



Integrated Program Review

Transmission

July 18, 2012
1:00-3:00 pm

BPA Rates Hearing Room, 911 NE 11th Ave Portland, OR
To participate via phone dial 503-230-5566, when prompted
enter access code 4433#



Transmission Stakeholder Questions

Question #1- Program Increase Justifications

Question #2- Capital and Expense Transfers

Transmission Program Increases

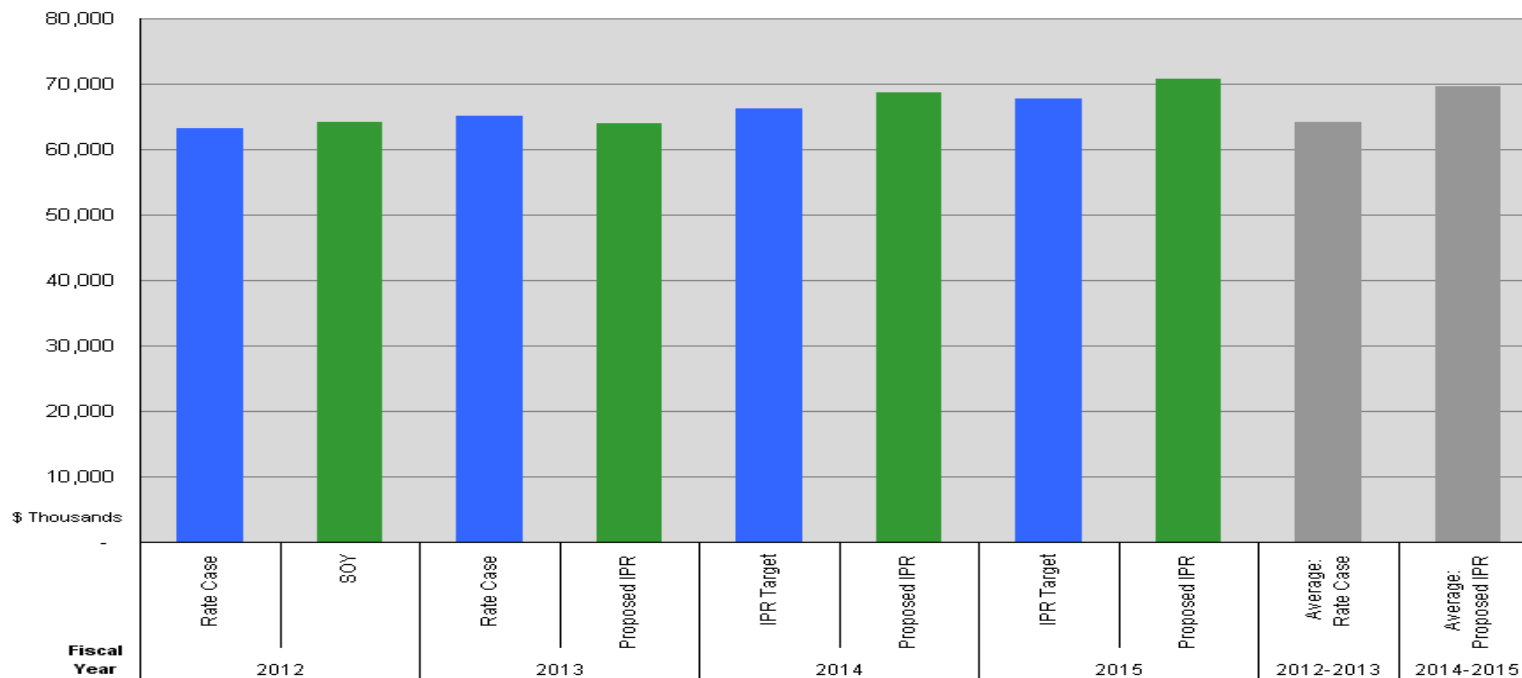
Question #1:

Q: For the Transmission Business Line budget, for line organizations' expense and capital budgets, other than the OM&R items, what is the specific need for increased spending for each budget item that exceeded the base 1.88% budget increase?

Transmission's IPR Budget Development Process:

- FY 2014-15 base cost targets were compared to the program levels developed in the 2010 IPR process - validated ability to manage to targets by assessing performance, identifying best practices, reinforcing change efforts and tracking long-term progress.
- Bottoms up forecast completed by manager/staff and reviewed at executive level
- Rate impact estimated and reductions identified to minimize rate impact before agency budget review process
- Budget review for each program included a well thought out strategy and explanation of impacts that included:
 - 1) Identification of work that would be constrained or eliminated if there was a reduction from base targets
 - 2) Identification of near term goals, long-term and short-term strategies
 - 3) Outline of challenges and constraints, risk and impacts at operating at target levels
 - 4) Identification of non-funded items not included in proposed spending
 - 5) Comparison to program priorities and requirements
- Detailed information pertaining to proposed increases in Transmission capital spending can be found in the Initial CIR Publication, released March 8, and available online at <http://www.bpa.gov/corporate/Finance/IBR/CIR/docs/InitialCIRPublicationforprint.pdf>

System Operations



(\$\$\$)	2014				2015			
	IPR Target	Proposed IPR	Delta \$	Delta %	IPR Target	Proposed IPR	Delta \$	Delta %
Information Technology	7,635	7,419	(216)	-2.9%	7,793	7,573	(220)	-2.9%
Power System Dispatching	13,589	13,589		0.0%	13,892	14,123	231	1.6%
Control Center Support	15,687	18,562	2,875	15.5%	16,015	19,298	3,283	17.0%
Technical Operations	6,897	6,745	(152)	-2.3%	7,049	6,974	(75)	-1.1%
Substation Operations	22,407	22,307	(100)	-0.5%	22,900	22,815	(85)	-0.4%
Total	66,215	68,622	2,407	3.5%	67,650	70,783	3,134	4.4%

System Operations

Challenges/Constraints

- Costs and workload responsibilities associated with regulatory compliance are increasing, due in part to the continual evolution of regulatory requirements (both in NERC reliability standards and in cyber security requirements).
- Rapid technological evolution – by the time a new system is fully implemented, it may already be obsolete. If BPA does not have the latest technology in place, it is not optimally protected.
- Adequate staffing -- it continues to be extremely challenging to find trained/experienced replacement workers, including field substation operator craft positions.
- The ever-increasing complexity of the system.
- Increasing Transmission system demand – optimizing available capacity while continuing to operate the system safely and reliably is a continual challenge.

System Operations

Control Center Support

- Network Operations Center (NOC) will be staffed 24/7, requiring a significant increase in FTE.
- The increased functionality of the Monroe Control Center under NERC EOP 008 will also require additional staffing expenditures. The NOC is critical to regulatory compliance for BPA's communications systems.
- With WISP coming on-line in 2013, data traffic will also increase exponentially, requiring additional monitoring and support.
- There are significant annual licensing costs associated with the software required for compliance. Without these investments, BPA will be at risk for non-compliance with multiple NERC standards.

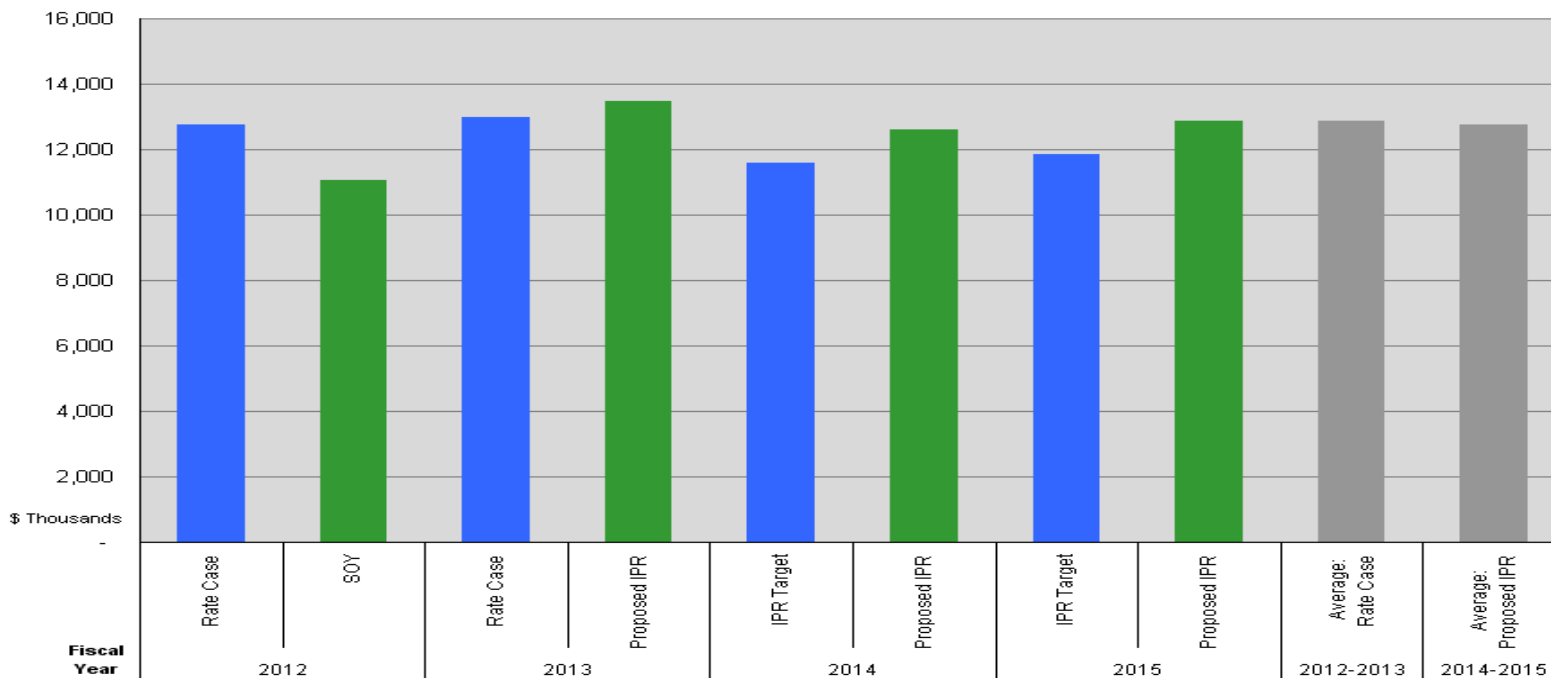
Benefits:

- NOC and EOP 008 will significantly enhance the bulk electric system's resiliency and reliability
- WISP will allow the Control Centers to monitor the power system in ways that have never been possible before, in terms of both real-time system conditions and after-the-fact analysis.
- Continued improvement in data collection software and hardware.

Program Priorities:

- WISP implementation is on track for Phase 1 completion by 2013. Modernization of the telecommunications network has been approved and is moving forward. The other major element of the Control Center modernization is the mobile radio replacement project; it has been funded and implementation is underway.

Scheduling



(\$\$\$)	2014				2015			
	IPR Target	Proposed IPR	Delta \$	Delta %	IPR Target	Proposed IPR	Delta \$	Delta %
Managing Supervision and Admin.	-	-	-	0.0%	-	-	-	0.0%
Reservations	5,372	5,697	325	5.7%	5,491	5,816	325	5.6%
Pre-Scheduling	246	246	-	0.0%	252	252	-	0.0%
Real-Time Scheduling	4,419	5,436	1,017	18.7%	4,520	5,537	1,017	18.4%
Technical Support	1,322	1,007	(315)	-31.2%	1,352	1,031	(321)	-31.1%
After-the-Fact Scheduling	224	224	-	0.0%	229	229	-	0.0%
Total	11,583	12,611	1,027	8.1%	11,843	12,865	1,021	7.9%

Scheduling

Challenges and Constraints

- Increasing number and complexity of mandatory NERC, NAESB, and FERC compliance standards.
- Lack of systems and reporting tools to effectively monitor status of BPA's compliance with individual standards.
- Continuing growth of resources is creating operational challenges.
- Increasing e-Tag volume is pushing BPA's current scheduling automation systems to their performance limits. BPA can no longer rely on manual processes to back up scheduling systems.
- Increasing complexity of Congestion Management tools.
- Increasing complexity of the implementation of the Failure to Comply process.

Scheduling

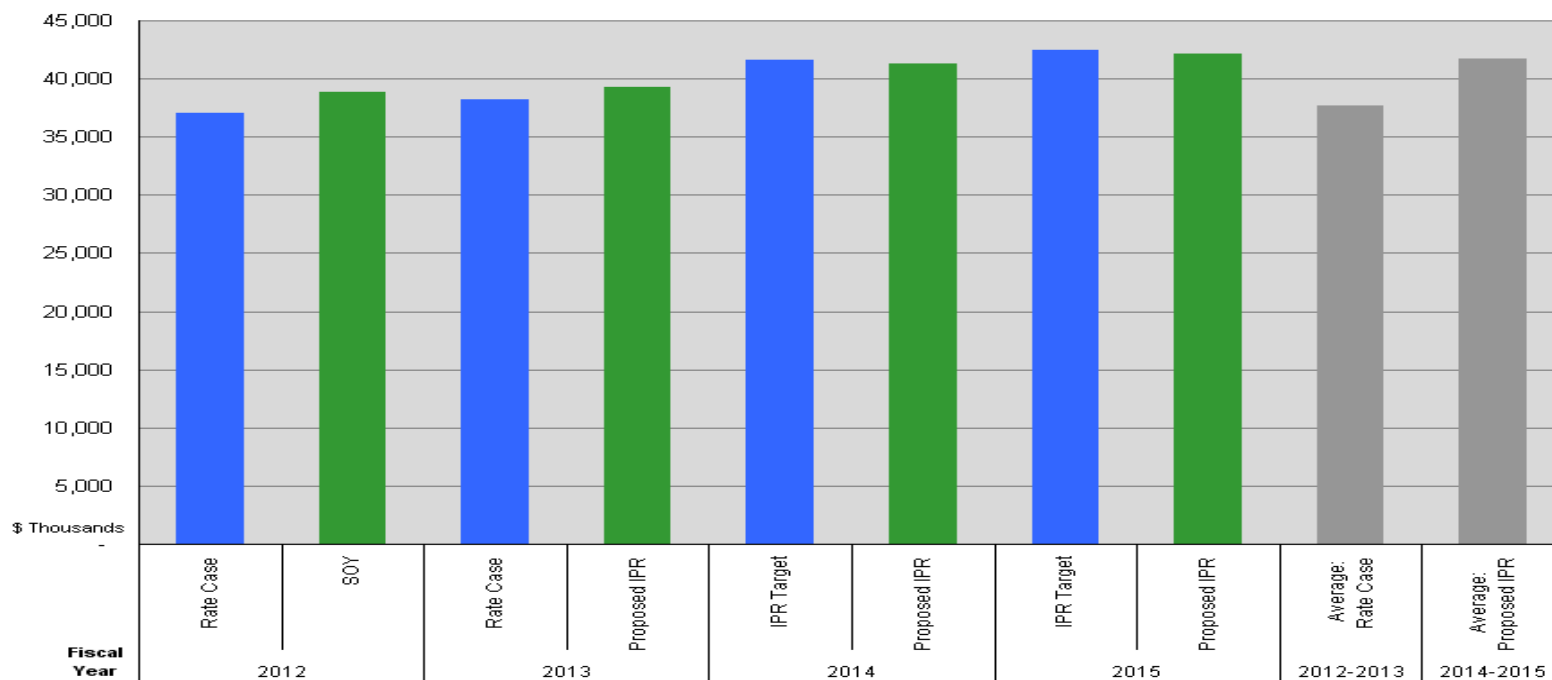
Description, Purpose & Responsibilities: BPA's Scheduling Program contains expenses for reservations, pre-scheduling, real-time scheduling, scheduling after-the-fact, and technical support.

- **Reservations:** conducts analysis to determine whether specific Transmission requests can be granted, subject to requirements of the Tariff and FERC orders, runs the market competitions, assists customers with questions about their Transmission requests and operation of OASIS.
- **Pre-Scheduling:** Sales/scheduling of transmission for next day(s) operations per the WECCPre-Schedule timeline.
- **Real-Time Scheduling:** Sales/scheduling of transmission services for next hour delivery, curtail schedules in-hour as system conditions require.
- **Scheduling Technical Support:** Conducts technical analysis of scheduling operations to ensure compliance with external regulations and WECC business practices; and develops documentation to support the Real-Time, Pre-Schedule and After-The-Fact functions.
- **Scheduling After-The-Fact:** Verify net scheduled and net actual interchange, and investigate and resolve discrepancies.

Drivers for Scheduling Increase and Significant Changes from Prior Public Discussions:

- Effective October 1, 2012, Transmission Services transferred most of the Scheduling – Technical Support Program budget to the Scheduling – Reservations Program resulting in an increase in the Reservations Program budget.
- Requirement for sufficient staffing to accomplish system development and implementation of NERC ATC compliance and NITS/NAESB standards development.
- Requirement to operate real-time scheduling desks from two locations simultaneously necessitates 1 – 3 new FTE for new duty station at MCC.
- In FY 2014 and 15 prior to full operational mode at MCC, testing real-time scheduling functions at the new facility training new schedulers at the Dittmer location will be required. In FY 2013, BPA will test real-time scheduling and pre-scheduling procedures at the interim back-up at MCC.
- Added up to 7 BFTE TERM positions (converting to CFTEs in Oct. 2013) to work on Commercial Transmission scheduling systems in order to achieve timely compliance with NERC, NAESB, and FERC.

Business Support



(\$\$\$)	2014				2015			
	IPR Target	Proposed IPR	Delta \$	Delta %	IPR Target	Proposed IPR	Delta \$	Delta %
Executive and Administrative Services	14,355	13,774	(581)	-4.22%	14,662	14,106	(556)	-3.94%
Legal Support	2,900	3,877	977	25.2%	2,966	3,951	985	24.9%
General Administrative	16,521	16,673	152	0.9%	16,768	16,967	200	1.2%
Aircraft Services	2,117	2,030	(87)	-4.3%	2,161	2,294	133	5.8%
Logistic Services	4,794	4,549	(245)	-5.4%	4,944	4,471	(473)	-10.6%
Security Enhancements	966	373	(593)	-158.9%	984	380	(604)	-158.9%
Total	41,653	41,276	(377)	-0.9%	42,485	42,169	(315)	-0.7%

Business Support

Changes from 2010 IPR

Executive and Administrative Services

- Driver of decrease is due to an allocation methodology change that will no longer direct-charge Finance support to the business units but will be budgeted and charged through BPA's Corporate G&A allocation.

Legal Support

- There has been a significant increase in legal work associated with FERC jurisdiction over BPA's transmission activities. Due to increasing calls for FERC to exercise its section 211A jurisdiction, OGC anticipates increased representation before FERC and the need to more frequently contract with outside counsel.

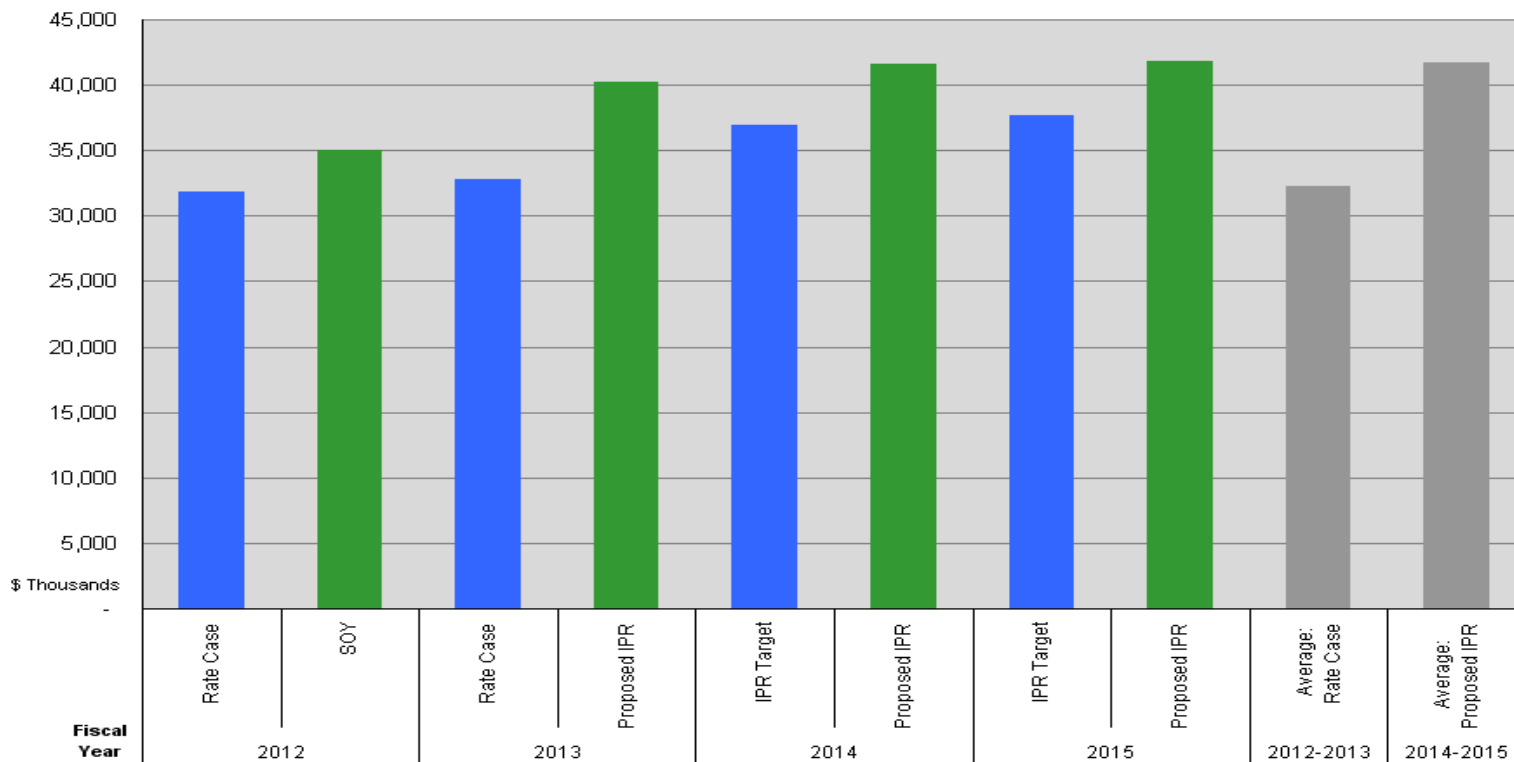
Logistic Services

- Decrease in Logistic Services Program is due to consolidation of the Fleet Management organization, which will help offset future fleet maintenance expense.

Security Enhancements

- Funding for the Security Enhancements Program will cover performance testing, security risk assessments, coordination and liaison with local, state, federal law enforcement, and management and oversight of physical security projects at critical Transmission sites. Driver for the decrease is the same as above: beginning in FY 2013, the Security org will no longer be direct charging and these costs will now be reallocated to the G&A allocation.

Engineering



(\$\$\$)	2014				2015			
	IPR Target	Proposed IPR	Delta \$	Delta %	IPR Target	Proposed IPR	Delta \$	Delta %
Research and Development	7,785	7,785	-	0.0%	7,943	7,943	-	0.0%
TSD Planning and Analysis	13,013	14,013	1,000	7.1%	13,289	13,289	-	0.0%
Capital to Expense Transfers	4,124	4,124	-	0.0%	4,202	4,202	-	0.0%
Regulatory Costs	8,867	12,015	3,148	26.2%	9,049	12,561	3,512	28.0%
Engineering Line Rating	1,958	2,539	580	22.9%	1,996	2,589	593	22.9%
Environmental Policy and Planning	1,145	1,166	20	1.7%	1,169	1,189	20	1.7%
Total	36,893	41,642	4,748	11.4%	37,648	41,773	4,125	9.9%

Engineering

TSD Planning and Analysis

- In addition to conducting BPA's regional Transmission Network Open Season (NOS) and Generation Integration processes, TSD Planning & Analysis is responsible for BPA's Regional Transmission planning coordination /process (Attachment K Process), for reliably integrating renewable generation into the BPA Transmission system, for ensuring that BPA has adequate Transmission capacity to economically transmit generation to load, and for overseeing and improving BPA's asset management strategies. TSD Planning & Analysis' non-discretionary budgetary obligations include indirect support for large capital projects, wind integration studies, NOS, asset management, non-wires solutions, and grid modeling.
- TSD Planning & Analysis also supports BPA compliance with NERC reliability standards. These responsibilities include:
 - Performing planning studies to meet the NERC reliability standards requirements: system screening studies for the near-term and long-term planning horizons to assess the system reinforcements required to meet load growth.
 - Developing plans of service to accommodate load growth and firm Transmission service obligations
 - Developing ATC base cases to comply with NERC MOD standards.
 - Addressing Pending Transmission Service Requests (TSR)
 - Developing base cases to determine the existing Available Transfer Capacity (ATC) for long-term Transmission service requests.

Engineering

TSD Planning and Analysis

- The FY 2013-14 funding requested will allow TSD Planning & Analysis to continue a 30-month total economic cost evaluation across BPA's transmission asset strategies (programs). This project results in an integrated model that provides a tool to help optimize Transmission asset management programs. The incremental increase to the budget for this project is \$1 million in FY 2013 and \$1 million in FY 2014.
- The economic evaluation tool will provide Transmission the ability to evaluate strategy alternatives and develop an integrated approach resulting in cost efficiencies. To date integration has been achieved across system telecommunications, power system control, system protection and control, and associated control center assets with expected cost savings in those areas.

Engineering

Regulatory Costs

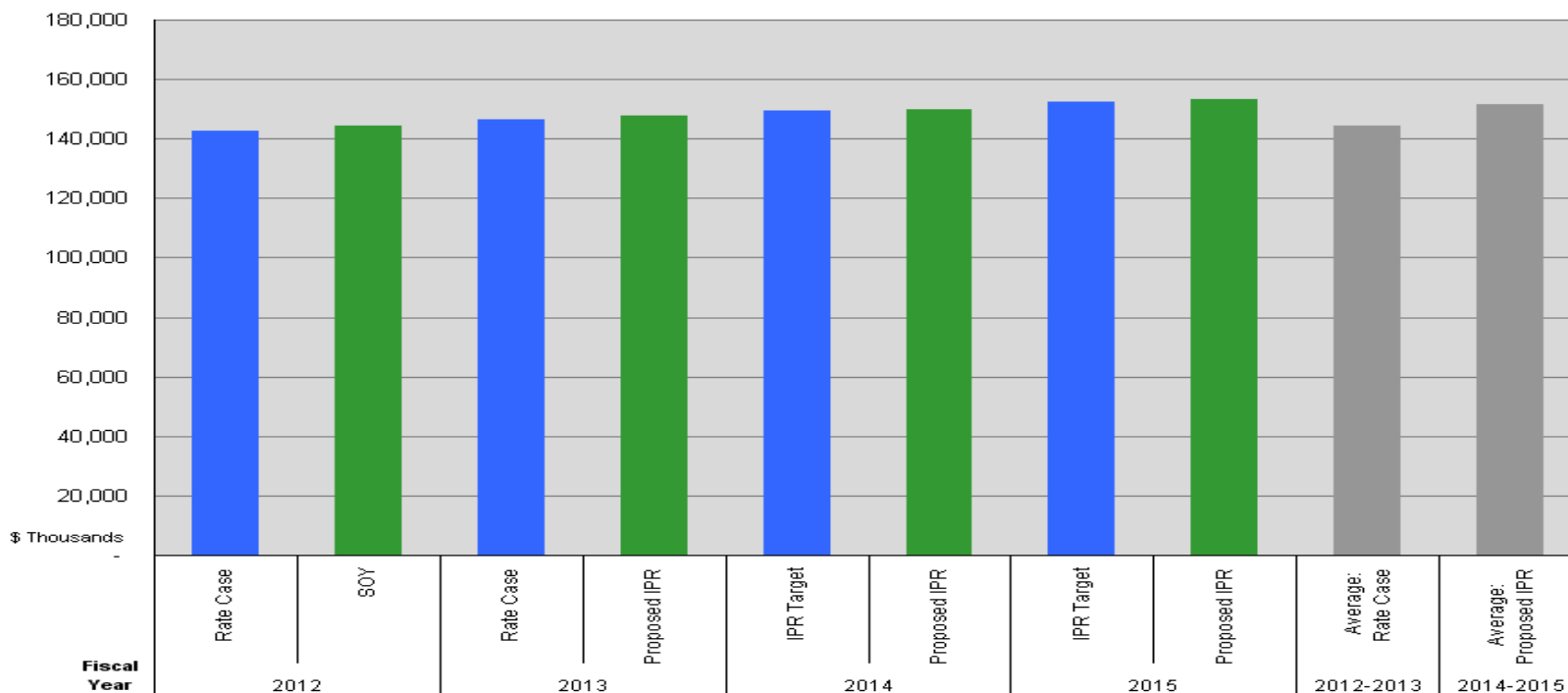
- The program's primary long-term goal is to maintain compliance by fostering a mature culture of compliance within BPA, to enhance the reliability and efficiency of the Pacific Northwest's bulk electric system.
- The dynamic regulatory environment, and limited resources to support these crucial compliance functions, is the primary constraint faced by the Regulatory & Regional Association Fees program.
- As a federal agency BPA is still subject to regulatory compliance. The regulators can direct BPA to take action on an accelerated schedule if non-compliance is found, which could have severe and unanticipated financial impacts.

Engineering

Engineering Line Rating (ELR)

- The ELR program was created in response to a NERC alert requiring Transmission Service Providers to verify that the actual field performance of Transmission facilities matches their as-designed ratings. Under this program, BPA is surveying its entire 15,000-mile Transmission system to verify capacity ratings and performance. The transmission system was built from the early '40s to the present day; another purpose of this program is to identify Transmission system facilities where modernization can increase capacity.
- The Engineering Line Rating program is using data from the ongoing LIDAR survey project to gather information about existing Transmission facilities, to enable validation of BPA's line rating catalogue through field observations and data, providing a clear picture of the actual performance of the Transmission system. Near-term program goals include continued field data collection and analysis, with completion currently scheduled for 2016.

Maintenance



(\$\$)	2014				2015			
	IPR Target	Proposed IPR	Delta \$	Delta %	IPR Target	Proposed IPR	Delta \$	Delta %
Non-Electric Maintenance	27,237	27,303	66	0.24%	27,770	27,853	83	0.30%
Substation Maintenance	31,121	31,122	-	0.0%	31,777	31,777	1	0.0%
Transmission line Maintenance	26,126	26,139	13	0.1%	26,685	26,820	135	0.5%
System Protection Controls	13,096	13,096	-	0.0%	13,381	13,381	-	0.0%
Power System Control Maintenance	16,599	16,904	305	1.8%	16,948	17,582	634	3.6%
System Maintenance Management	6,436	6,434	(2)	0.0%	6,575	6,574	(2)	0.0%
Right-of-Way Maintenance	8,428	8,428	-	0.0%	8,597	8,597	-	0.0%
Heavy Mobile Equipment Management	-	-	-	0.0%	-	-	-	0.0%
Technical Training	3,305	3,201	(104)	-3.1%	3,376	3,269	(106)	-3.2%
Vegetation Management	17,135	17,135	-	0.0%	17,471	17,471	-	0.0%
Total	149,484	149,763	278	0.2%	152,579	153,324	744	0.5%

Maintenance

PSC

- Labor costs and the need for additional FTE is the major constraint on accomplishing PSC's goals and objectives. FTEs (as opposed to contractors) are especially valuable to PSC, because a holistic understanding of BPA's extremely complex communications system is necessary in order to integrate new communications technologies without negatively impacting existing communications networks. BPA's transition to Carrier Ethernet Transport is also a constraint in the sense that BPA is the current industry leader in the use of this technology to control the power system.
- Investing in new fiber lines is significantly more expensive than maximizing the capacity of existing lines, given the fact that the current cost per mile for new fiber lines is about \$140,000. The sooner the programs discussed under Long-Term Objectives can begin, the sooner they will begin to pay significant reliability and cost-effectiveness dividends. Other risks, if these projects are not funded, include increased outage frequency and duration for BPA and customer fiber and, ultimately, the power grid.
- PSC now has an asset management strategy in place – a major change in terms of timely implementation, resource efficiency and cost effectiveness.

Maintenance

PSC

- PSC Maintenance is in the process of implementing the Carrier Ethernet Transport system – currently in the early testing phase.
- The new TE&ST team is being formed to streamline PSC's equipment evaluation and purchasing program and implement a unified asset management strategy.
- Implementation of the Columbia Generating Station/Energy Northwest communications system upgrade is underway.
- The integration of wind generating resources with the BPA Transmission system continues to be a major focus for PSC, which has been called on to provide backbone communications infrastructure for the largest renewable generation resource integration effort in BPA history.
- Over the past two years, PSC has also implemented the 3G Project, a major radio network upgrade.

Question #2 (1 of 2)

Q: *For Budget items that are reclassified as expense from capital, and vice versa, please provide the rationale for the reclassification and the amount of dollars that were shifted for each item.*

A: The capital-to-expense program averages less than 1% of the total expense budget and is used for engineering analysis associated with preliminary planning, system studies and preliminary design. If a project is cancelled, these costs are expensed to this program. Emergency repair of damage to minor equipment units and write-off of obsolete inventory are also classified as capital-to-expense.

This program budget remains flat over the years. Spending in this program in previous years has been consistent with budget.

Actual annual level of expenditures in the capital-to-expense program is unknown until an assessment is completed. However, current budget estimates have been sufficient to cover these type of costs over the past few years.

Question #2 (2 of 2)

Sometimes there are one-off type costs that are expensed to this program. Examples are:

- Friends of the Gorge - settlement cost is not eligible for capitalization even though the cost of the settlement came about as a result of the construction of the Big Eddy-Knight project. After review of the settlement, the settlement funds are expected to be used for separate land acquisitions, the removal or restoration of existing visually discordant features within or near the National Scenic Area, and the underground burial of existing overhead utility lines within or near the National Scenic Area, and not required for construction of the line. Therefore, the settlement would not be eligible for capitalization because the payment is not directly related to construction of Big Eddy-Knight transmission line or BPA ownership of a new asset(s).
- Spare Transformer Moves - per accounting guidelines, moves of spare transformers to another location can not be capitalized. As a result of accounting review and tightening up of accounting policies, it was discovered that some of these moves erroneously coded to capital were expensed.

Integrated Program Review

Financial Disclosure

This information has been made publicly available by BPA on July 16, 2012 and contains information not reported in agency financial statements.