; a result of the BOR's baseline budgeting process. This process determines the minimum funding required to meet operating reliability and performance objectives.

2-Year Average Increase from BP-16: \$10 million

Drivers for the increase from BP-16:

- Like the Corps, Reclamation is facing increased routine and non-routine maintenance to address declining hydroAMP equipment ratings and the continued risk of significant forced outages and loss of hydro generating capacity.
- Since last IPR, there have been multiple long-term forced outages at Grand Coulee.
- In addition to expected wage increases for the ~65% of funding devoted to labor, costs continue to increase associated with non-routine extraordinary maintenance and cultural resource mitigation.



(\$Thousands)	Actuals	Rate Case		Proposed IPR		
	2015	2016	2017	2017	2018	2019
Bureau of Reclamation	134,284	156,818	158,121	157,621	168,179	166,103
Grand Total	134,284	156,818	158,121	157,621	168,179	166,103

Risks of operating at the proposed levels:

- As Reclamation continues to prioritize non-routine extraordinary maintenance needs within proposed funding levels, there will continue to be reliability risk and O&M cost pressures.



Federal Hydro Capital

Near-Term

- The strategy takes a lifecycle cost minimization approach to identify the optimal time for asset intervention (replacement or refurbishment).
- The FCRPS 2017-2030 Hydro Asset Strategy identifies significant benefits in increasing annual capital investment above the \$200 million annual investment level approved in the 2014 CIR.
- Near-term focus:
 - Ramping up capability within the Corps of Engineers and Bureau of Reclamation to execute at the higher capital program level suggested by the draft asset strategy.
 - Integrating the currently executing program with the first iteration of the 5-yr System Asset Plan (SAP).

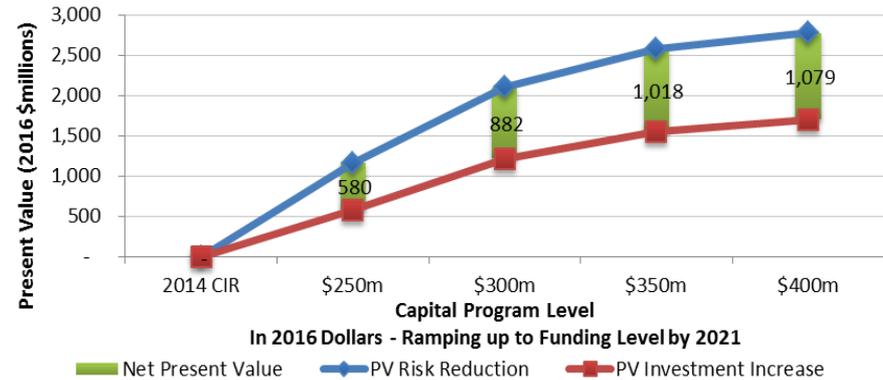
(\$Thousands)	Actuals	Rate Case		Proposed CIR			FY 17- 19 Total
	2015	2016	2017	2017	2018	2019	
Asset Category Direct Spending							
Corps of Engineers	131,692.2	143,246.0	141,893.0	168,238.0	164,769.0	145,180.0	478,187.0
Bureau of Reclamation	27,643.7	80,927.0	88,325.0	67,359.0	93,200.0	135,957.0	296,516.0
Direct Total	159,335.8	224,173.0	230,218.0	235,597.0	257,969.0	281,137.0	774,703.0
AFUDC	7,559.3	16,617.4	11,690.2	10,660.2	6,795.0	6,735.0	24,190.2
Grand Total	166,895.1	240,790.4	241,908.2	246,257.2	264,764.0	287,872.0	798,893.2



Federal Hydro Capital

Long-Term

- The net present value of increased investment grows fairly dramatically up to a \$300 million per year capital investment level (2016 dollars), after which increases in NPV begin to diminish.
- Long-term rates analysis suggests that power rates will be slightly lower in 2028 with a \$300 million per year capital program level relative to the 2014 CIR program of \$200 million due to higher unit availability and slightly lower non-routine expense.

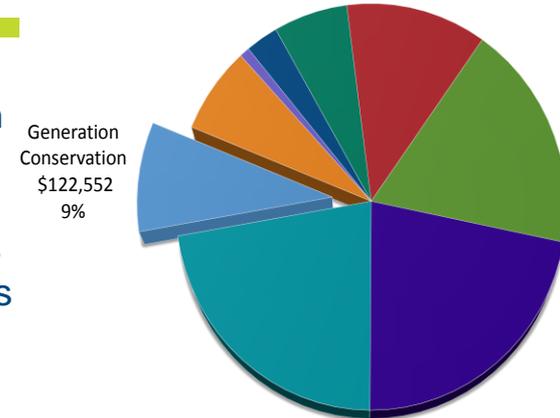


(\$Thousands)	Remaining CIR						
	2020	2021	2022	2023	2024	2025	2026
Asset Category Direct Spending							
Corps of Engineers	126,700	175,790	176,844	186,708	212,114	220,670	237,512
Bureau of Reclamation	179,508	155,272	160,806	157,661	139,108	137,541	127,828
Direct Total	306,208	331,062	337,650	344,369	351,222	358,211	365,340
AFUDC	7,167	7,590	7,851	7,854	7,709	7,479	7,202
Grand Total	313,375	338,652	345,501	352,223	358,931	365,690	372,542



Energy Efficiency

Proposed expense funding levels for the Energy Efficiency (EE) Program are based on achieving public power's share of the conservation savings targets set in the Council's 7th Power Plan. BPA's Long-Term Regional Dialogue Policy is to pursue conservation equivalent to all cost-effective conservation in the service territories of those public utilities served by BPA. Conservation is acquired in partnership with public utilities BPA.



Increase from BP-16: No Increase

These funding levels support:

- Incentives for the installation of EE measures, projects, and programs.
- Program infrastructure, engineering services, customer service, and other support activities.
- Research, data collection, and evaluation of non-programmatic savings.
- Low income and tribal grants for improving energy efficiency.
- Northwest Energy Efficiency Alliance (NEEA).

(\$Thousands)	Actuals	Rate Case		Proposed IPR		
	2015	2016	2017	2017	2018	2019
Conservation Infrastructure	15,756	101,932	104,702	27,534	27,149	27,283
Conservation Purchases	0	0	0	77,360	76,700	76,700
Demand Response & Smart Grid	893	1,245	1,245	893	856	854
Low-income Energy Efficiency	5,248	5,336	5,422	5,422	5,523	5,627
Market Transformation	12,728	12,531	12,691	12,851	12,364	12,049
Grand Total	34,625	121,044	124,060	124,060	122,592	122,512

Risks of operating at the proposed levels

- Reducing program development and associated research could put pressure on meeting targets in out years of the Council's Seventh Power Plan.
- Reductions in travel and training could impact Energy Efficiency's ability to provide customer service and field support and affect savings achievement.



Non-Generation Operations

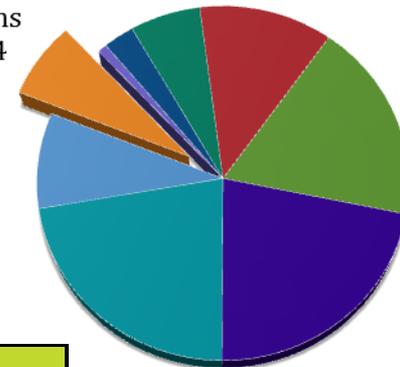
Power Services held spending equal to BP-16 levels while continuing to retain and hire staff.

2-Year Average Increase from BP-16: Held consistent with BP-16 levels

These funding levels support:

- Asset management and commercial operations Key Strategic Initiatives (KSI) of \$8.7 million on average were included in proposed spending;
- Oversight of federal hydropower projects, contracted generating resources, slice and fish operations;
- Power operations planning, generation scheduling, and scheduling coordination; and
- Requirements marketing, bulk marketing, and energy efficiency.

Non-Generation Operations
\$98,774
7%



(\$Thousands)	Actuals	Rate Case		Proposed IPR		
	2015	2016	2017	2017	2018	2019
Conservation Support	8,132	9,456	9,731	9,402	9,094	9,409
Executive & Administrative Services	4,783	4,326	4,402	4,309	4,070	4,155
Generation Project Coordination	5,008	7,735	7,845	6,380	6,174	6,409
Information Technology	6,190	5,805	5,910	7,241	6,976	7,294
Operations Planning	6,787	7,100	7,255	8,551	8,528	8,416
Operations Scheduling	8,358	10,307	10,496	9,878	10,054	10,404
Power R&D	6,772	6,033	6,046	5,816	5,705	5,600
Sales and Support	18,293	22,049	24,765	22,434	22,885	23,485
Slice Implementation	846	1,101	1,131	980	1,024	1,061
Strategy, Finance and Risk Management	11,986	22,628	22,256	19,168	23,787	23,017
Grand Total	77,154	96,542	99,836	94,158	98,298	99,249

Risks of operating at the proposed levels

- Reduced ability to optimize marketing short-term energy to regional and extra entities; less support to ramp up program goals to address South of Allston peak loads; reduced contract support for the Asset Investment Excellence Initiative which presents risk to timely achievement of initiative goals; and decreased engineering support to energy efficiency customers and amount of quality assurance/quality control.



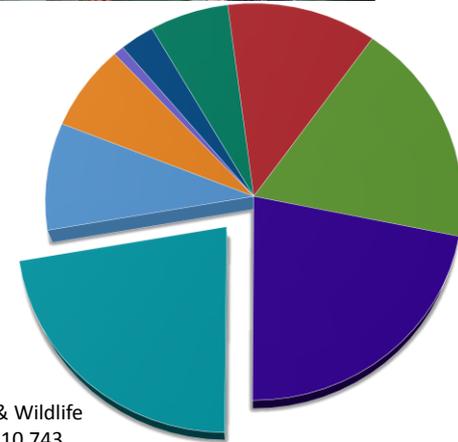
Fish & Wildlife

The proposed spending levels for BPA's Fish and Wildlife Program reflect levels anticipated to fulfill the agency's obligations and commitments under the FCRPS and other biological opinions, the Northwest Power Act, the Columbia Basin Fish Accords, wildlife settlements, and other agreements.

Increase from BP-16: \$8 million

Drivers for the increase from BP-16

- The proposed funding levels for FY2018-19 are consistent with the previous IPR. They reflect stable funding with negotiated levels of inflation adjustments through the term of the FCRPS BiOp and Fish Accords. They reflect the implementation of a broad set of hydro, habitat, hatchery, and predator management actions as mitigation for the effects of federally-owned hydroelectric projects.



Fish & Wildlife
\$310,743
22%

(\$Thousands)	Actuals	Rate Case		Proposed IPR		
	2015	2016	2017	2017	2018	2019
Fish & Wildlife	258,177	267,000	274,000	274,000	277,000	277,000
Lower Snake River Comp Plan	30,930	32,303	32,949	32,949	33,483	34,002
Grand Total	289,108	299,303	306,949	306,949	310,483	311,002

Risks of operating at the proposed levels

- There is risk that commitments could exceed the proposed spending level in a given year due to the shape of spending (driven primarily by the flexibility allowed in the Fish Accords), despite overall costs remaining the same across multiple rate periods.
- This funding level does not include support for certain maintenance and Best Management Practices activities at Lower Snake River Comp Plan facilities.
- This funding level may not reflect potential outcomes from the recent federal court decision.



Fish & Wildlife Capital

Near-term

The proposed near-term capital requirements for BPA’s Fish and Wildlife Program reflect the agency’s current obligations under the Columbia Basin Fish Accords and wildlife agreements. The three (3) major asset categories are (1) land acquisitions for wildlife credit, (2) hatchery construction and (3) large tributary fish passage structures.

There are many uncertainties that impact the implementation of capital projects in the Fish and Wildlife Program. Annual budgets are based on best estimates that are subject to change given issues that are often outside of BPA’s control (i.e., permitting, weather, etc.). Accordingly, the Program focuses on the flexibility of multi-year planning and shaping of available budgets to support work that is ready to implement.

The current near-term capital forecast does not include any new capital requirements beyond the obligations under the Columbia Basin Fish Accord and wildlife agreements.

(\$Thousands)	Actuals	Rate Case		Proposed CIR			
	2015	2016	2017	2017	2018	2019	FY 17- 19 Total
Asset Category Direct Spending							
Fish & Wildlife	21,373	54,800	30,800	44,602	50,533	44,000	139,134
Grand Total	21,373	54,800	30,800	44,602	50,533	44,000	139,134



Fish & Wildlife Capital

Long-term

The proposed long-term capital requirements for BPA’s Fish and Wildlife Program also reflect the agency’s current obligations under the Columbia Basin Fish Accords and wildlife agreements through 2023.

Post-2023 estimates reflect professional judgment for outstanding wildlife acquisitions and capital requirements for hatchery and tributary fish passage inflated at the agency standard.

Similar to near-term capital, these estimates are subject to inherent uncertainties that may require reshaping and rescheduling funds to actual implementation.

(\$Thousands)	Remaining CIR						
	2020	2021	2022	2023	2024	2025	2026
Asset Category Direct Spending							
Fish & Wildlife	38,033	33,599	29,047	29,291	36,014	36,738	37,454
Grand Total	38,033	33,599	29,047	29,291	36,014	36,738	37,454

Transmission





Overview

Transmission Services' preliminary rate increase is 3 to 5 percent.

- Transmission Services is investing to save: Spending levels reflect investments that, if completed today, will provide greater savings to ratepayers.
- By focusing on mission-critical work, our proposal holds capital to 2014 CIR levels and limits expense level increases to \$42 million.

Transmission Services organizations are responsible for planning, designing, marketing, and operating and maintaining about three-fourths of the Pacific Northwest's high-voltage transmission lines to deliver electric power to more than 12 million people across multiple states.

Transmission Services' goal is to meet the Agency's compliance requirements while ensuring the continuing safe, economic and reliable operation of the Transmission System, now and in the future, at the lowest cost consistent with sound business practices.



Overview

Transmission Services applied three main principles

- Restrain spending to limit rate increases
- Focus on mission-critical work
- Make investments that provide greater savings to ratepayers if completed today

After considering these principles, Transmission was able to defer approximately \$90 million in expense.

Transmission Services' total IPR proposed spending level is an average of \$531 million, an increase of \$42 million over BP-16.

The main drivers are:

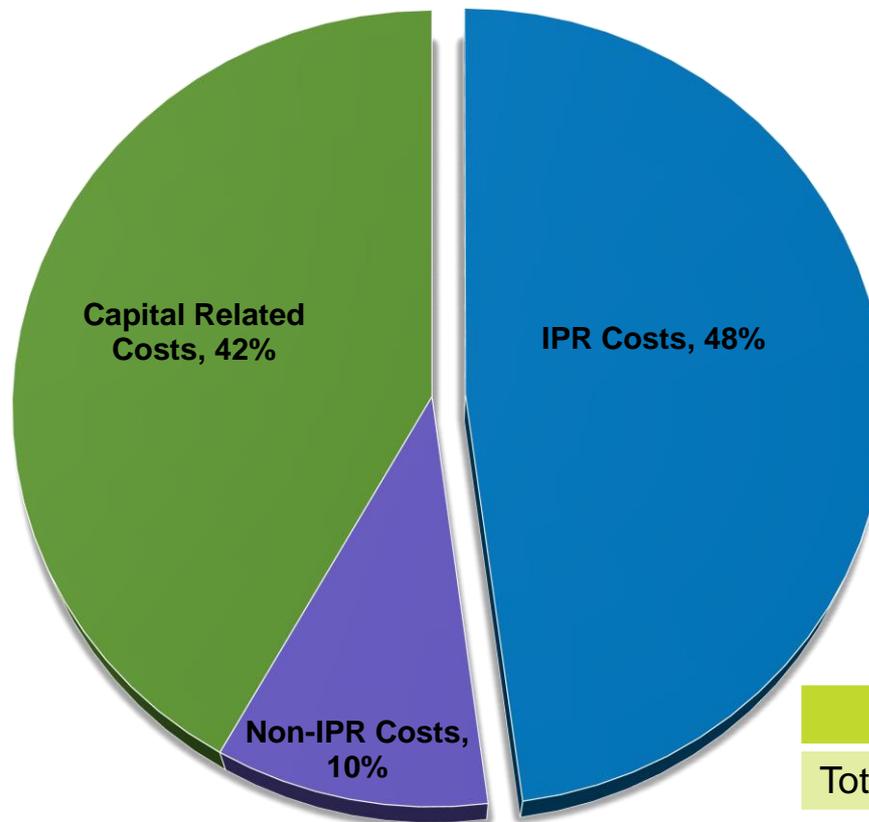
- Transmission proposes incrementally investing \$18 million toward the Commercial Operations and Asset Management key strategic initiatives.
- A new special salary rate for engineers and negotiated hourly wage increase increases costs by \$16 million.

Revenue Requirement



Potential Transmission Revenue Requirement

FY 2018 - 2019 Average

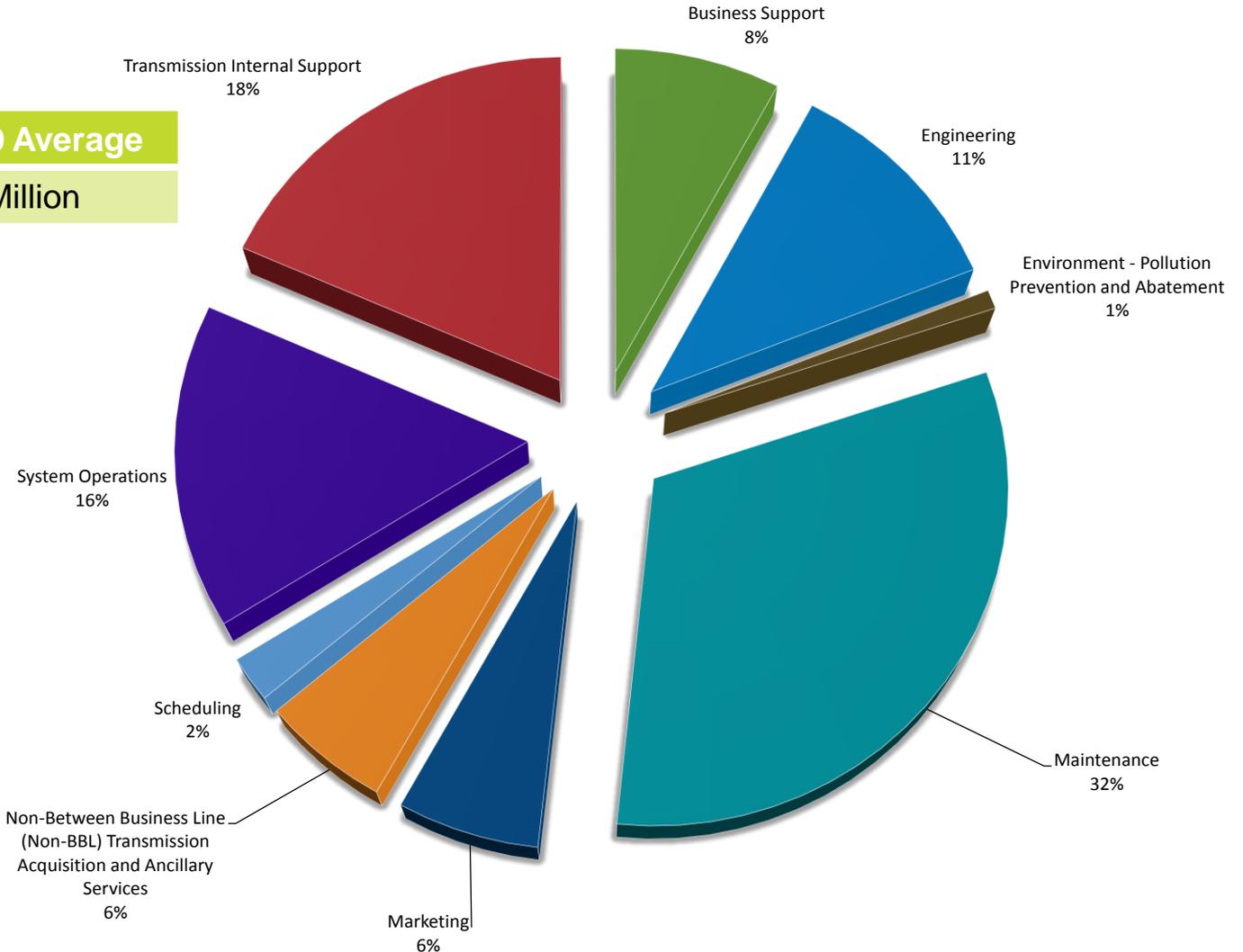


	FY2018-19 Average
Total	\$1.1 Billion

IPR FY 2018-19 Average



	FY2018-19 Average
Total	\$531 Million



Potential Rate Effect

Expenses	A	B
	Change from BP-16 to FY 18/19	
	\$ (Million)	% Change in Rates
1. Operations	15	1.9%
2. Maintenance	14	1.8%
3. Engineering	6	0.7%
4. Internal Support & Undistributed Reduction	7	0.8%
5. IPR Sub-Total	42	5.3%
6. Ancillary Services	4	0.6%
7. Non-IPR Sub-Total	4	0.6%
8. Capital Related Costs ^{1/}	(24)	-3.0%
9. Total Revenue Requirement (Lines 5+7+8)	22	2.8%
10. Revenues	-	
11. Uncertainty	18	2.0%
12. Total Change	22 to 40	2.8% to 4.8%

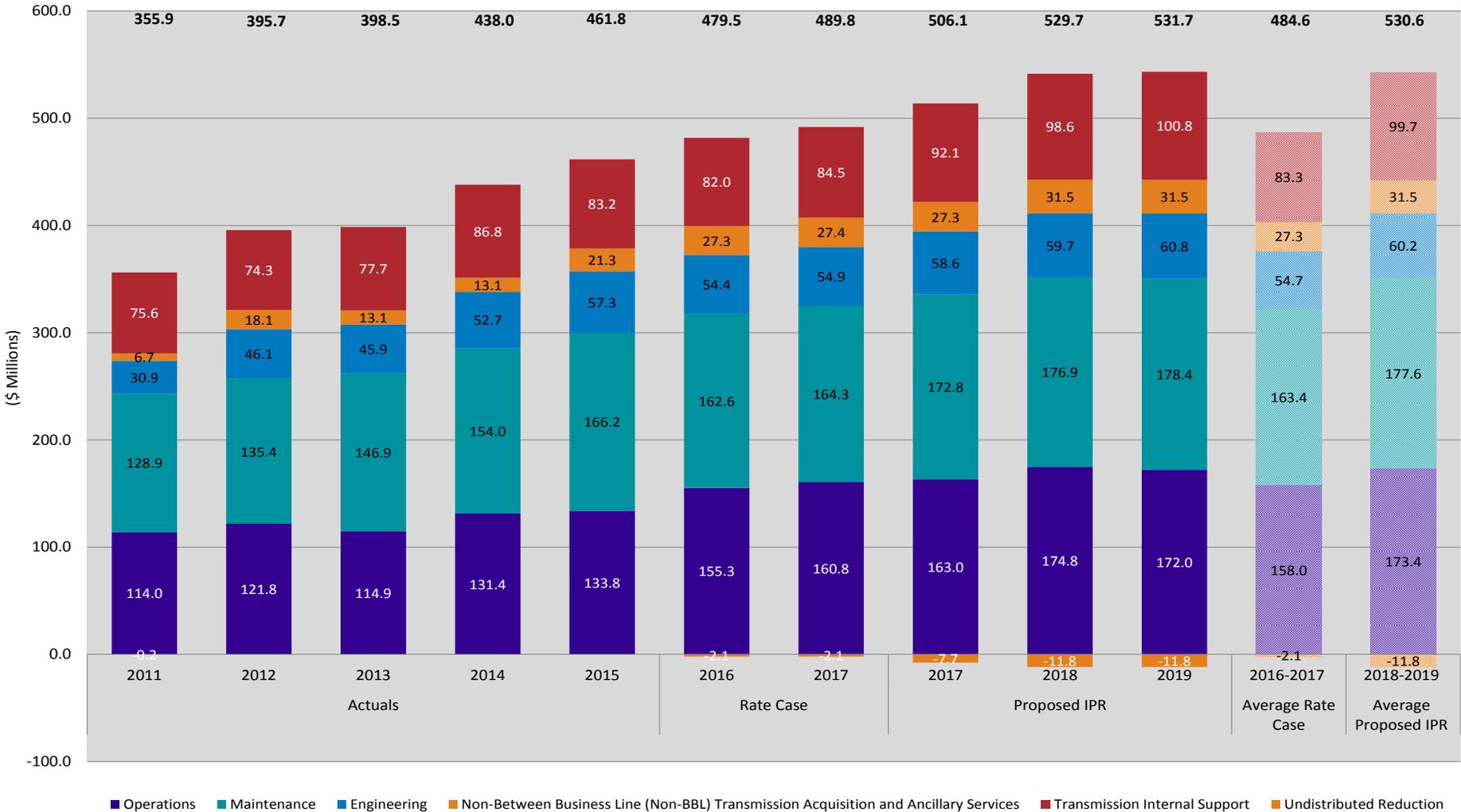
1/ Includes Net Interest Expense, Depreciation/Amortization and Minimum Required Net Revenues.

2/ Change in rates reflects average across all segments.

Expense Summary

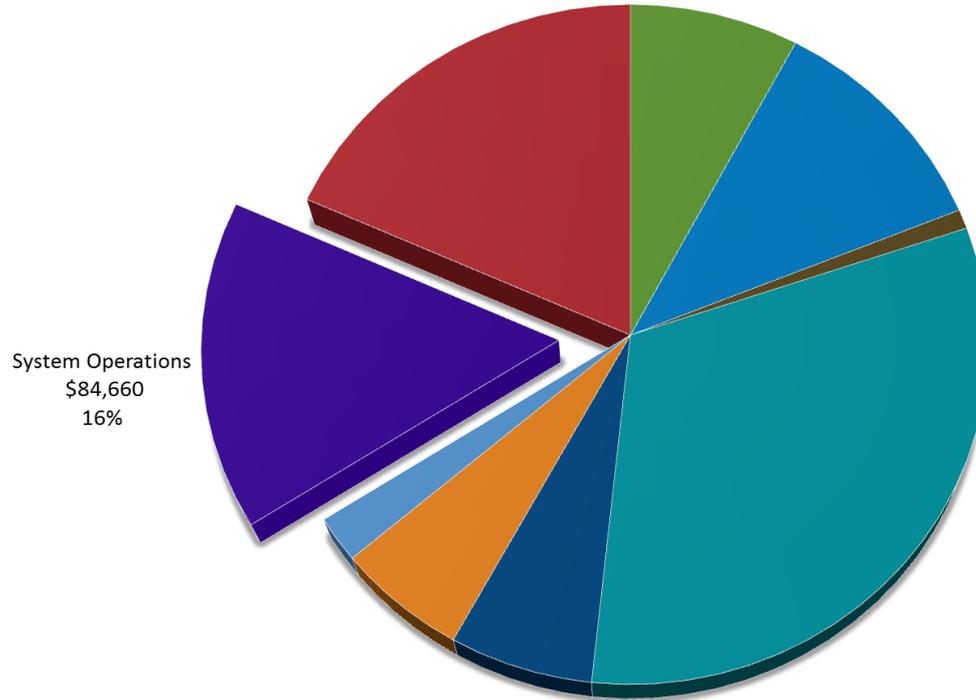


(\$ Millions)



Note: Transmission Operations includes System Operations, Scheduling, Marketing and Business Support programs. Maintenance includes System Maintenance and Environment programs.

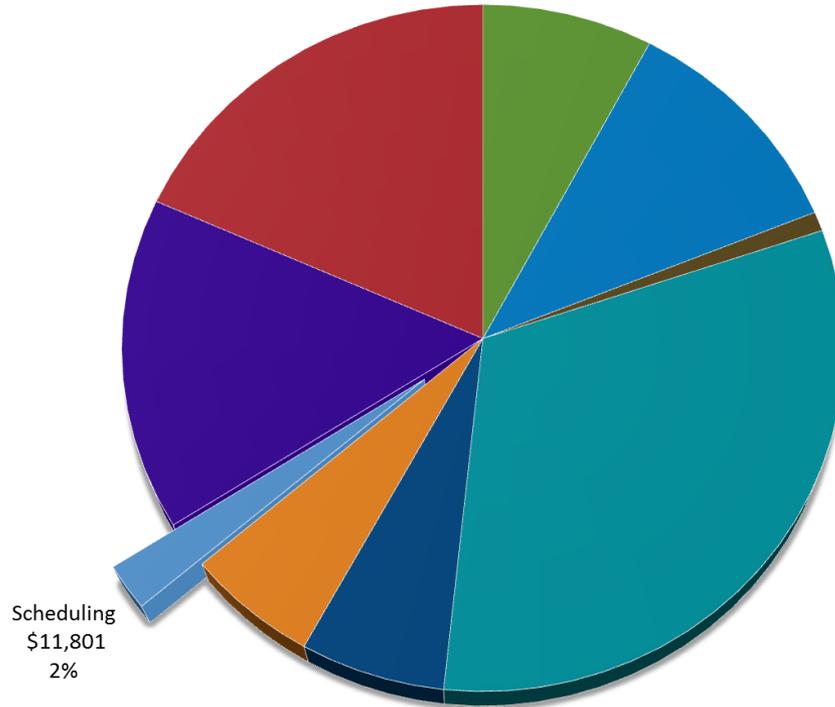
Operations: System Operations



FY18-19 average: \$84.7M
Change from BP-16: \$5.8M

(\$Thousands)	Actuals	Rate Case		Proposed IPR		
	2015	2016	2017	2017	2018	2019
Information Technology	8,103	10,377	10,558	5,768	6,004	6,095
Power System Dispatching	13,209	13,536	13,671	15,791	16,082	16,376
Control Center Support	20,849	18,572	18,757	26,808	27,187	27,524
Technical Operations	6,288	6,913	6,983	7,543	7,727	7,932
Strategic Integration	585	7,522	7,555	1,358	1,404	1,447
Substation Operations	23,347	21,399	21,817	24,786	25,452	26,091
Grand Total	72,381	78,319	79,341	82,055	83,855	85,466

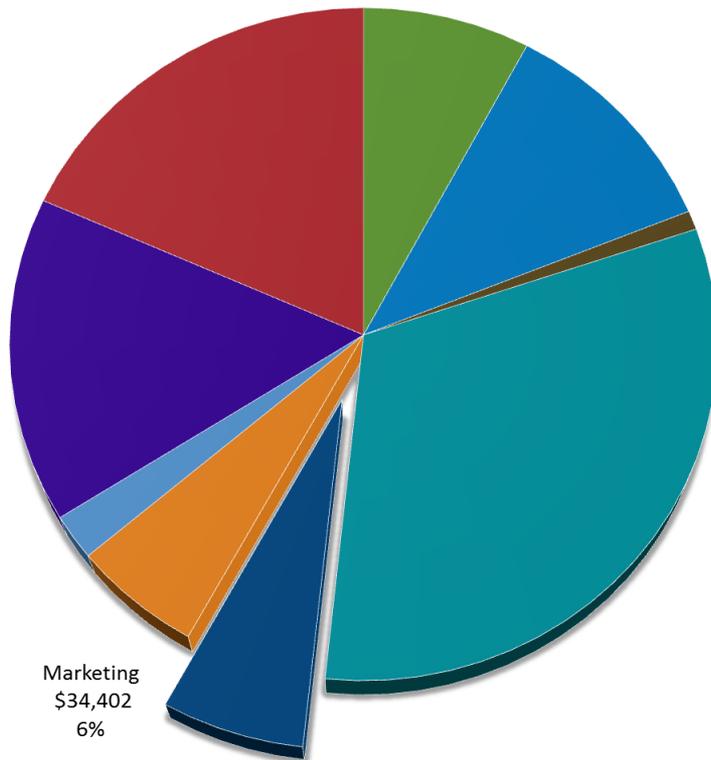
Operations: Scheduling



FY18-19 average: \$11.8M
Change from BP-16: \$0.6M

(\$Thousands)	Actuals	Rate Case		Proposed IPR		
	2015	2016	2017	2017	2018	2019
Reservations	1,156	1,362	1,383	1,564	1,598	1,638
Pre-Scheduling	344	268	276	416	426	442
Real-Time Scheduling	4,323	5,038	5,169	4,736	4,888	5,052
Technical Support	3,732	4,161	4,259	4,056	4,168	4,291
After-the-Fact Scheduling	237	281	289	525	542	558
Grand Total	9,792	11,110	11,376	11,296	11,621	11,981

Operations: Marketing



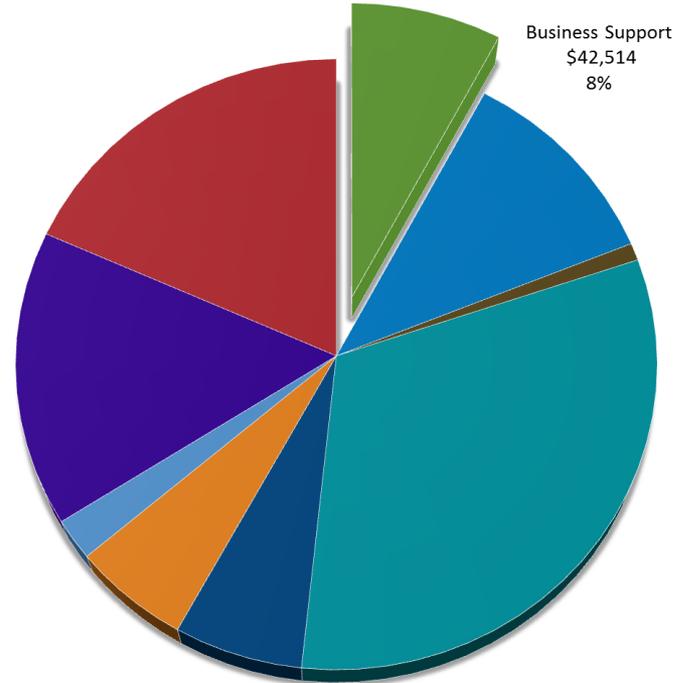
FY18-19 average: \$34.4M
Change from BP-16: \$16.2M

(\$Thousands)	Actuals	Rate Case		Proposed IPR		
	2015	2016	2017	2017	2018	2019
Transmission Sales	2,354	2,700	2,775	3,430	3,526	3,627
Contract Management	4,244	4,862	4,984	4,728	4,897	5,066
Transmission Billing	2,414	3,301	3,377	2,433	2,518	2,611
Business Strategy and Assessment	6,687	7,171	7,291	13,099	23,195	23,364
Grand Total	15,698	18,033	18,426	23,689	34,136	34,668

Operations: Business Support

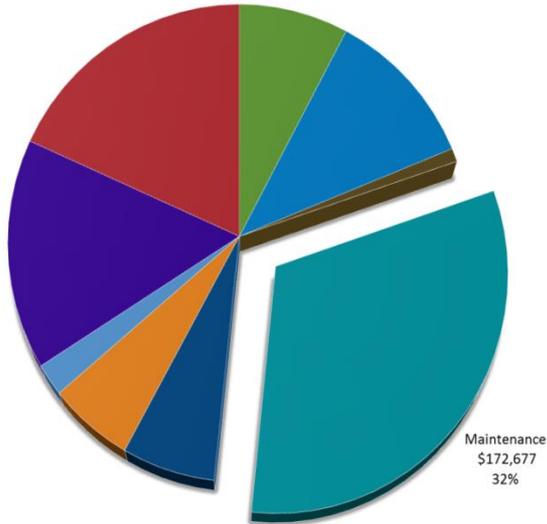


FY18-19 average: \$42.5M
 Change from BP-16: **-\$7.2M**



(\$Thousands)	Actuals	Rate Case		Proposed IPR		
	2015	2016	2017	2017	2018	2019
Executive and Administrative Services	12,727	24,235	27,540	23,035	22,679	17,009
Legal Support	2,250	3,331	3,548	1,641	1,716	1,792
General Administrative	12,913	12,961	13,135	13,716	12,824	12,934
Aircraft Services	1,234	2,205	2,230	3,003	3,032	3,060
Logistics Services	5,598	4,325	4,488	3,968	4,266	4,415
Security Enhancements	1,201	754	716	630	644	658
Grand Total	35,922	47,811	51,657	45,993	45,160	39,868

Maintenance



FY18-19 average: \$172.7M
Change from BP-16: \$14.0M

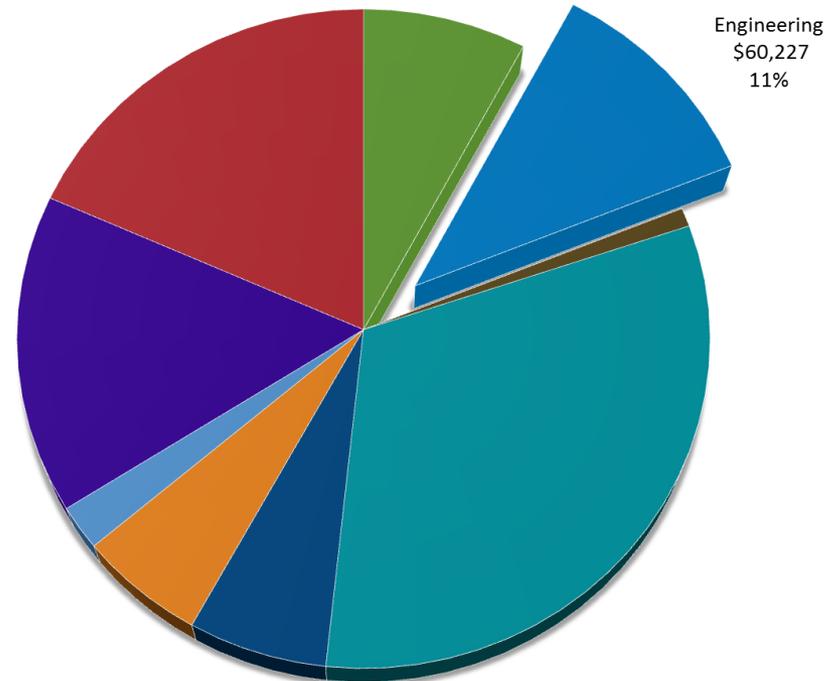
	Actuals	Rate Case			Proposed IPR		
	2015	2016	2017	2017	2018	2019	
Non-Electric Maintenance	32,203	30,750	31,424	30,356	32,058	31,180	
Substation Maintenance	36,926	28,566	29,043	35,353	36,000	36,658	
Transmission Line Maintenance	27,733	27,054	27,482	29,319	29,817	30,228	
System Protection Controls	12,718	13,541	13,741	15,283	15,640	15,999	
Power System Maintenance	18,939	18,239	18,507	20,020	20,437	20,859	
Joint Cost Maintenance	175	111	113	148	148	149	
System Maintenance Management	6,041	9,954	9,556	8,000	8,138	8,285	
Row Maintenance	6,502	10,098	10,162	9,901	9,944	9,986	
Heavy Mobile Equipment Maintenance	116	0	0	18	18	18	
Technical Training	2,317	2,368	2,418	2,423	2,471	2,526	
Vegetation Management	18,223	17,181	17,039	17,282	17,354	17,441	
Grand Total	161,894	157,861	159,485	168,103	172,025	173,329	

*The Maintenance program excludes Environment-Pollution, Prevention and Abatement costs.

Engineering



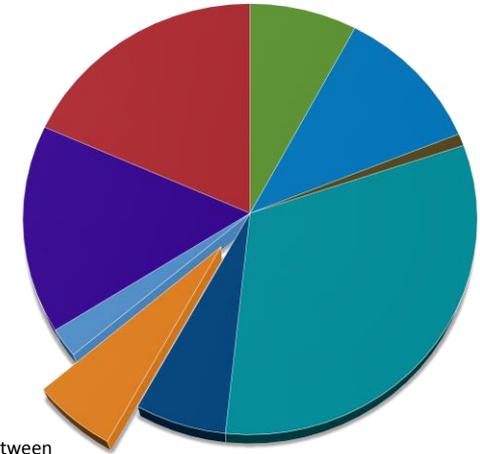
FY18-19 average: \$60.2M
Change from BP-16: \$5.6M



	Actuals	Rate Case		Proposed IPR		
	2015	2016	2017	2017	2018	2019
Research and Development	7,359	9,522	9,555	7,762	8,170	8,585
Transmission System Development Planning and Analysis	22,796	16,486	16,738	21,690	21,983	22,282
Capital to Expense Transfers	6,836	4,307	4,351	4,285	4,285	4,285
NERC/WECC Compliance	17,168	20,311	20,422	21,024	21,355	21,667
Environmental Planning and Analysis	1,225	1,599	1,642	1,641	1,695	1,747
Engineering Line Rating	1,867	2,195	2,207	2,200	2,200	2,200
Grand Total	57,251	54,421	54,915	58,602	59,688	60,765

Non-Between Business Line (non-BBL) Acquisition and Ancillary Services

FY18-19 average: \$31.5 M
Change from BP-16: \$4.2 M



Non-Between Business Line (Non-BBL) Transmission Acquisition and Ancillary Services
\$31,500
6%

	Actuals	Rate Case		Proposed IPR		
	2015	2016	2017	2017	2018	2019
	(\$Thousands)					
Leased Facilities	5,478	7,447	7,447	7,447	7,447	7,447
Settlement Agreements	9,716	18	18	0	0	0
Non-Between Business Line Ancillary Services	2,323	18,560	18,560	18,865	18,865	18,865
Oversupply Displacement Costs	2,702	0	0	0	0	0
Reliability Demand Response/Redispatch	1,033	1,313	1,328	1,019	5,188	5,188
Grand Total	21,253	27,338	27,353	27,331	31,500	31,500

Capital Overview

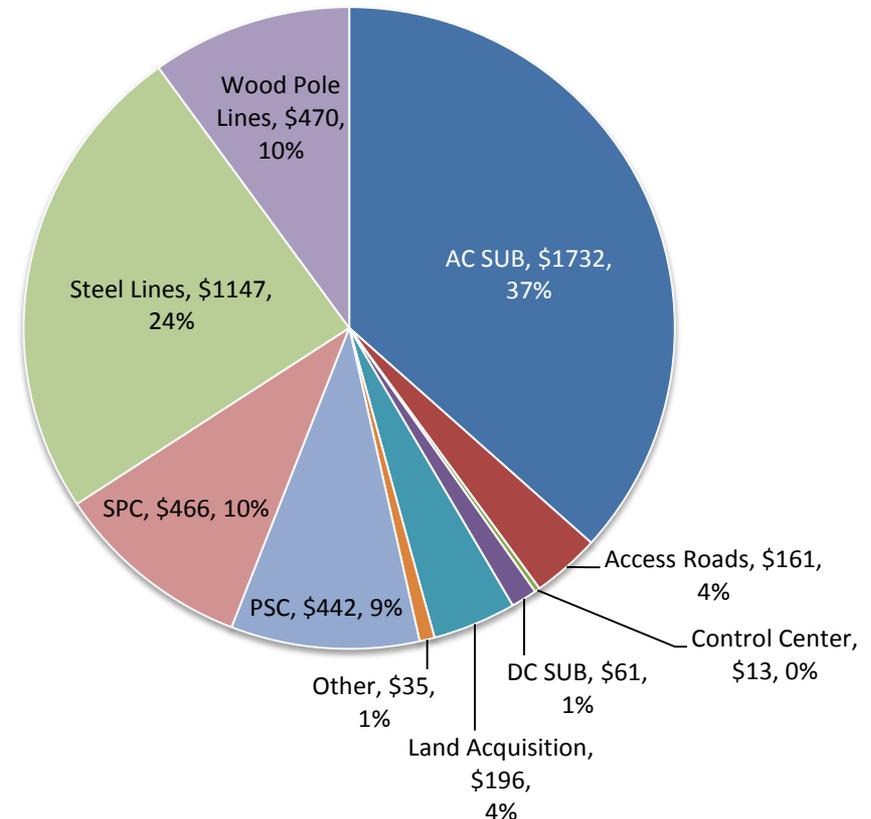
About three-fourths of the Northwest region's high-voltage transmission assets are leased or owned, and managed by BPA.

The BPA transmission network includes over \$4.72 billion in assets.

Transmission Net Book Value

Total: \$4.72B

As of September 30, 2015





Investment Types

Sustain



Definition – Investment for the primary purpose of replacing existing assets to maintain system performance and capability.

Key Drivers

- Asset age, condition, and risk
- Reliability and availability
- Technological obsolescence and interoperability

Expansion



Definition – Investment for the primary purpose of adding capacity, add new capabilities, and/or increase operational output or productivity.

Key Drivers

- Load service obligations and customer service requests
- Reliability and market requirements for inter-regional transfer capacity
- Technological, policy and process changes for more optimal use of capacity

Capital

Near-term

Sustain

Prioritization Approach: Minimizing total economic cost, which quantifies risk of all failure probabilities leading to outages and curtailments and aggregates associated cost.

Near-term Capital Levels: Based on numbers submitted in the FY2014 CIR process which were only informed by total economic cost strategies for 3 of 9 sustain programs; all other programs submitted levels based on historical actuals and subject matter expert judgment.

Expansion

Prioritization Approach: Capital Portfolio Management prioritization process using a net economic benefit ratio (NEBR) to determine values in 3 categories – Compliance, Policy, Discretionary.

Near-term Capital Levels: Based on numbers submitted in the FY2014 CIR process to fund work that has been identified or is in flight; largely driven by customer and policy. Major projects include: Lower Valley, PSANI, OMET, 4 Fiber projects, and start of South of Allston Non-Wires Pilot Program.

(\$Thousands)	Actuals	Rate Case		Proposed CIR			
	2015	2016	2017	2017	2018	2019	FY 17- 19 Total
Asset Category Direct Spending							
Transmission	559,053	422,242	372,444	372,444	317,044	310,544	1,000,033
Other Costs							
PFIA	964	15,000	15,000	15,000	15,000	15,000	45,000
Transmission Indirects	53,690	57,561	48,694	48,694	42,733	41,914	133,341
Corporate Indirects	50,340	57,561	48,694	48,694	42,733	41,914	133,341
AFUDC	42,603	44,448	26,242	24,099	22,854	22,892	111,300
Other Costs Total	147,596	174,569	138,630	136,488	123,321	121,720	422,983
Grand Total	706,649	596,811	511,074	508,932	440,365	432,264	1,423,015

Capital

Long-term

Sustain

Long-term Capital Levels: Based on total economic cost strategy requirements for 8 programs, the exception being Land Rights. These levels represent the optimal funding needed to implement the strategies and reach a steady-state for high value critical replacements.

Expand

Long-term Capital Levels: Based on identified and in-flight work, as well as anticipated future work (compliance, policy and upgrades) based on historical profile analysis.

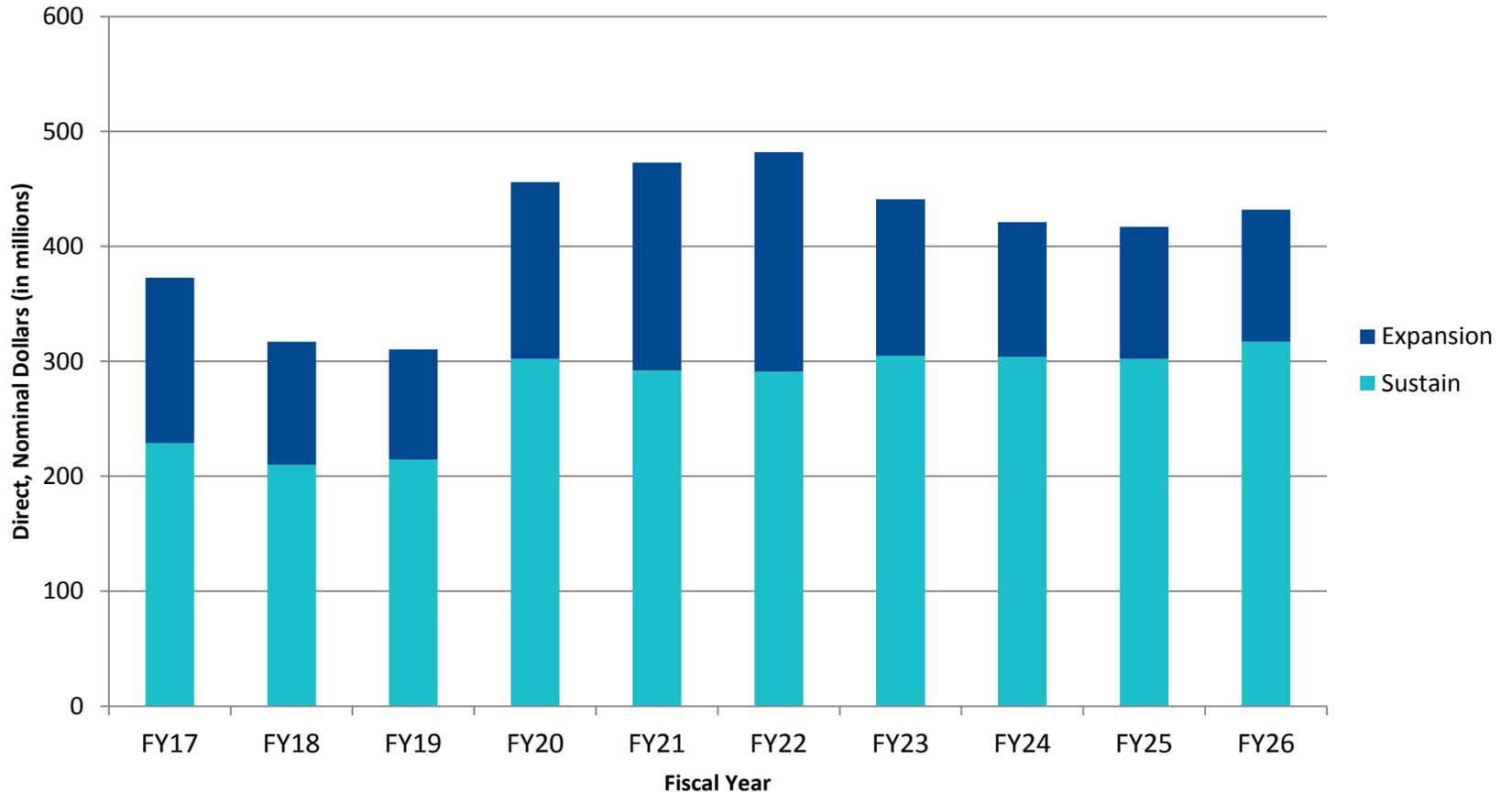
- Included in these levels is \$200M for South of Allston Non-Wires Pilot Program (FY2019-2023), Bonanza Substation, Reactor Program, Conkelley and Norway Substations Retirement and Two-way Radio (upgrade)
- Not included in these levels is the Southern Idaho Load Service (SILS) Solution

(\$Thousands)	Remaining CIR						
	2020	2021	2022	2023	2024	2025	2026
Asset Category Direct Spending							
Transmission	455,500	472,900	482,400	440,900	420,900	416,600	431,900
Other Costs							
PFIA	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Transmission Indirects	40,329	31,119	31,439	31,850	32,480	33,133	33,779
Corporate Indirects	40,329	31,119	31,439	31,850	32,480	33,133	33,779
AFUDC	22,892	23,488	23,238	22,289	21,874	22,181	22,521
Other Costs Total	118,550	100,726	101,116	100,988	101,835	103,448	105,079
Grand Total	574,050	573,626	583,516	541,888	522,735	520,048	536,979



Capital

Transmission Direct Capital Forecast FY2017-2026



Agency Services





Overview

Even with the additional funding in support of Key Strategic Initiatives, Agency Services held close to BP-16 spending levels, in part by reducing other program costs.

The majority of cost increases are in labor, leading to difficult staffing level decisions balanced against a need to provide efficient services.

Agency Services is the term used to refer to all of the corporate organizations. This includes organizations under the direction of:

- The Administrator
- The Deputy Administrator,
- The Chief Operating Officer, and
- The Chief Administrative Officer.

These costs are ultimately covered by Power and Transmission rates.



Goals and Objectives

Agency Services has the following *near-term goals*:

- Provide governance and support to the business units at the lowest possible cost;
- Continuously improve processes and controls while maintaining a flexible environment to accommodate evolving industry requirements; and
- Improve the efficiency and effectiveness of the workforce.

The cost estimates for Agency Services include the following *long-term objectives*:

- Provide quality services to the agency.
- Diligently pursue all opportunities for continuous improvement and operational efficiencies.
- Accountability for rigorous compliance with applicable laws and regulations.

Agency Services, total IPR proposed spending level is an average of \$331 million, an increase of \$40 million over 2014 IPR.

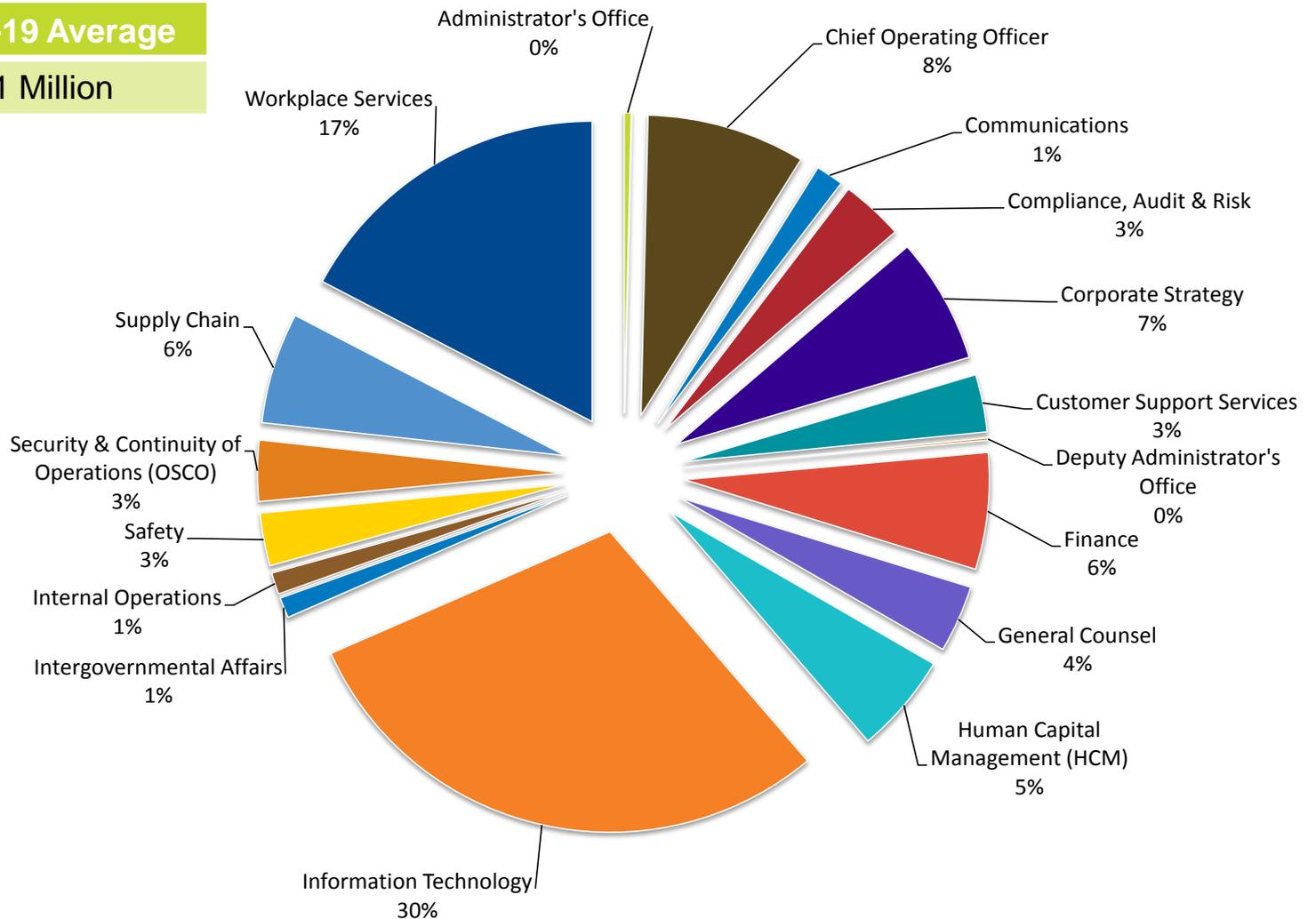
The main drivers are:

- KSI costs — \$25 million was added for the Commercial Operations KSI, and another \$3 million for the other KSIs.
- Information Technology — Increases of \$11 million as a result of movement toward more cloud-based services and increased expense component in support of the capital program.



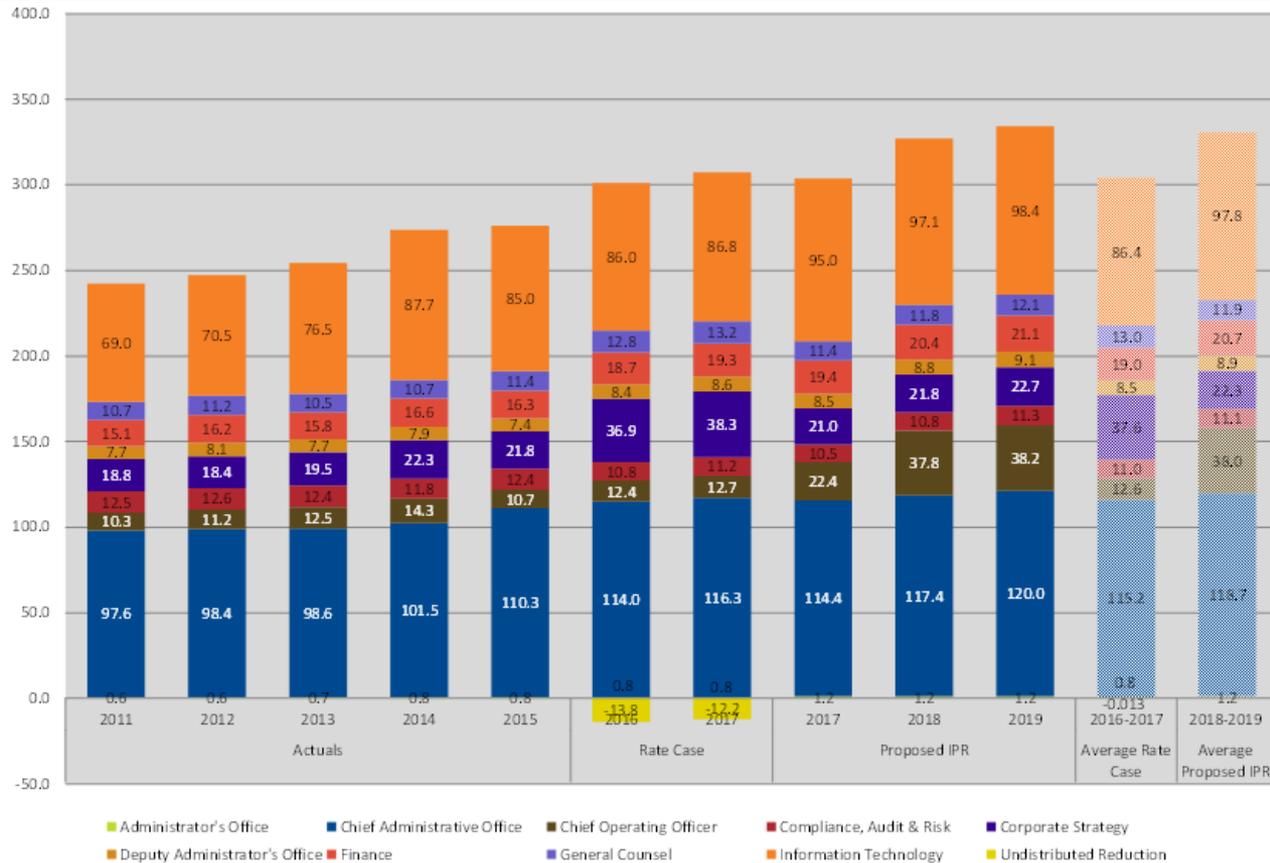
IPR FY 2018-19 Average

	FY2018-19 Average
Total	\$331 Million





Expense Summary



- The amounts in this chart are included in the Power and Transmission program totals and are not additive to the total agency spending proposal.
- The increase over BP-16 is made up of the KSI costs (\$25million for Commercial Operations, \$3+ million for all others) and IT (about \$11 million).



Capital

Each of these asset categories will be discussed in the workshops next week.

Near-Term Spending Plan

(\$Thousands)	Proposed CIR		
	2017	2018	2019
Facilities	21,900	17,900	35,000
Security	8,000	6,000	8,000
Fleet	6,200	6,700	7,200
IT	25,000	25,000	25,000
Fish & Wildlife	44,602	50,533	44,000
Environment	5,475	5,529	5,585
Total Direct	111,176	111,662	124,785

Long-Term Spending Plan

(\$Thousands)	Remaining CIR						
	2020	2021	2022	2023	2024	2025	2026
Facilities	25,005	25,005	25,005	25,005	26,300	26,900	27,400
Security	7,000	7,000	7,000	7,000	5,418	5,527	5,635
Fleet	7,500	8,000	8,200	8,500	9,200	9,500	9,500
IT	2,500	12,000	4,736	6,536	14,761	15,058	15,351
Fish & Wildlife	38,033	33,599	29,047	29,291	36,014	36,738	37,454
Environment	5,641	5,697	5,754	5,811	5,614	5,614	5,614
Total Direct	85,679	91,301	79,742	82,143	97,307	99,336	100,954

BPA Expense and Capital Overview



IPR/CIR Spending Levels

- Process for developing IPR/CIR spending levels
- Expense spending level development
- Capital spending level development

Capital Spending Levels

(Millions \$)	Actuals		Rate Case		Proposed CIR			Remaining CIR						
	2015	2016	2017	2017	2018	2019	FY 17-19 Total	2020	2021	2022	2023	2024	2025	2026
Asset Category Direct Spending														
Transmission Direct	559	422	372	372	317	311	1,000	456	473	482	441	421	417	432
Federal Hydro	159	224	230	236	258	281	775	306	331	338	344	351	358	365
Facilities	13	39	17	22	18	35	75	25	25	25	25	26	27	27
Security	1	6	8	8	6	8	22	7	7	7	7	5	6	6
Fleet	2	7	8	6	7	7	20	8	8	8	9	9	10	10
IT	31	33	25	25	25	25	75	3	12	5	7	15	15	15
Fish & Wildlife	21	55	31	45	51	44	139	38	34	29	29	36	37	37
Environment	6	5	5	5	6	6	17	6	6	6	6	6	6	6
Energy Efficiency	87	0	0	0	0	0	0	0	0	0	0	0	0	0
Direct Total	880	791	696	719	687	716	2,122	847	895	900	867	869	874	898
PFIA	1	15	15	15	15	15	45	15	15	15	15	15	15	15
Transmission Indirect	54	58	49	49	43	42	133	40	31	31	32	32	33	34
Corporate Overheads	50	58	49	49	43	42	133	40	31	31	32	32	33	34
AFUDC	52	63	39	50	32	30	111	30	31	31	30	30	30	30
Grand Total	1,037	985	848	881	819	846	2,545	973	1,004	1,009	977	979	986	1,011

- PFIA: Projects Funded in Advance
- AFUDC: Allowance for Funds Used During Construction
- Funding levels in the Transmission direct asset category exclude sufficient capital to build the proposed I-5 transmission and Boardman to Hemingway transmission lines. Future CIRs may consider funding adjustments should either or both of these transmission builds be approved for construction.

Capital Related Costs

- Power Capital Related Costs are going down \$77 million on average from BP-16, including an average reduction of \$59 million in net interest expense.
 - Net interest expense declines significantly as a result of actual RCD transactions.

- Transmission capital related costs are projected to decline by \$24 million on average.
 - Repayment obligations are flattening, thereby lowering the level of repayment.

Key Strategic Initiatives

▪ **Safety and Occupational Health**

- BPA's engaged employees and contractors are empowered to recognize job hazards and address safety and occupational health issues. Safety and occupational health are integrated into all aspects of work with a goal of zero injuries. The costs for this KSI were absorbed within proposed spending levels.

▪ **Workforce**

- BPA has a diverse workforce of the right size and composition, with the right skills and competencies, working in a positive work environment to deliver on its public responsibilities and strategic priorities. The costs for this KSI were absorbed within proposed spending levels.

▪ **Asset Management**

- Investments are created, selected and executed through leading practice-based portfolio and project management practices.

Key Strategic Initiatives

▪ Long-Term Financial and Rates

- BPA delivers cost-based power and transmission services priced to fully subscribe FCRPS power among Northwest public preference customers, while balancing the goals of low rates, reliable operations, sustainable and affordable investment strategies and long-term financial health, while meeting its public purpose objectives and statutory obligations as a Federal power marketer and open-access transmission provider.

▪ Commercial Operations

- BPA is fully enabled with the core functionality required to successfully participate in the management of a regional modernized electrical grid.

▪ Business Information Systems

- BPA's Business Information Systems optimize the value and reliability of agency decisions and enhance the accountability, integrity, insights and value of supported activities for our stakeholders and the region.

▪ Fish and Wildlife

- BPA meets its Endangered Species Act, Northwest Power Act, and tribal responsibilities using a performance-based approach, including setting and achieving performance metrics to fully address its obligations through a combination of hydro, habitat, hatchery and predator-management actions.



KSIs

(\$Millions)

KSI Expense	FY17	FY18	FY19
Safety & Occupational Health	4.5	4.6	4.7
Workforce	6.0	5.9	6.0
Asset Management	5.4	5.0	4.0
Long-Term Finance & Rates	1.6	2.3	2.4
Commercial Operations	10.0	25.0	25.0
Business Information Systems	4.3	4.3	4.6
Fish & Wildlife	0.0	0.0	0.0
Total Redeployed	16.4	16.6	17.1
Total Incremental Expense	15.4	30.5	29.6
Total Expense	31.8	47.1	46.7

*KSI costs for FY 2018-19 are estimated to be split between Power and Transmission with approximately \$19.5 million to Power and \$27.5 million to Transmission. For FY 2017, the split is estimated at approximately \$14.4 million to Power and \$17.4 million to Transmission.

(\$Millions)

KSI Capital	FY17	FY18	FY19
Business Information Systems	8.0	9.0	9.0
Total Redeployed	8.0	9.0	9.0
Total Incremental Capital	0.0	0.0	0.0
Total Capital	8.0	9.0	9.0

Integrated Program Review

Next Steps

2016 Integrated Program Review/Capital Investment Review

IPR/CIR Kickoff Meeting

Materials Released:

- Initial Publication
- FY 2017-19 Expense Estimates
- FY 2017-26 Capital Estimates
- Detailed Draft Asset Strategies

June 16

Participants Submit Questions and/or Request for Specific Discussion Meetings

Requests for IPR/CIR specific discussion meetings and/or clarifying questions can be submitted to BPAFinance@bpa.gov between June 16-20.

June 16-20

IPR/CIR Discussion Meetings

Save the Dates

June 20-23

Close of the IPR/CIR Process

The IPR/CIR process concludes August 12.

BPA will release an IPR/CIR Close-Out Letter and Report following consideration of your comments and feedback presenting capital and expense levels for FY 2017-2019 that will be included in the BP-18 rate case.

September

IPR/CIR Comment Period

Opportunity to comment on expense and capital estimates for FY 2017-19, draft asset strategies and proposed 10-year capital forecasts Public Comments and feedback will help influence expense and capital levels that will be included in the BP-18 rate case.

June 16 – August 12

Upcoming Workshops

IPR/CIR Meeting Schedule

	IPR/CIR Meeting Schedule							
MORNING	THURSDAY JUNE 16 9 AM Kickoff	MONDAY JUNE 20	TUESDAY JUNE 21 9 AM Fed Hydro	WEDNESDAY JUNE 22 9 AM E,F&W	THURSDAY JUNE 23 9 AM Transmission	FRIDAY JUNE 24 9 AM Debt Management	FRIDAY AUGUST 12 Close of IPR Public Comment Period	FALL 2016 Release IPR Close-Out Letter and Final Report
AFTERNOON	1:30 PM Capital Portfolio Management/ Reference Case	1 PM Chief Administrative Office 2:45 PM Information Technology	1:30 PM Columbia Generating Station	1:30 PM Energy Efficiency	1:30 PM Key Strategic Initiatives			

Contact Us

Comments can be sent to:

Participants can submit comments on BPA's Initial IPR/CIR Publication and proposed levels during an eight-week public comment period beginning June 16 and concluding August 12, 2016. Comments can be submitted:

- Online at www.bpa.gov/comment
- By mail to: BPA, P.O. Box 14428, Portland, OR 97293-4428.
- By email to BPAFinance@BPA.gov

Please send questions to:

BPAFinance@BPA.gov



Thank you

Integrated Program Review

Financial Disclosure

This information was made publicly available on June 15, 2016, and contains information not sourced directly from BPA Financial statements.