

Integrated Program Review 2

Corps and Reclamation Operations and Maintenance

Webinar - Dec. 14, 2016

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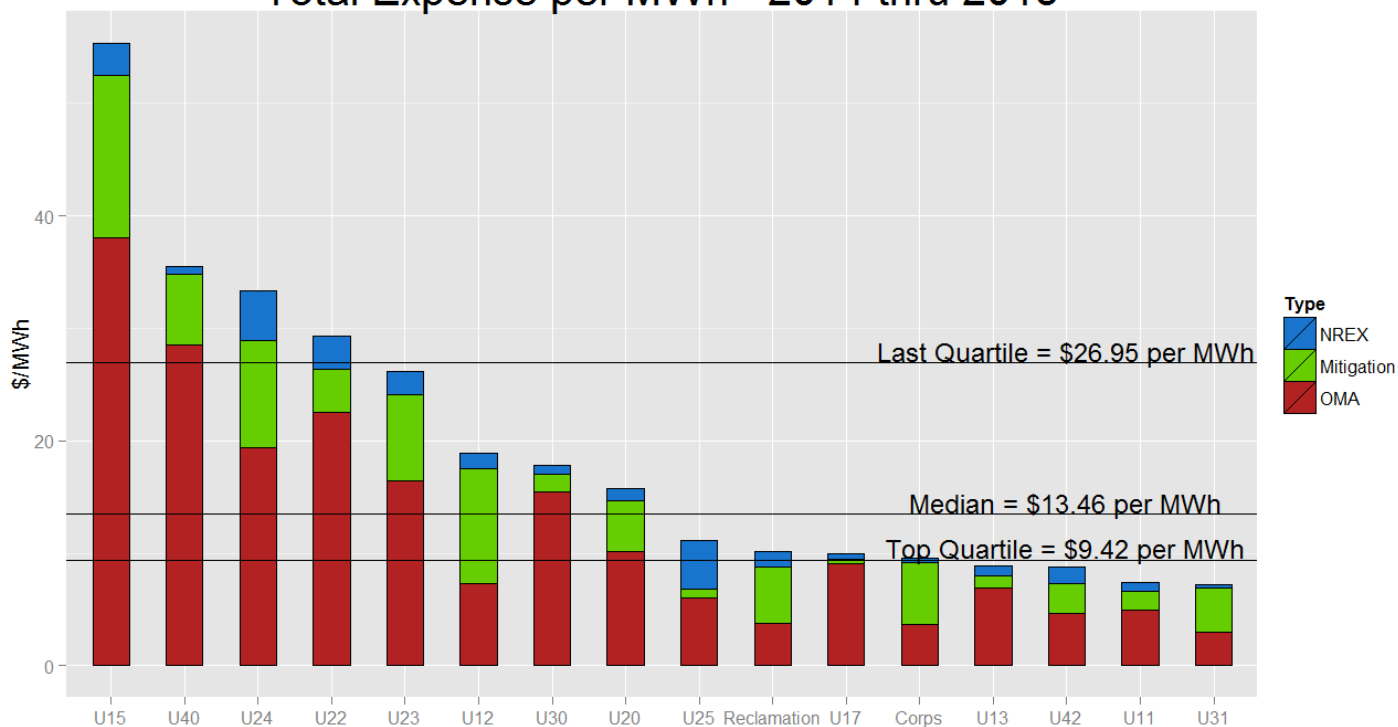
Summary

- The Federal Columbia River Power System is one of the lowest cost generation systems in North America.
- Labor cost increases account for the largest portion of cost growth for operations and maintenance expenses.
- The Wage Grade and Trades and Crafts pay systems have increased much more than the General Schedule pay system.

Hydropower Benchmarking

- The FCRPS is among the lowest cost hydropower fleets in EUCG.
 - The EUCG database contains nearly half of all North American hydro capacity.
 - Mitigation costs, which include fish & wildlife, recreation, and cultural resources, are very high relative to others in the industry.

Total Expense per MWh - 2014 thru 2015

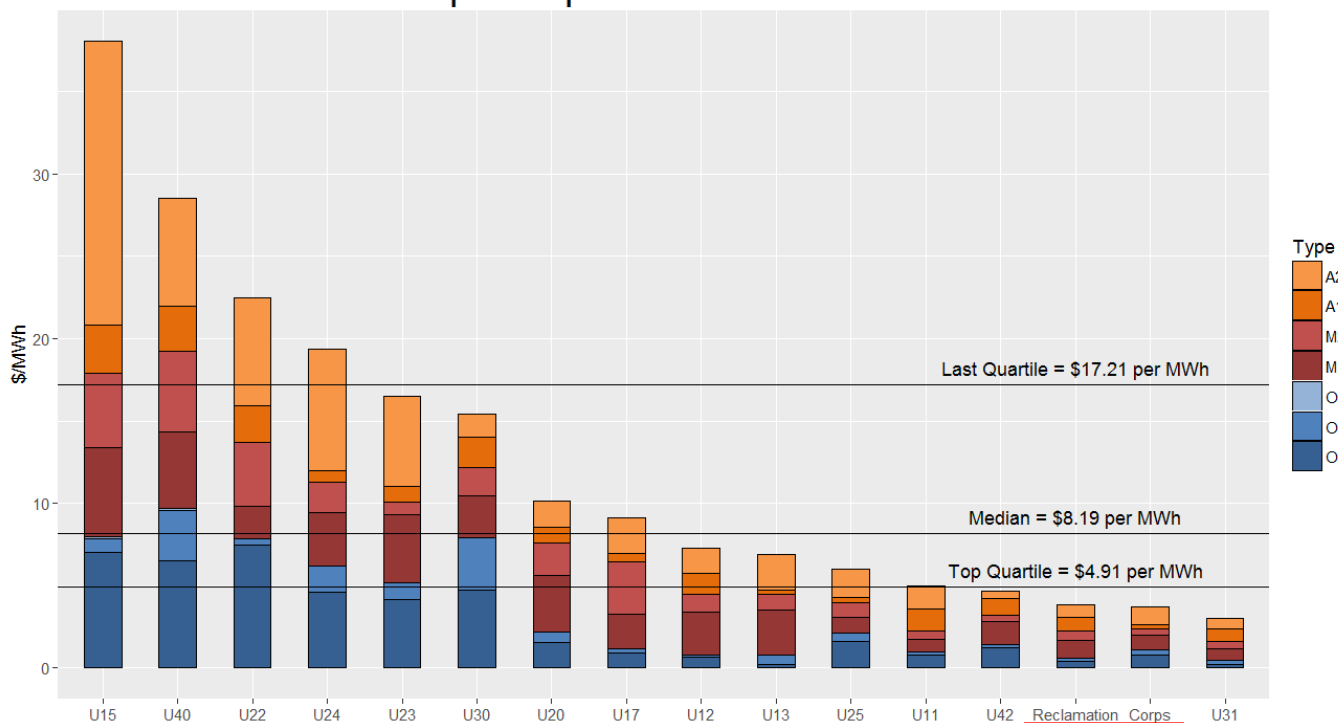


*Data from EUCG, Inc. – All 16 North American hydro fleets shown – average fleet is ~ 22 plants and 4,500 MW

Hydropower Benchmarking

- Removing mitigation costs and focusing on operation, maintenance and administrative costs, show the FCRPS to be one of the lowest-cost fleets in North America.
- This despite our capital re-investment being at one of the lowest rates in the industry for years.

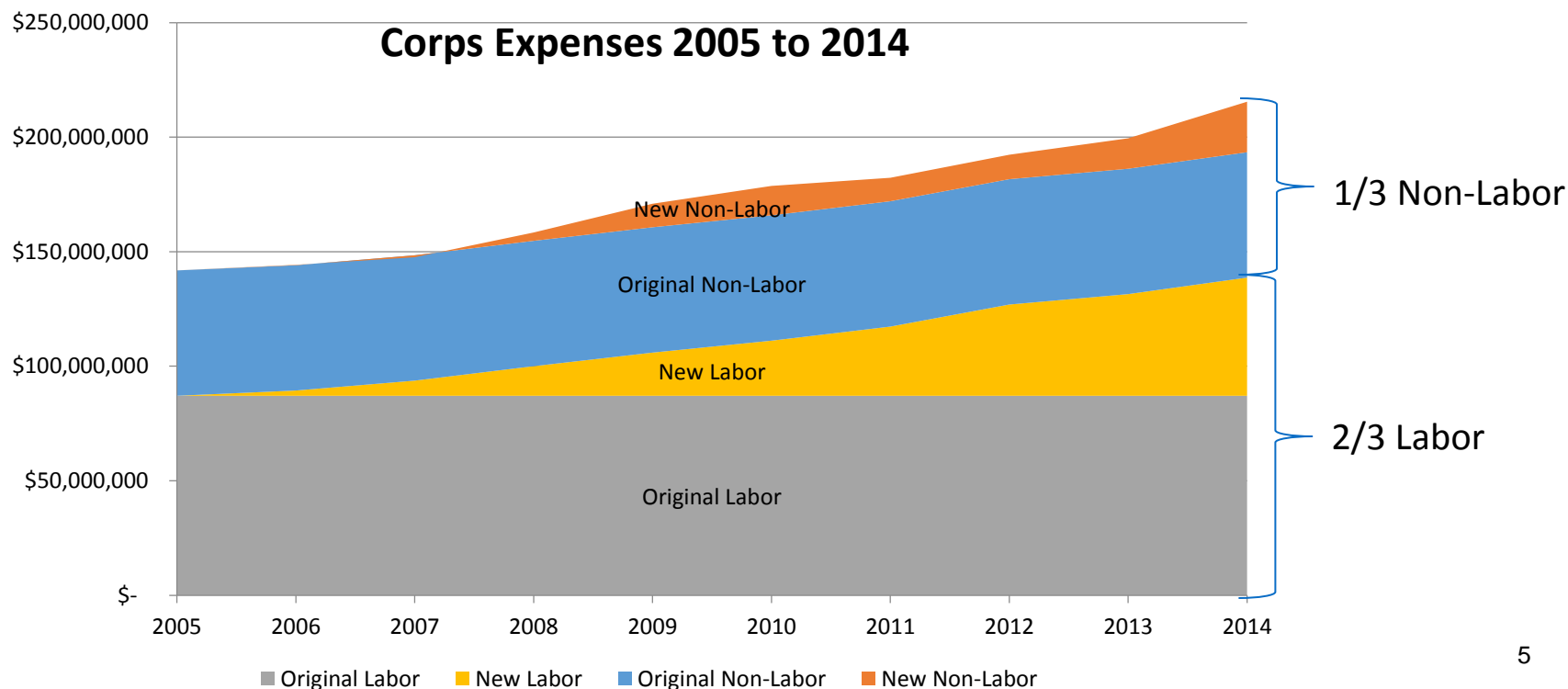
OMA Expense per MWh - 2014 thru 2015



*Data from EUCG, Inc. – All 16 North American hydro fleets shown – average fleet is ~ 22 plants and 4,500 MW

US Army Corps of Engineers Hydropower and Joint Expense

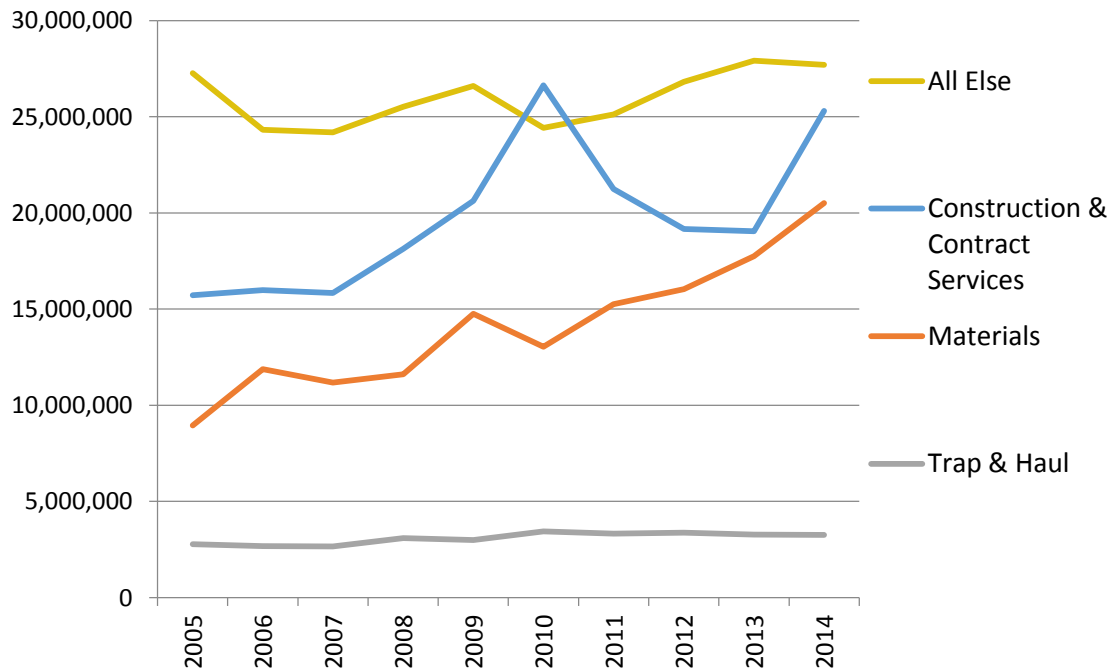
- In the ten years from fiscal year 2005 to FY 2014, Corps labor expenses rose 59 percent.
- Non-labor expenses rose 40 percent in that same period. Non-labor includes supplies, materials and contracts.



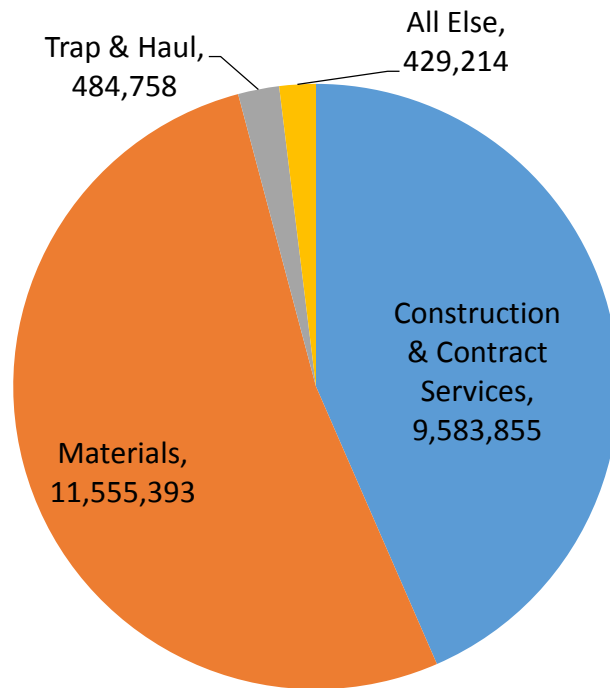
USACE Non-Labor Costs

- Construction/contract services and materials have seen the largest increase in costs, with materials more than doubling in ten years.

Non-Labor Costs Over Time in \$

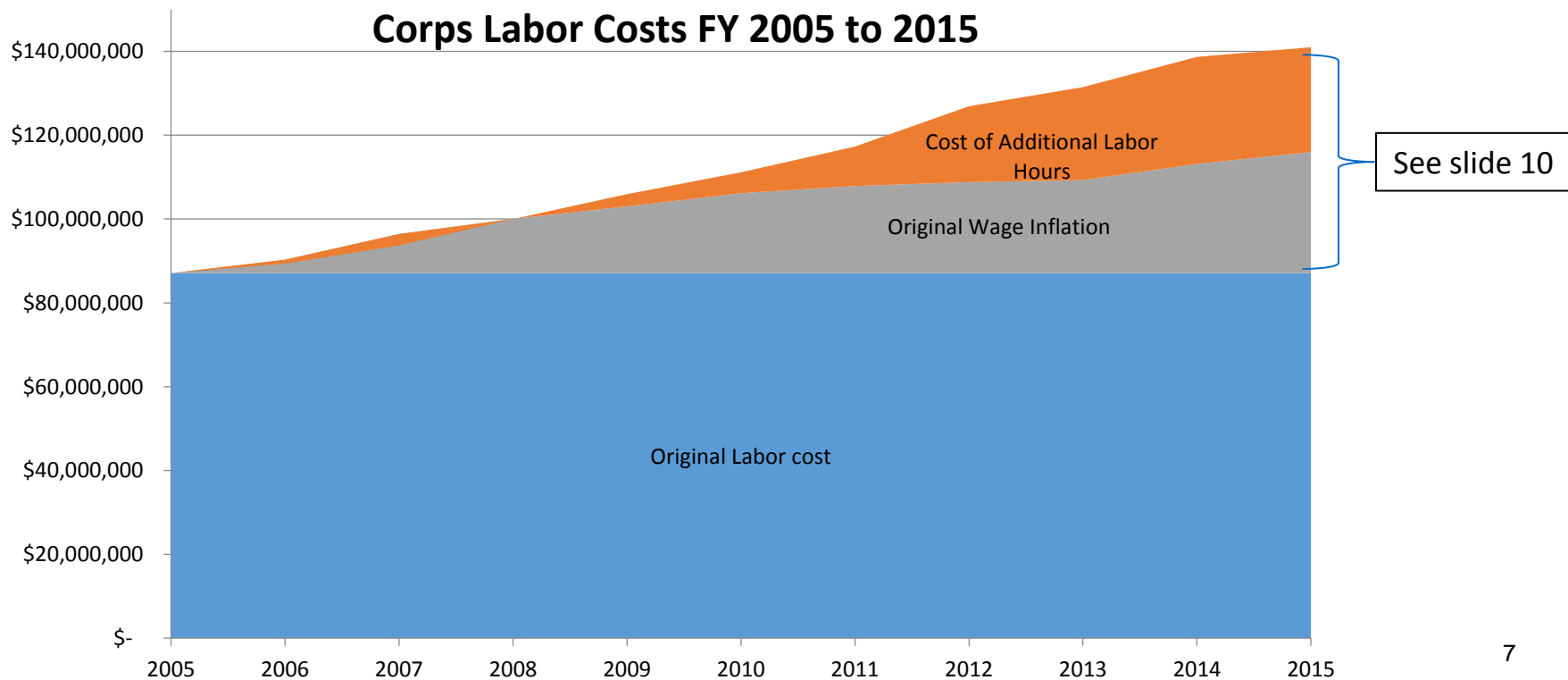


Non-Labor Cost Increases '05 to '14



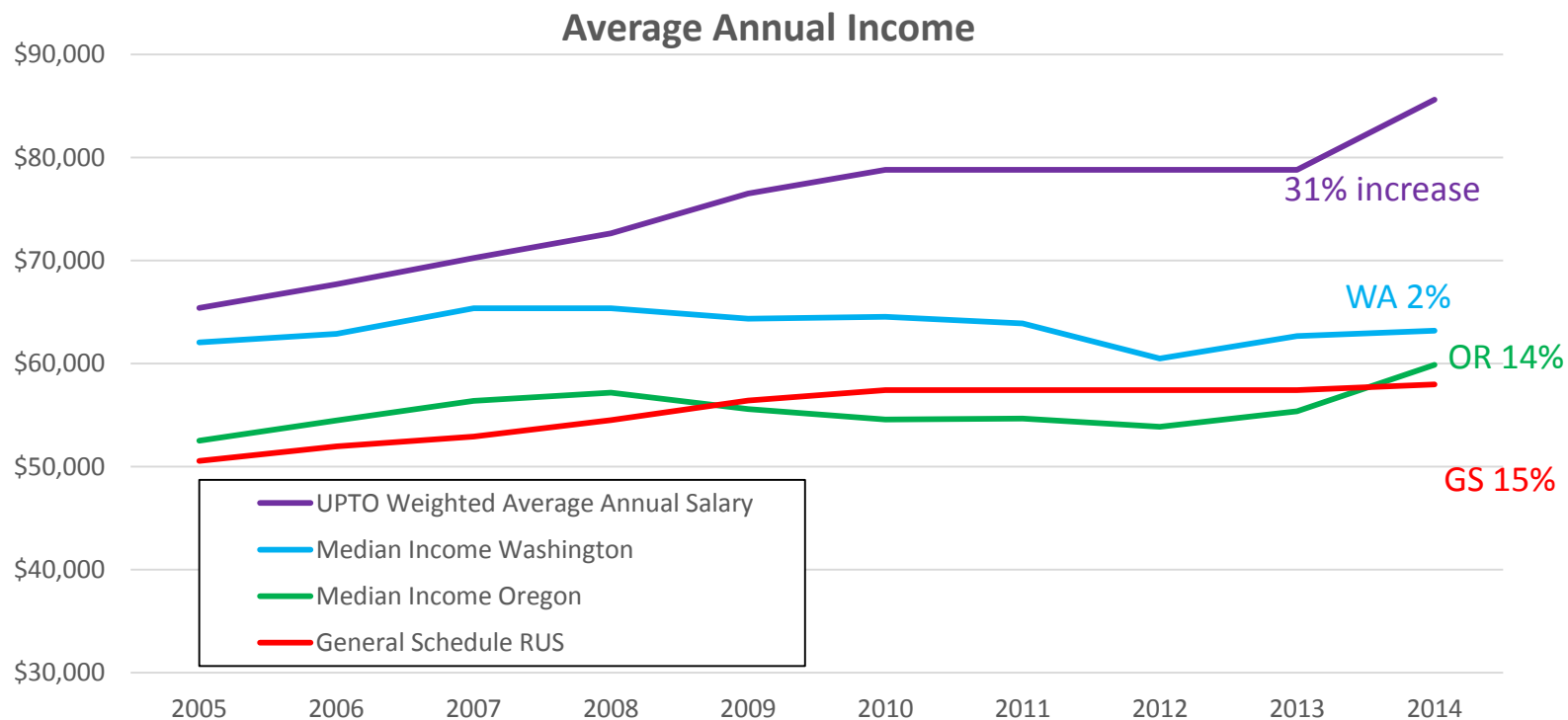
USACE Labor Costs

- The total cost for power and joint labor has increased 62 percent in 11 years.
- Of that increase, inflation of wages for the positions that existed in FY 2005 is 54 percent.
- Additional labor hours account for the other 46 percent of the labor cost increase.



Wage Inflation for the Pacific Northwest

- Wages for T&C and Wage Grade employees are determined by a wage survey of peers in the region.
- The wages have risen at twice the rate of GS employees and even more compared to average wages for all workers in the region.

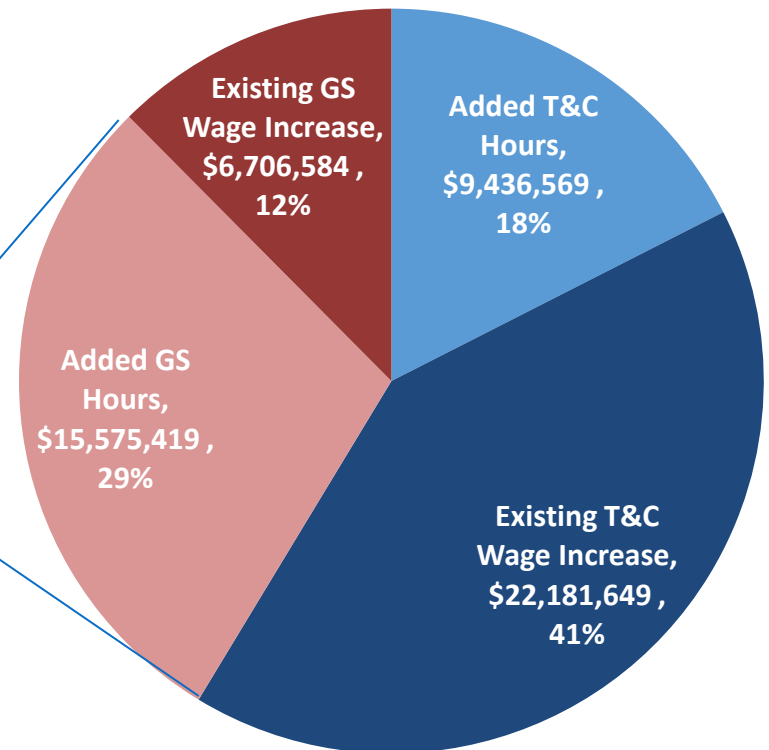
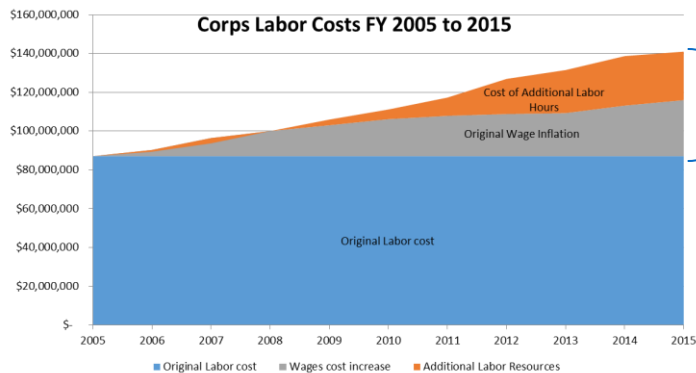


General Schedule vs Trades & Crafts and Wage Grade Pay Systems for USACE

- **35 percent** of all labor costs go to GS employees.
 - GS employees get pay increases with the rest of the federal work force by executive mandate.
- **65 percent** of all labor costs go to T&C or Wage Grade employees.
 - T&C and WG employees in the region get increases through a survey of wages for peers in the region.
- Wage rates for GS employees have increased **15 percent** since 2005, before the recession, to 2014.
- Wages for T&C and WG have increased an average of **31 percent** in the same period, twice what GS employees received.

USACE Labor Cost Increases '05 to '15

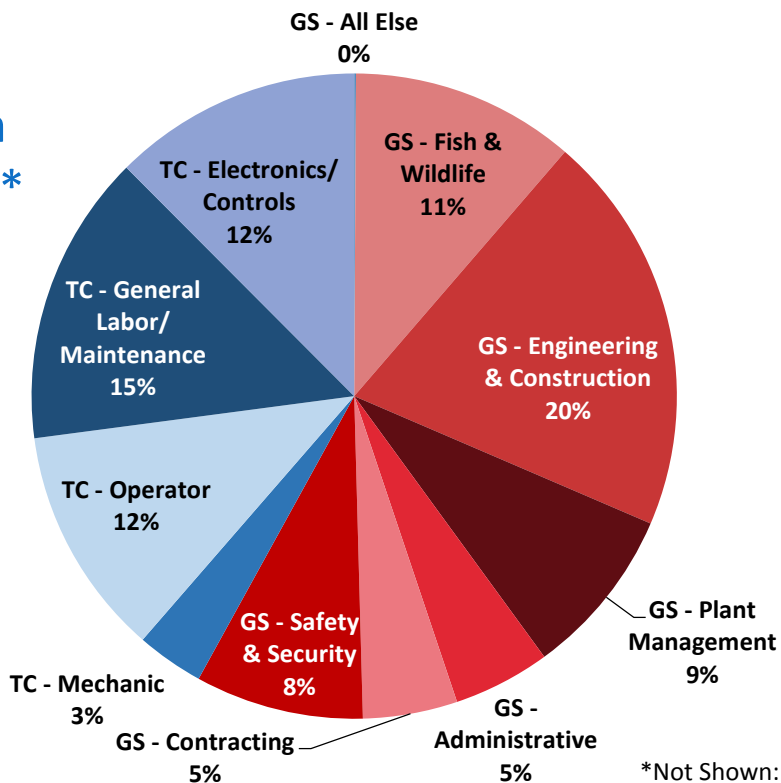
- Of the \$53.9 million increase in labor costs, wage increases for existing employees accounts for \$28.9 million.
- The remaining \$25 million is due to additional labor resources.



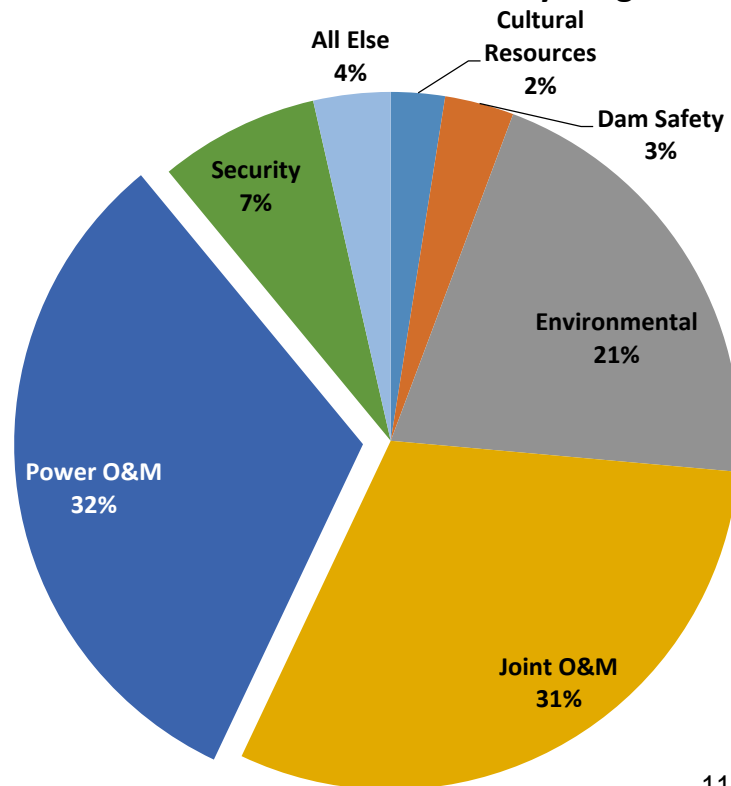
USACE Increases in Labor Hours

- The funding required for additional labor resources added in the last ten years is 62 percent GS labor and 38 percent WG/T&C.
- This funding accounts for \$25 million in annual costs. Below is the breakout of this \$25 million by occupation and by program:

Additional Labor Resources by Occupation



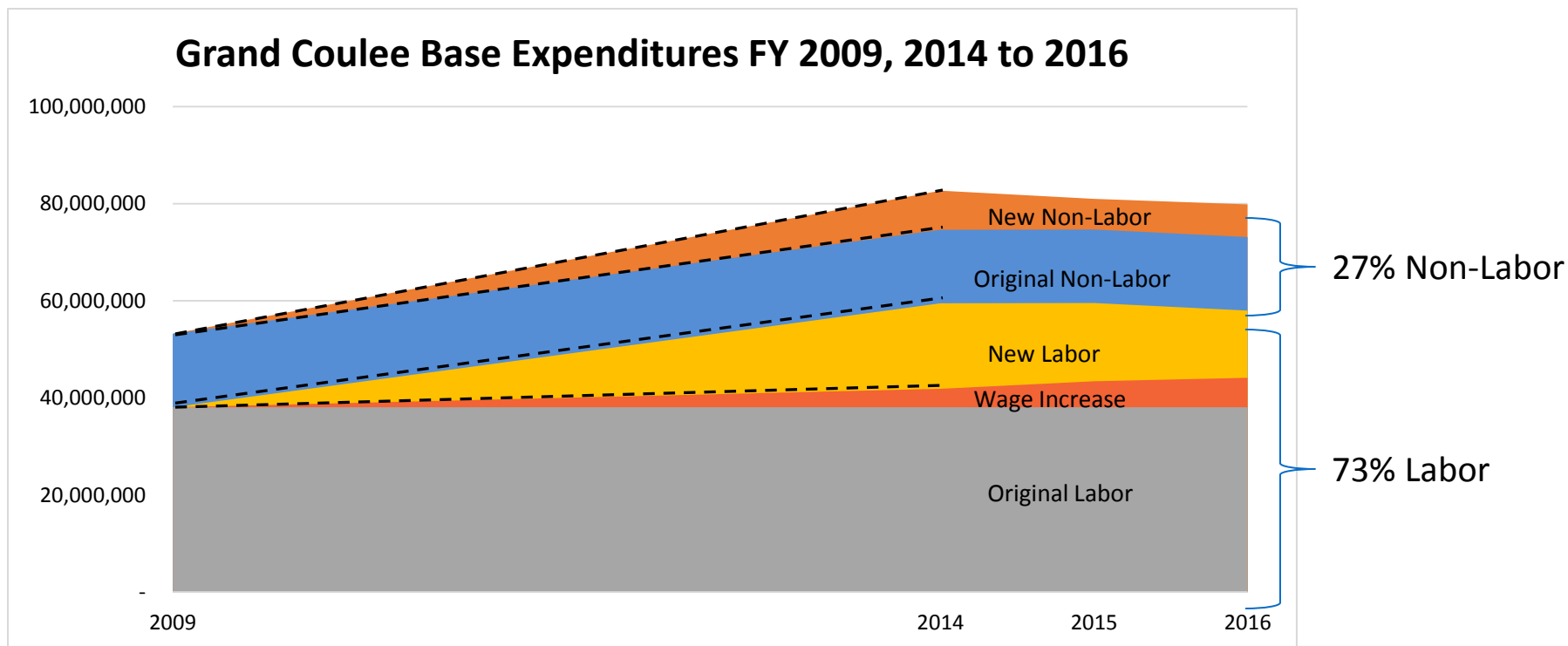
Additional Labor Resources by Program



*Not Shown: \$1.8M reduction in Electrician expenses

BOR – Grand Coulee base hydropower and joint expenses

- In the nine years from FY 2008 to FY 2016, Reclamation labor expenses rose 63 percent.
- Of that total cost growth, additional labor resources from '09 to '15 account for 56 percent.
- Non-labor expenses account for 44 percent of that growth.

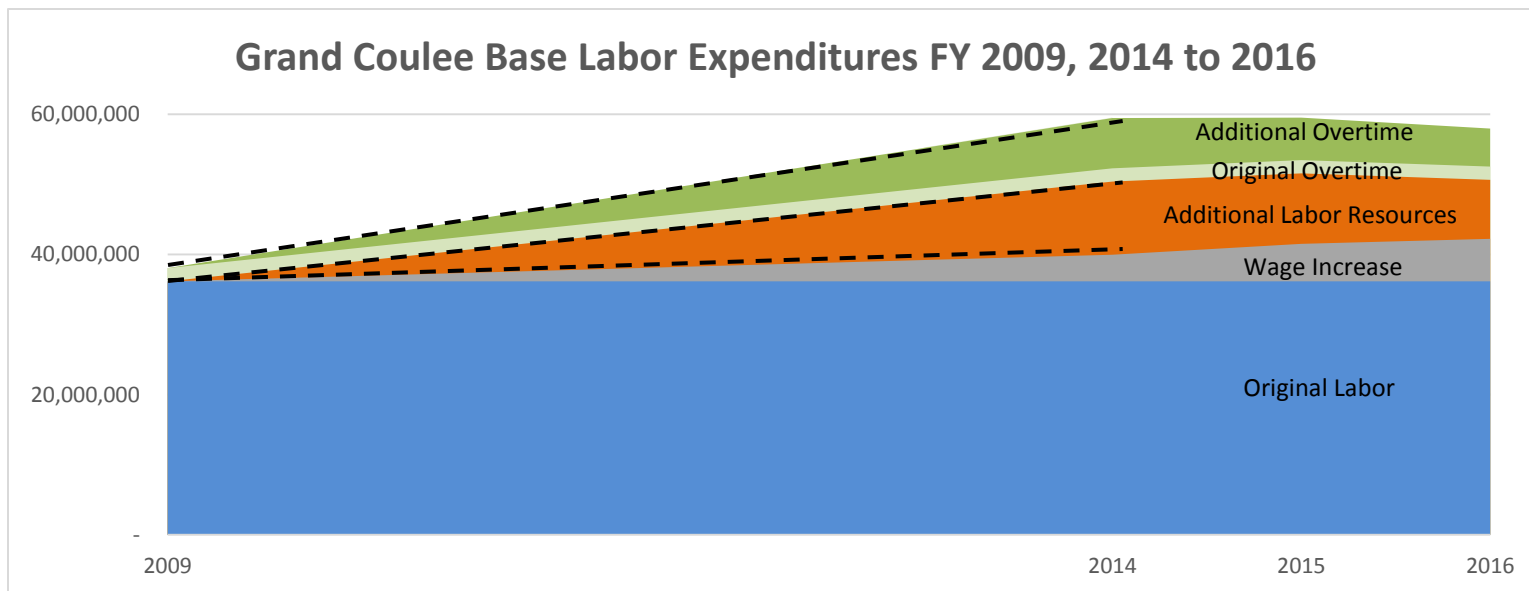


*This graph includes Base, Overtime, and other employees in BOR which charged to the Grand Coulee Base Program.

**The dashed line represents projected expenditures

BOR – Grand Coulee base labor costs

- Additional labor resources have increased due to needs identified in the 2012 independent staffing study and an increased emphasis in safety, WECC/NERC, environmental compliance and IT security.



	2009	2014	2015	2016
Original Labor	\$ 36,176,644	\$ 36,176,644	\$ 36,176,644	\$ 36,176,644
Wage Increase	\$ -	\$ 6,348,889	\$ 7,900,539	\$ 8,615,236
Additional Labor Resources	\$ -	\$ 10,437,909	\$ 10,058,592	\$ 8,419,797
Original Overtime	\$ 1,892,609	\$ 1,892,609	\$ 1,892,609	\$ 1,892,609
Additional Overtime	\$ -	\$ 4,626,236	\$ 3,510,737	\$ 2,872,636
Total Base Labor	\$38,071,262	\$59,484,301	\$59,541,136	\$57,978,938

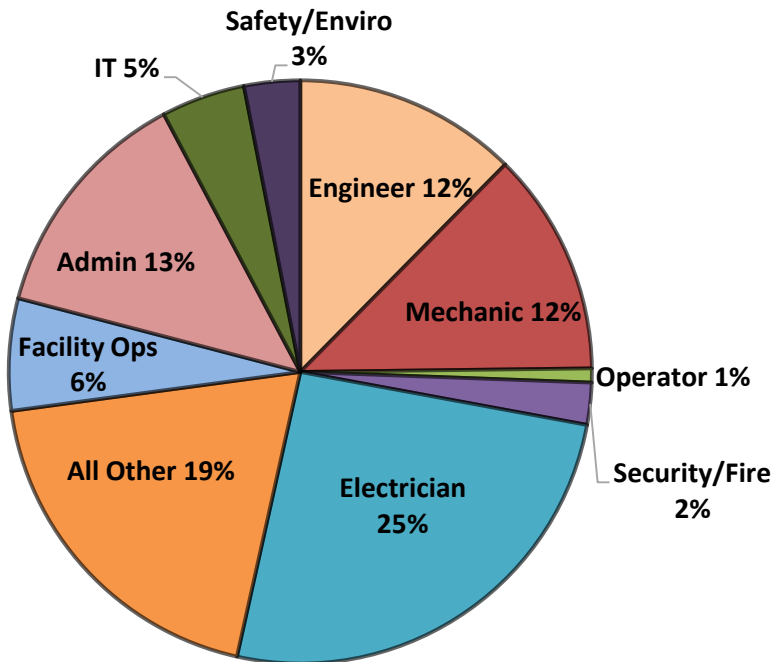
*This graph includes base, overtime and other employees in BOR which charged to the Grand Coulee base program.

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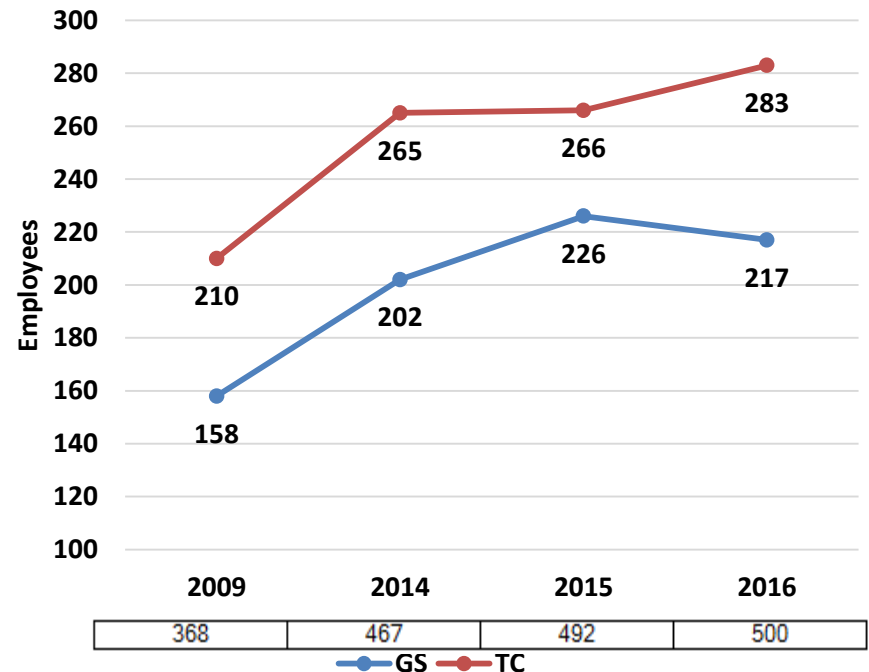
BOR – Grand Coulee increase in labor resources

- Includes all funding sources – power and non-Power, capital and expense.

Grand Coulee FY09 to FY16 Additional Labor Personnel by Occupation



Grand Coulee T&C and GS Employee Increase



BOR – Grand Coulee General Schedule and Trades and Crafts pay system

- In FY 2016 at Grand Coulee:
 - 43 percent of all employees are GS employees and 57 percent are T&C or WG.
 - GS employees are 32 percent of labor costs and T&C or WG are 68 percent of labor costs.
- GS employees get pay increases with the rest of the federal work force.
- T&C and WG employees in the region get increases through a survey of wages.
- Wages for GS employees have increased **7.4 percent** since 2009.
- Wages for T&C and WG have increased an average of **25 percent** in the same period.

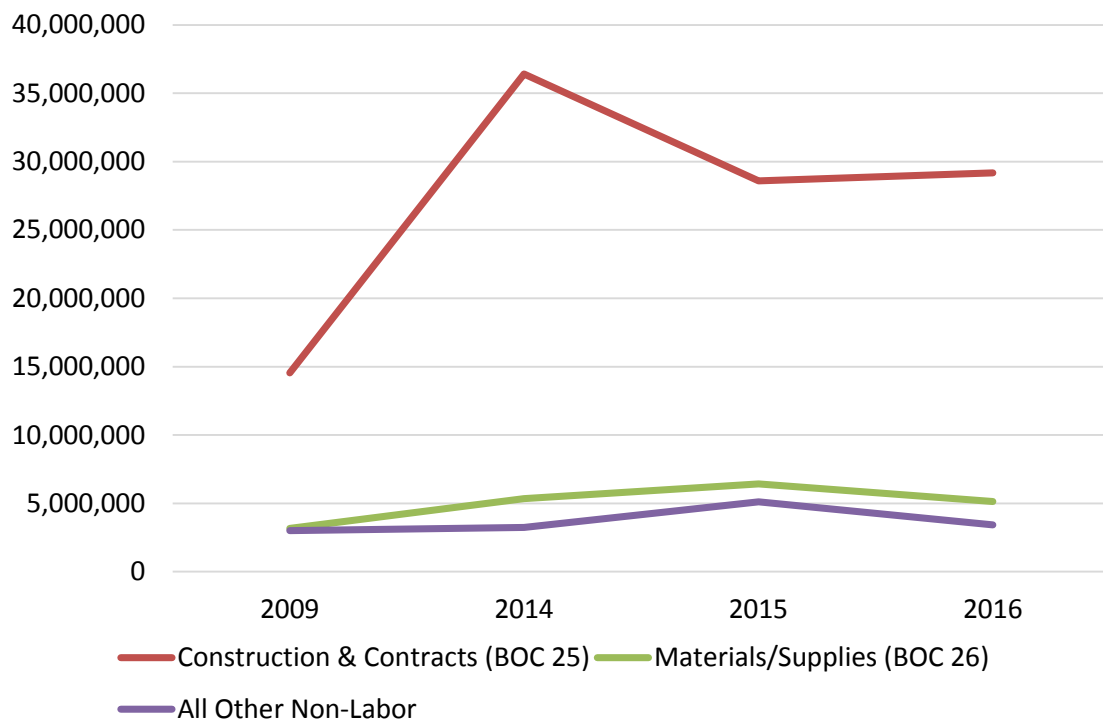
Historical Wage Rate Increases

	2009	2010	2011	2012	2013	2014	2015	2016	Total 09-16	Annualized
T&C	4.9%	2.0%	3.0%	3.5%	1.5%	3.0%	5.1%	2.0%	25.0%	3.1%
GS	2.9%	1.5%	0.0%	0.0%	0.0%	1.0%	1.0%	1.0%	7.4%	0.9%

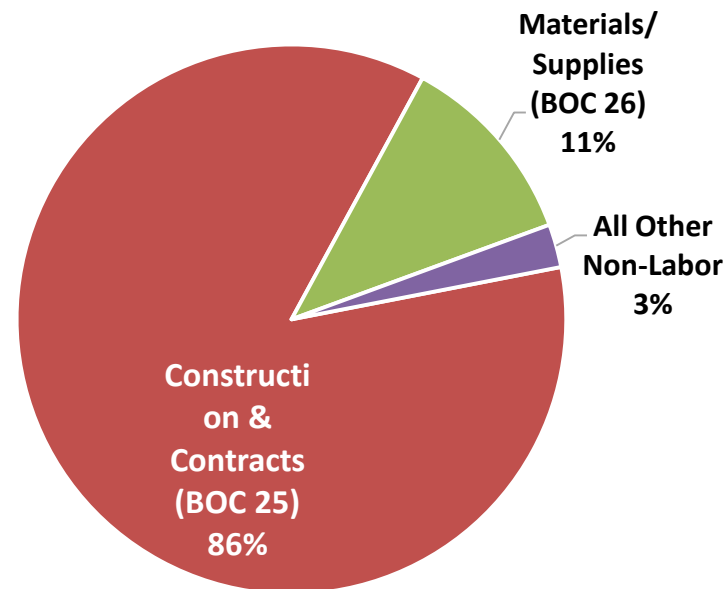
BOR – Grand Coulee non-labor costs

- Construction and contract services as well as materials costs have seen the largest increases.
- Includes base and non-routine costs.

Grand Coulee Non-Labor Costs



Grand Coulee Non-Labor Cost Increases from '09 to '16



Conclusions

- Wage growth for Trades and Crafts employees has far outpaced inflation, a significant driver for overall O&M budget increases.
- Although some position types have been eliminated, additional employees have been brought on to support critical programs and new work as described in previous IPR presentations.
- Construction and materials costs have seen significant growth, particularly as Reclamation's non-routine program has ramped up.

Financial Disclosure

- This information was made publicly available on Dec. 9, 2016, and contains information not sourced directly from BPA financial statements.