



**ENERGY
NORTHWEST**

**Integrated Program Review
Columbia Generating Station**

**Vic Parrish
Chief Executive Officer**

May 22nd, 2008

Introductions

- ✦ Vic Parrish, Chief Executive Officer
- ✦ Al Mouncer, V.P., Corporate Services, General Counsel, CFO
- ✦ Sudesh Gambhir, V.P., Technical Services, Chief Nuclear Officer
- ✦ Brent Ridge, Asset Manager/Controller
- ✦ Ron Hogue, Assistant to V.P., Nuclear Generation

Energy Northwest

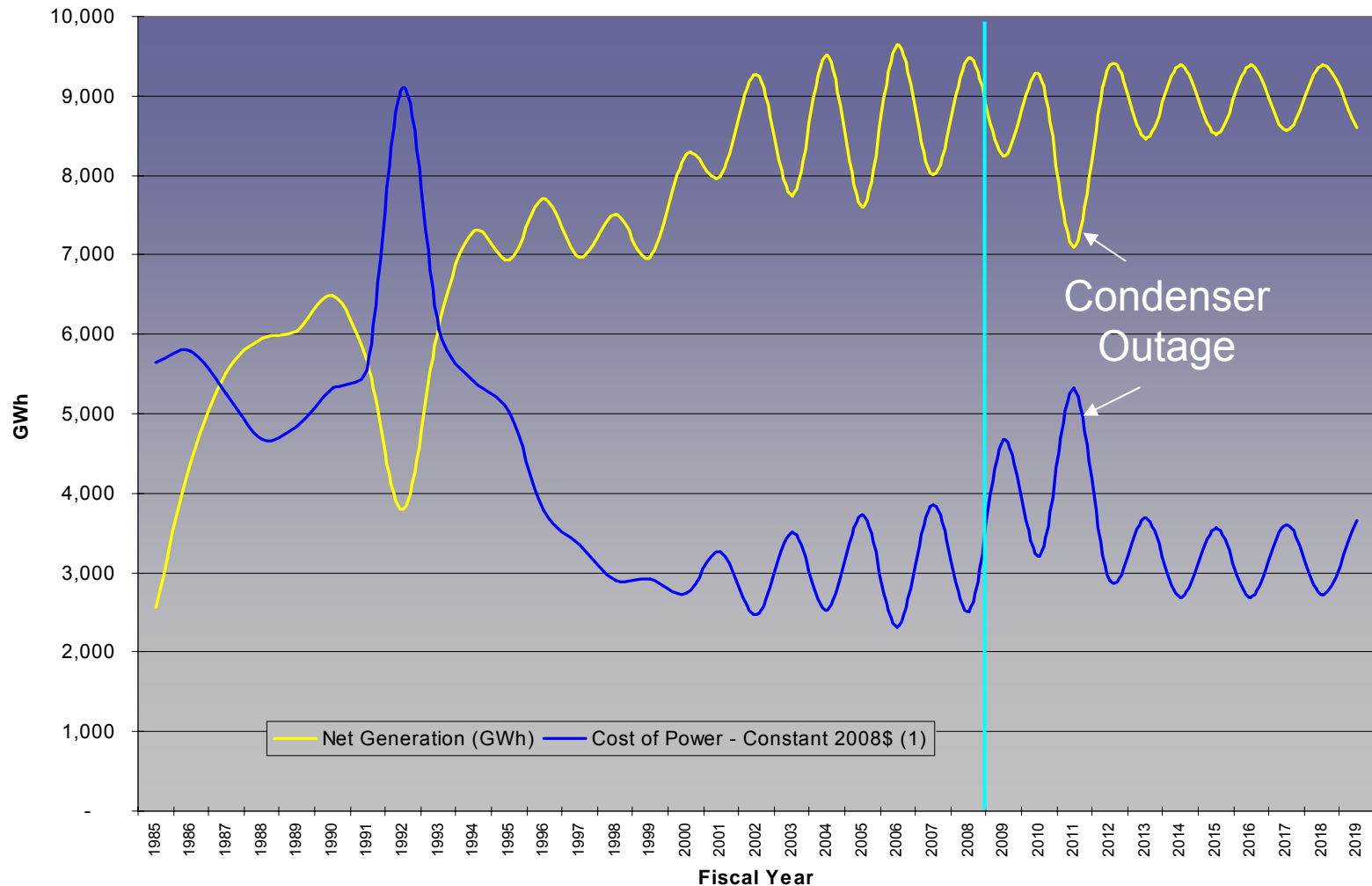
✦ Our Vision

- The region's preferred source for energy solutions

✦ Our Mission

- Provide responsible and cost effective energy solutions for the region's ratepayers

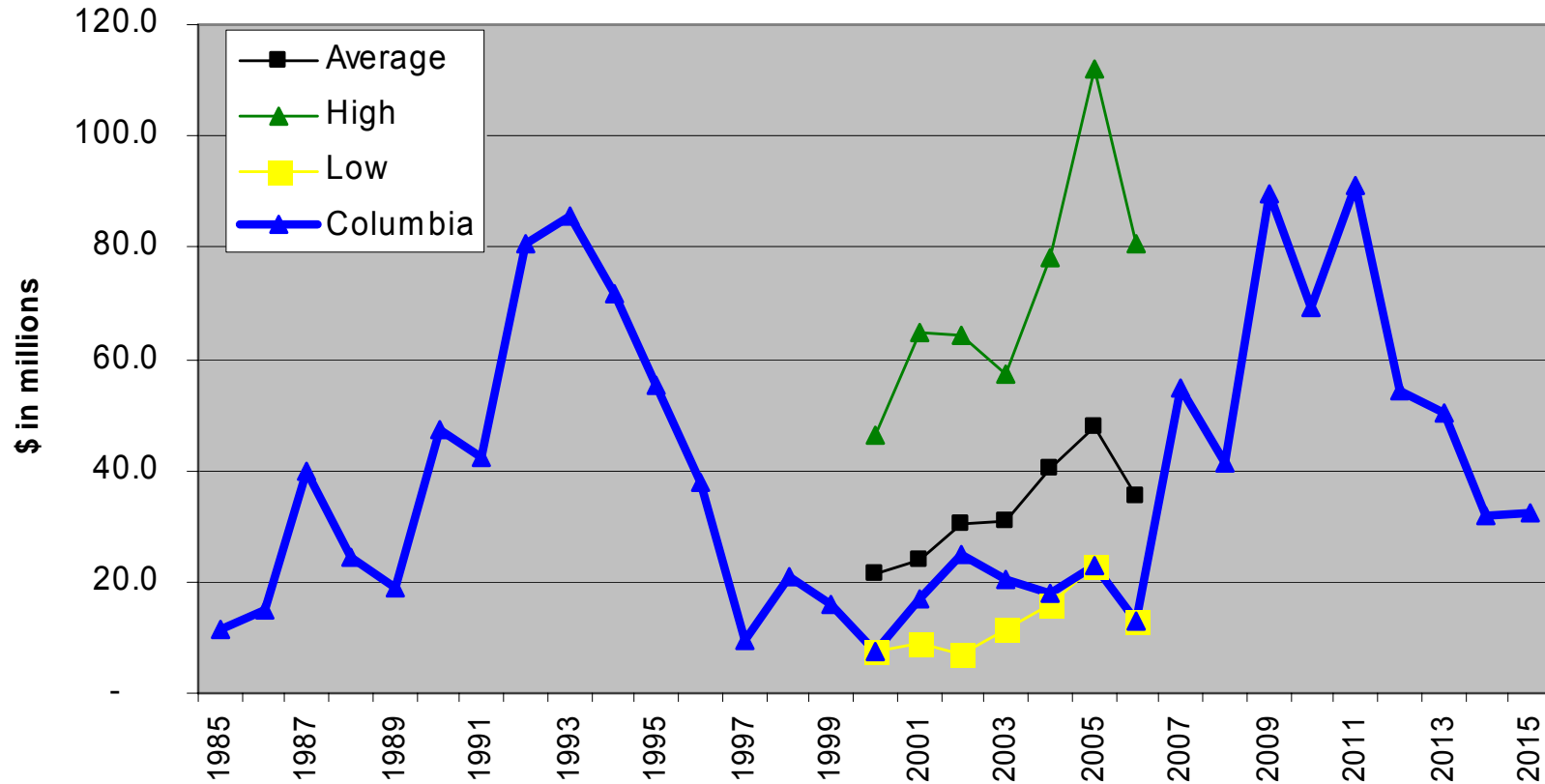
CGS Generation and Cost Trends



(1) Includes O&M/A&G, Capital Costs and Fuel Related Costs in constant 2008\$

Capital Costs

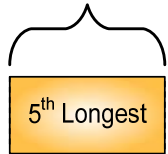
Single Large Nuclear Stations



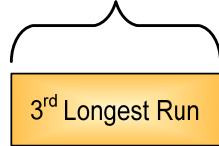
- Industry Data for 2000 – 2006 from Electric Utility Cost Group
- CGS Historical and FY2009 LRP – Constant 2006\$

CGS Continuous Operating Runs

6/29/1996 - 3/27/1997
Cycle 12, 270.5 days



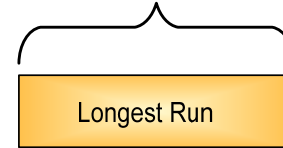
2/24/2002 - 2/28/2003
Cycle 16, 369 days



8/22/2004 - 5/7/2005
Cycle 17, 257.2 days



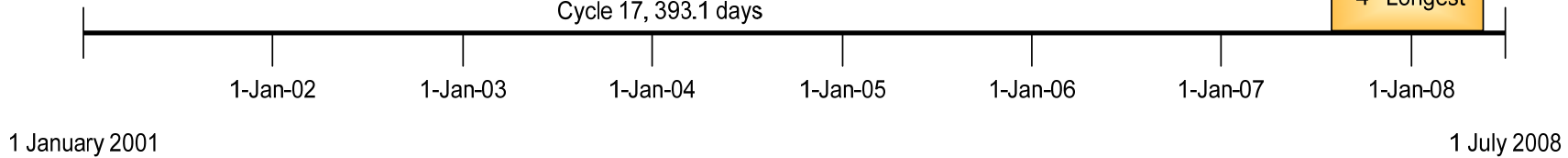
7/2/2005 - 10/30/2006
Cycle 18, 485.7 days



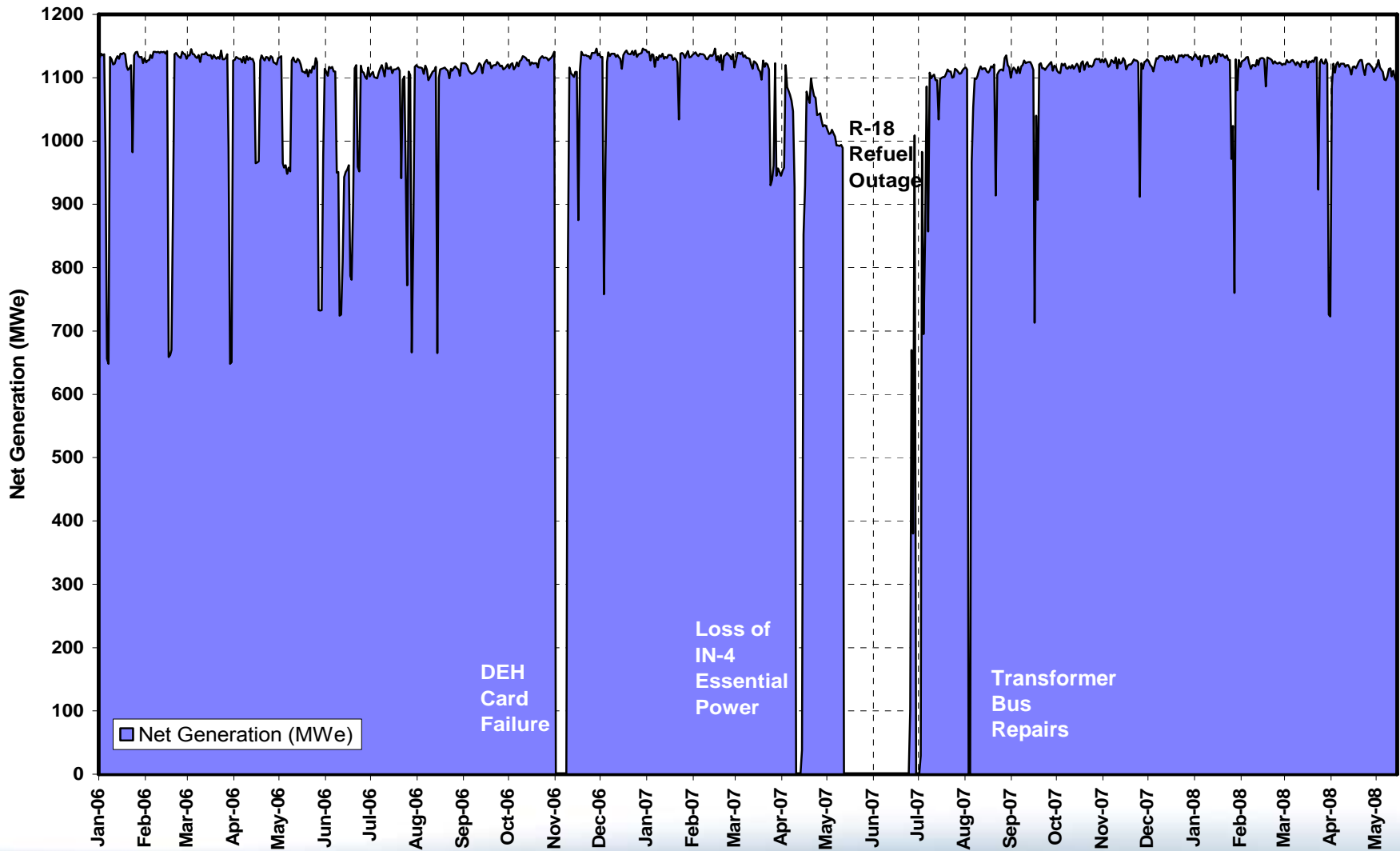
8/4/2007 - 5/22/2008
Cycle 19, 293+ days



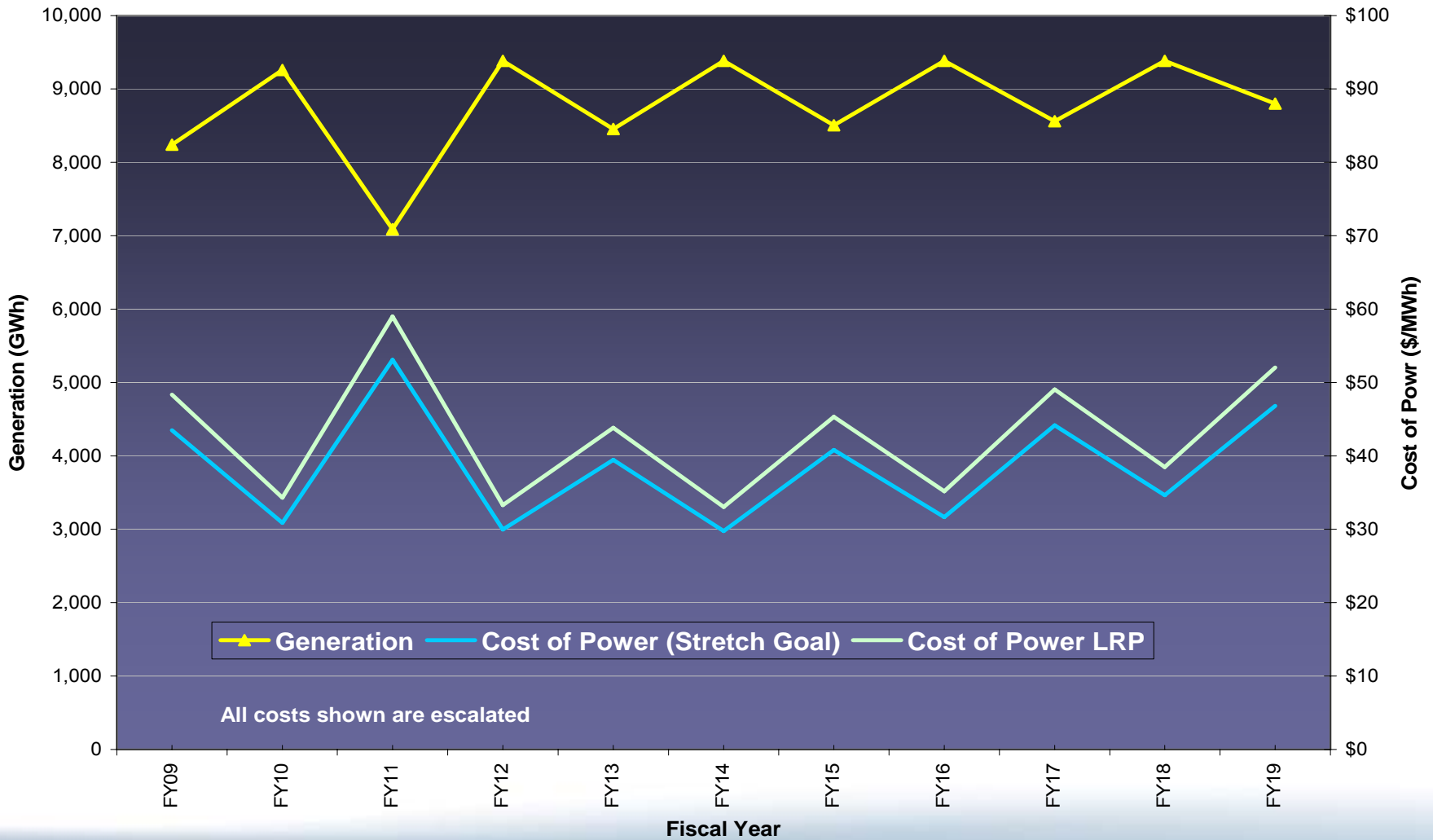
7/3/2003 - 7/30/2004
Cycle 17, 393.1 days



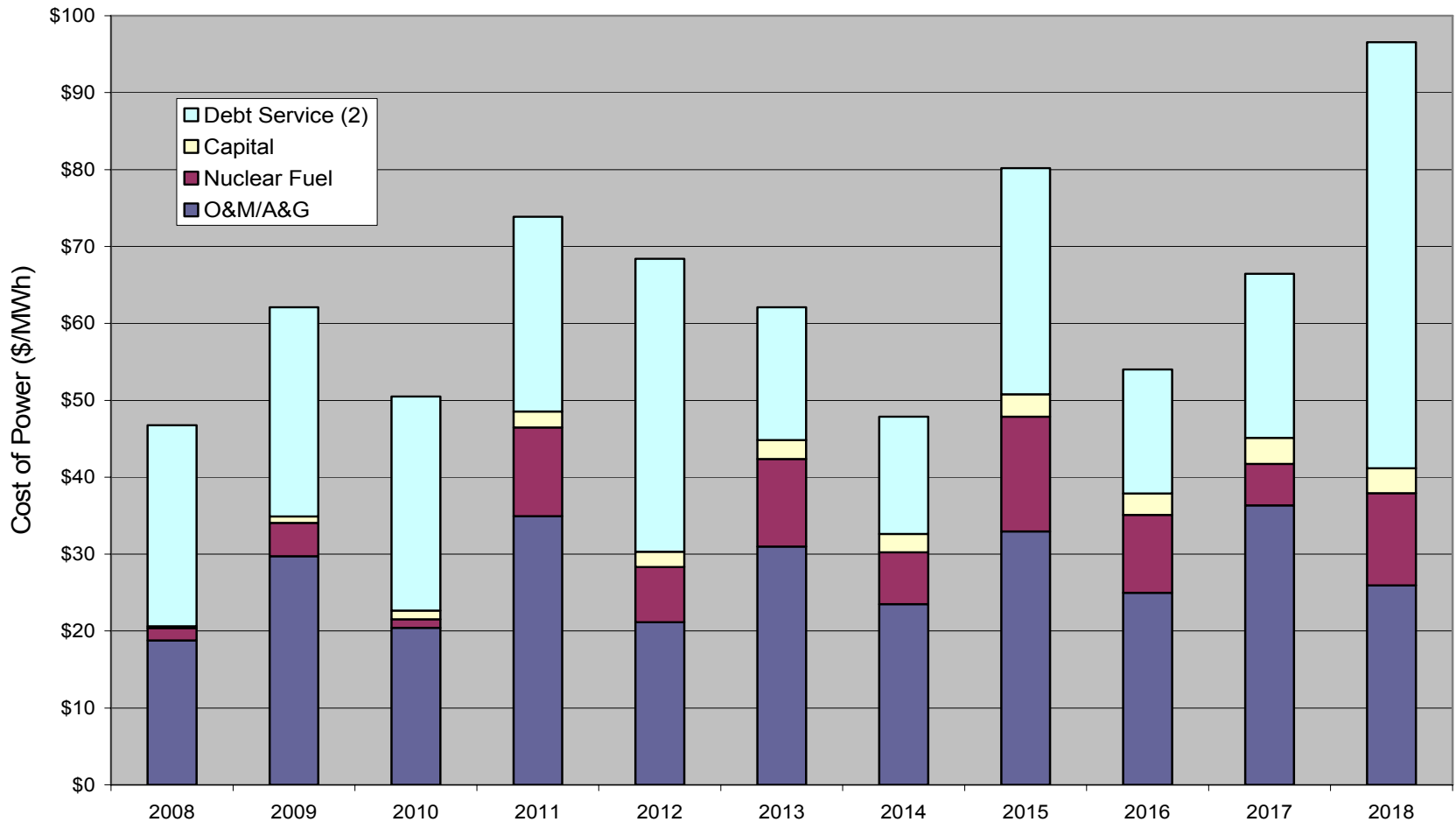
CGS Generation History (2 year)



CGS Cost of Power/Generation



Total Annual Cost of Power – Cash Basis (1)

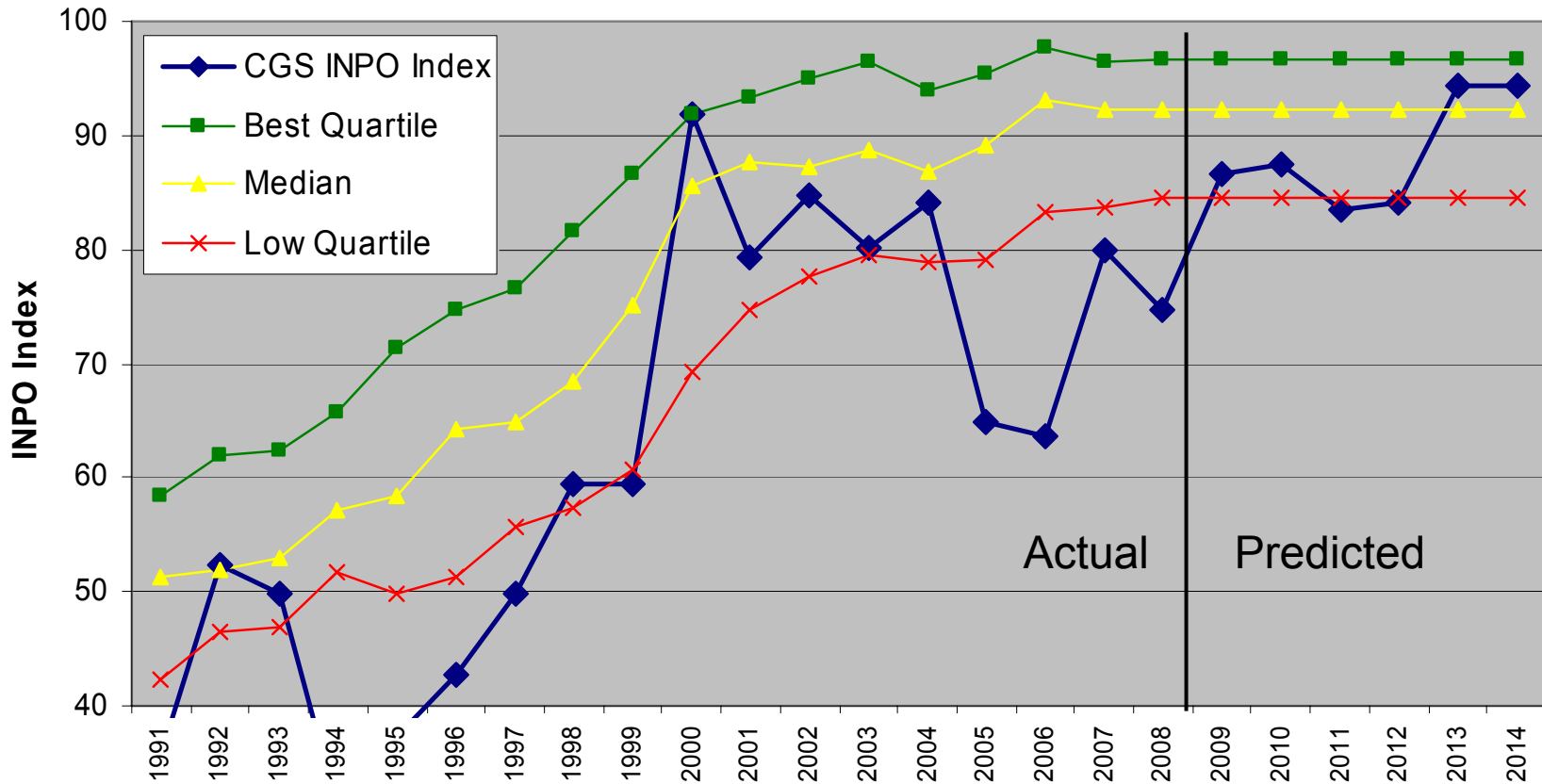


(1) \$/MWH are shown including escalation on future O&M, fuel, and capital costs.

(2) Total outstanding debt service requirements including existing capital debt, fuel debt and ISFSI debt. These include refinanced debt for construction that was originally scheduled to be paid off in 2012 but was refinanced as part of a BPA debt optimization effort.

CGS Nuclear Performance Indicators

24 Month Rolling Average



- Industry data provided by Institute for Nuclear Plant Operation (INPO)

Why the greater cost?

- ✦ 2005: Needed to halt the downward trend in plant performance due to equipment reliability issues
- ✦ 2006/2007: Investing in equipment reliability projects
 - Service Water Pumps
 - Feedwater Heaters
 - Digital Main Turbine Controls (DEH)
 - Reactor Recirculation Pump Motors
- ✦ 2008: Plant performance improving due to plant investment
- ✦ 2009 to 2013: Investment in CGS is needed to continue improvement efforts and to ensure sustained high performance

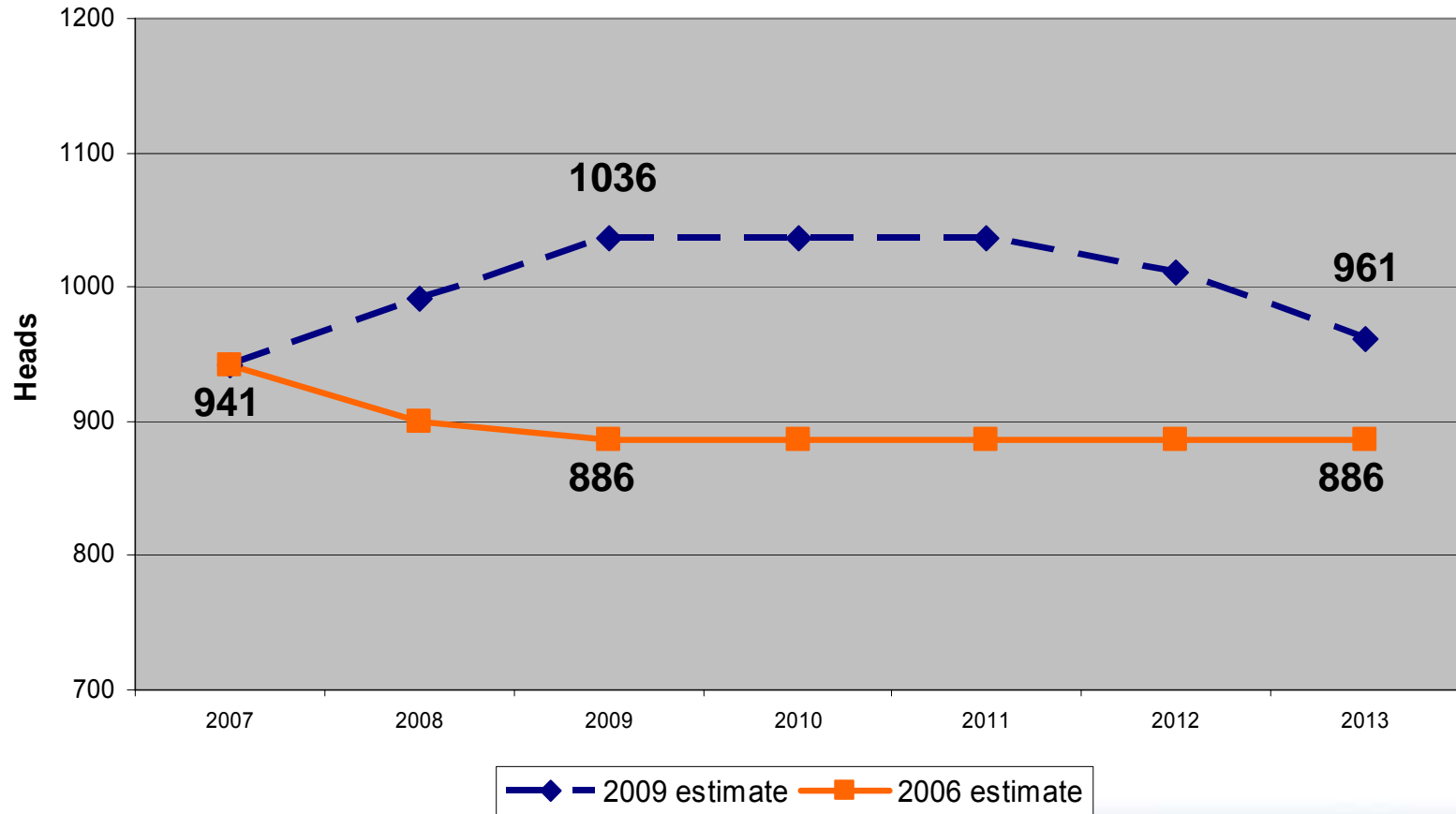
CGS FY2009 O&M Changes 2006 LRP vs. 2009 Budget

(Dollars in thousands)

	2006 LRP	2009 Budget	Variance
Total	\$242,928	\$297,102	\$54,175

FY2009 O&M Changes

Staffing (increase of \$12M)



FY2009 O&M Changes

Staffing

- ✦ Transition positions for retirements
- ✦ Licensed Operator pipeline
- ✦ Project positions in support of station initiatives
- ✦ Additional permanent positions (NRC Fatigue Order, Licensed Operators)
- ✦ Higher relocation costs

FY2009 O&M Changes

Staffing Increases*

- ✦ 13 New Security Officers – NRC fatigue rule
- ✦ 8 Security Officers – replacing temporary workers and supporting employee military obligations
- ✦ 13 Licensed Operators – long training lead time
- ✦ 10 Engineers – long training lead time
- ✦ 9 Craft – replacing temporary workers
- ✦ 6 Radiation Services – replacing temporary workers and supporting Dose Reduction initiatives
- ✦ 7 Training instructors – licensed operator training support
- ✦ 4 Project Controls – project improvement initiative

*These numbers include project employees

FY2009 O&M Changes

(Dollars in Millions)

Benefits

WA State Retirement Rate	\$	4.0
Employee Medical Flex Supplement		1.0
Benefits for Additional Staff		4.3
Total Benefit Changes	\$	9.3
Change in A&G Allocation Method	\$	1.0
Change in Corporate Programs		1.7
Increase in Planned IT Corporate Projects		3.2
Increase in Relocation/Tuition/Retention Costs		1.8
Total Increases	\$	17.0

FY2009 O&M Changes

Incremental Outage (Increase of \$10.7M)

- ✦ Accounts for all labor and material costs beyond baseline
- ✦ Project employees
- ✦ Temporary labor
- ✦ EN and non-EN personnel overtime
- ✦ Support materials
- ✦ Equipment leases
- ✦ In-processing of outage personnel

FY2009 O&M Changes

Incremental Outage Costs

- ✦ March '06 estimated 35 day outage, current estimate is 38 days
- ✦ Additional training related to station focus areas of Safety, Dose Reduction and Human Performance
- ✦ More then 50% of outage workers will be new to the nuclear industry
- ✦ Estimate was developed using data from the last refueling outage

FY2009 O&M Changes

Risk Reserve (Dollars in Millions)

<u>Risk Reserve</u>	<u>2006 LRP</u>	<u>2009 Budget</u>	<u>% of Total Cost</u>
Baseline	\$0.5	\$1.4	1.3%
Incremental Outage	\$0.0	\$3.8	10.2%
Expense Projects	\$1.5	\$4.2	8.2%
Total	\$2.0	\$9.4	4.7%

Only shows items with an impact to the rate case

FY2009 O&M Changes

Critical Spares (Increase of \$3.4M)

- ✦ Challenges to program from long production lead times, vendor capability and increasing material costs
- ✦ Still acquiring large and small motors and transformers
- ✦ Most critical, long lead time items have been completed
- ✦ Raw material costs most significant variable

CGS Participants

*Benton County PUD

Benton REA

Big Bend Electric Coop

Blachly-Lane County Coop

Blaine City Light

Burley Municipal Dist Sys

Canby Utility Board

Central Electric Coop

Central Lincoln PUD

City of Albion

City of Bandon

City of Bonners Ferry

City of Cascade Locks

City of Centralia

City of Cheney

City of Declo

City of Drain

City of Ellensburg

City of Forest Grove

City of Heyburn

City of Idaho Falls

City of McMinville

City of Minidoka

City of Monmouth

City of Port Angeles

City of Richland

City of Rupert

City of Sumas

*Clallam County PUD

Clark County PUD

Clatskanie PUD

Clearwater Power Company

Columbia Basin Electric Coop

Columbia Power Coop Assn

Columbia REA

Consumers Power Inc

Coos-Curry Electric

*Cowlitz County PUD

East End Mutual Electric

Fall River Rural Electric

Farmers Electric Co

*Ferry County PUD

Flathead Electric Coop

*Franklin County PUD

*Grays Harbor County PUD

Harney Electric Coop

Hood River Electric Coop

Idaho County L&P Coop

Inland Power & Light Co

*Kittitas County PUD

*Klickitat County PUD

Kootenai Electric Coop

Lane Electric Coop

Lewis County PUD

Lincoln Electric-Montana

Lost River Electric Coop

Lower Valley P&L

*Mason County PUD No 1

*Mason County PUD No 3

McCleary Light & Power

Midstate Electric Coop

Milton-Freewater L&P

Missoula Electric Coop

Nespelem Valley Electric Coop

Northern Lights Inc

Northern Wasco County PUD

CGS Participants

Okanogan County Electric Coop

*Okanogan County PUD

Orcas Power & Light Co

*Pacific County PUD No 2

Raft River Rec

Ravalli County Electric Coop

Riverside Electric Co

Salem Electric

Salmon River Electric Coop

Seattle City Light

*Skamania County PUD

*Snohomish County PUD

South Side Electric Lines Inc

Springfield Utility Board

Surprise Valley Electrification Co

Tanner Electric Coop

Tanner Electric Coop

Tillamook PUD

Town of Coulee Dam

Umatilla Electric Coop

United Electric Co-op Inc

Vera Water & Power

Vigilante Electric Coop

*Wahkiakum County PUD

Wasco Electric Coop

West Oregon Electric Coop

*Whatcom County PUD

* Denotes ENW Board Members

CGS Participant Review Board (PRB)

- ✦ Consistent PRB opposition to extension of CGS debt beyond 2018 except for capital improvements,
- ✦ Strong PRB commitment to preserve and extend value of CGS to the region,
- ✦ Support expenditures for capital improvements and maintenance necessary for top plant performance, reliability and safety.

Debt Optimization Program with BPA

- ✦ Refinanced \$1.964 Billion thru 12/2007
- ✦ Annually restores BPA borrowing authority
- ✦ BPA rates reduced from 2008 to 2027 by \$75 Million from Interest Spread Savings
- ✦ Savings from Interest Spread Savings, shorter Treasury Maturities, Call Feature and Premium Avoidance estimated at \$10 to \$15 Million/year

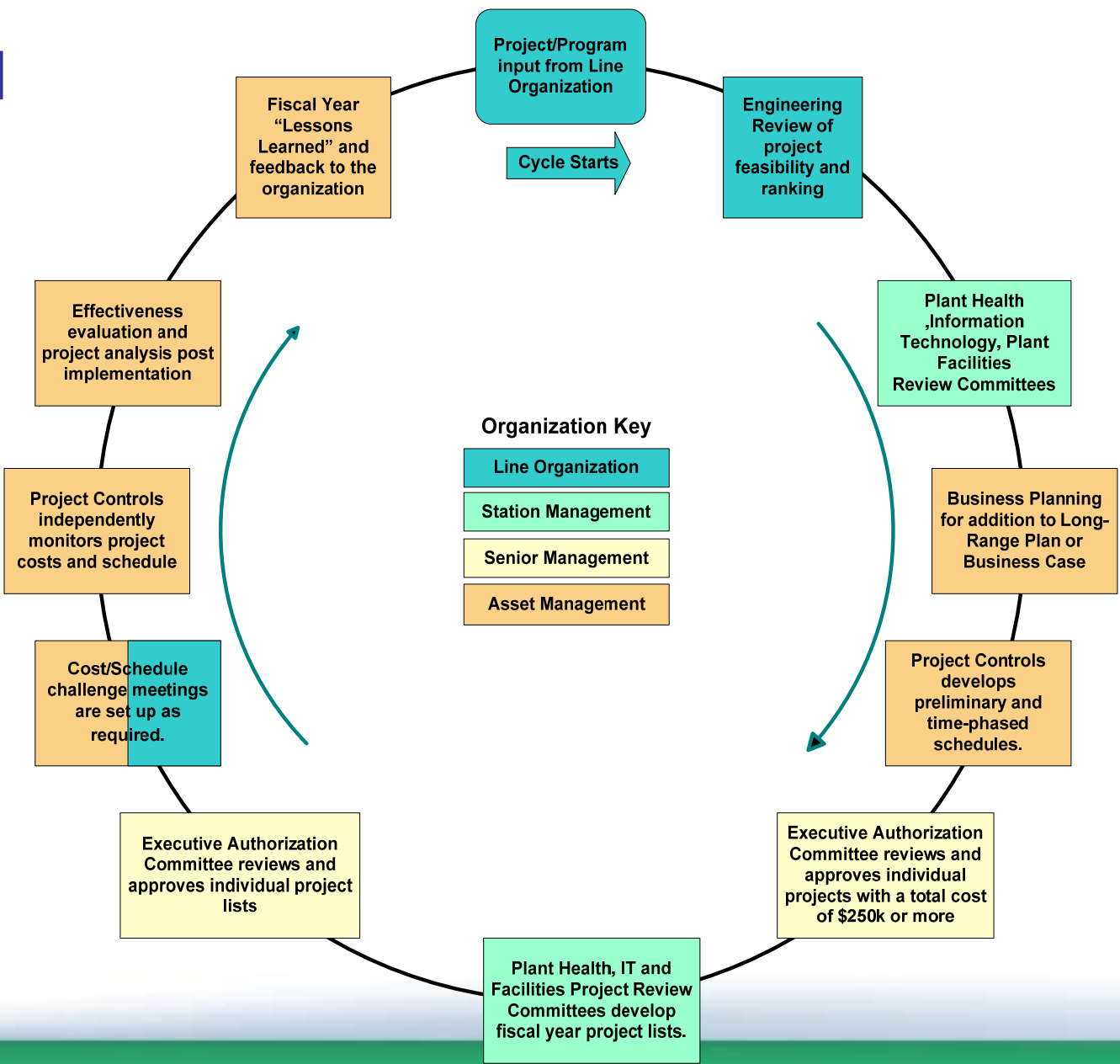
Investing in the Station

(\$ in millions)

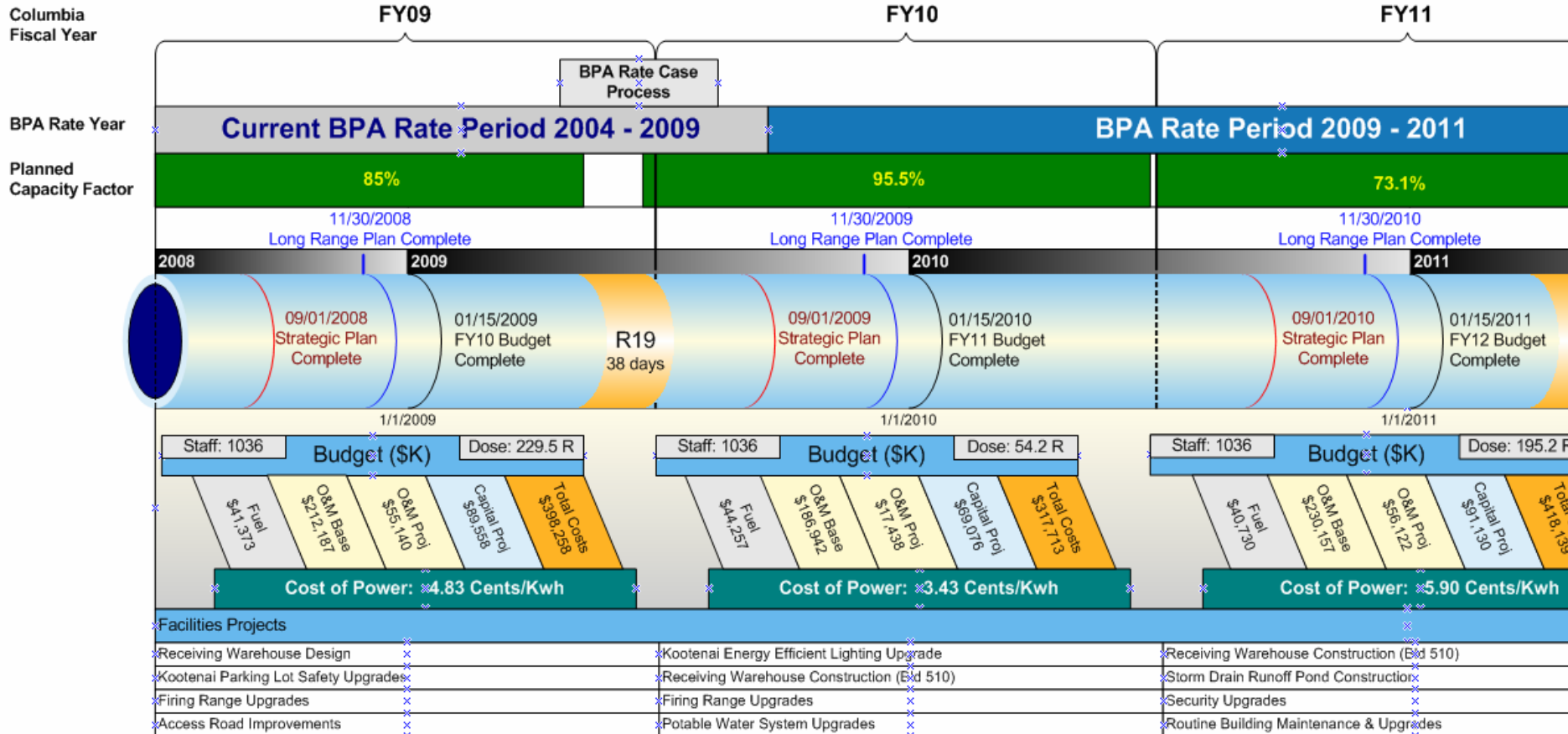
Category	FY09 Budget	Expected Return
Preventive Maintenance	\$ 39.7	Improved electrical generation
Dose Reduction	7.6	Reduced costs associated with radiation exposure
Equipment Reliability (includes condenser)	20.5	Improved electrical generation
Human Performance Improvement	4.1	Improved relationship with regulatory groups, reduced soft costs
Outage Performance	3.9	Reduced outage length, improve generation
Regulatory	5.2	Required actions to maintain regulatory compliance
Equipment Repairs	13.5	Allow continued reliable operation of plant
Equipment Obsolescence	2.6	Reduce risk of shutdown, equipment repair issues
Safety/Security	5.3	Reduced costs for personnel injury, physical plant security
Planning/Scoping future projects	1.4	Accurate estimates and scope improve out-year cost projections

Includes projects directly affecting Columbia,
does not include facilities, outside IT or risk reserves

Discovery and Approval



LRP 10-Year Project Pipeline



CGS Long Range Plan FY2009- FY2014

Calendar Year	2008	2009	2010	2011	2012	2013	2014
Item Description	FY09	FY10	FY11	FY12	FY13	FY14	
		BPA Rate Period		BPA Rate Period			
Total Unescalated	\$398,258	\$309,372	\$395,080	\$287,349	\$329,031	\$270,430	
Total Escalation	\$0	\$8,341	\$23,059	\$24,892	\$41,700	\$39,697	
Total Costs - Industry basis	\$398,258	\$317,713	\$418,139	\$312,241	\$370,731	\$310,126	
Total Net Generation (Gwh)	8,239	9,258	7,089	9,383	8,455	9,383	
Outage Days *	38	0	88	0	33	0	
Cost of Power (Cents per Kwh, constant FY08\$)	4.834	3.342	5.573	3.062	3.891	2.882	
Cost of Power (Cents per Kwh, escalated)	4.834	3.432	5.899	3.328	4.385	3.305	

Chart does not include any debt service

Major Work Planned

R20: Power Range Upgrade
 R21: SRMIRM upgrade
 R24: Boiler Instrumentation

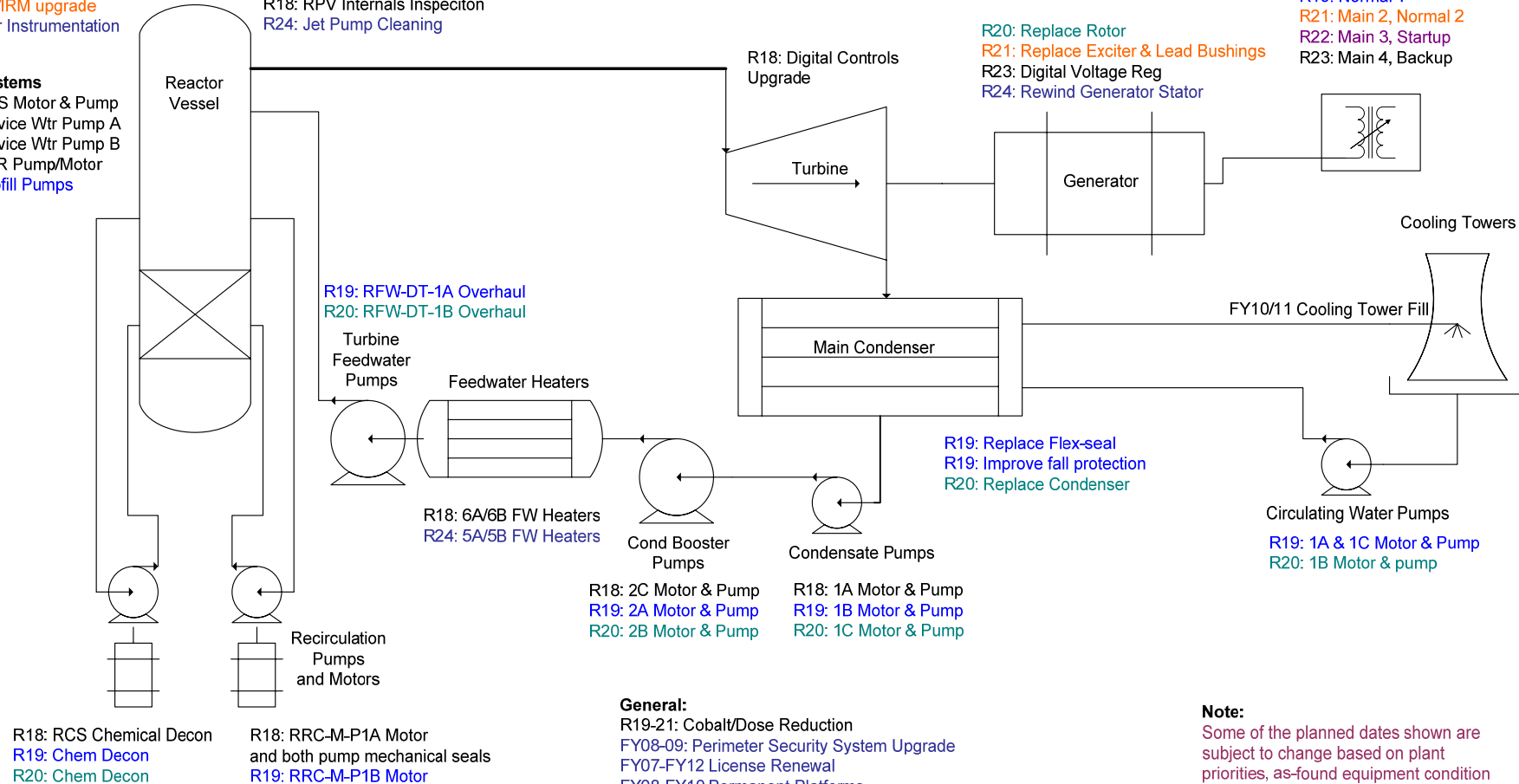
ECCS Systems

R18: HPCS Motor & Pump
 FY05: Service Wtr Pump A
 FY06: Service Wtr Pump B
 FY08: RHR Pump/Motor
 R19: Keepfill Pumps

R17: Jet Pump Inspection/Clamps
 R18: RPV Internals Inspection
 R24: Jet Pump Cleaning

R20: Replace Rotor
 R21: Replace Exciter & Lead Bushings
 R23: Digital Voltage Reg
 R24: Rewind Generator Stator

Transformer Replacements
 R19: Normal 1
 R21: Main 2, Normal 2
 R22: Main 3, Startup
 R23: Main 4, Backup



R18: RCS Chemical Decon
 R19: Chem Decon
 R20: Chem Decon

R18: RRC-M-P1A Motor and both pump mechanical seals
 R19: RRC-M-P1B Motor

R18: 6A/6B FW Heaters
 R24: 5A/5B FW Heaters

R18: 2C Motor & Pump
 R19: 2A Motor & Pump
 R20: 2B Motor & Pump

R19: Replace Flex-seal
 R19: Improve fall protection
 R20: Replace Condenser

R18: 1A Motor & Pump
 R19: 1B Motor & Pump
 R20: 1C Motor & Pump

R19: 1A & 1C Motor & Pump
 R20: 1B Motor & pump

General:
 R19-21: Cobalt/Dose Reduction
 FY08-09: Perimeter Security System Upgrade
 FY07-FY12 License Renewal
 FY08-FY10 Permanent Platforms
 FY12: Spent Fuel Storage Pad Expansion
 FY13: Spent Fuel Pool Cleanup
 FY14: ISFSI Campaign – Spent Fuel Storage

Note:
 Some of the planned dates shown are subject to change based on plant priorities, as-found equipment condition and emergent plant issues.

Project Prioritization

00365501	Stack Monitor Upgrade	N	16 - 3	10	557.2	567.2
00247901	Main Steam Pressure Switches are Obsolete	O	16 - 3	8.0	37.0	45.0
17795001	Replace DG 2 with Spare Generator	O/N	16 - 3	93.0		93.0
00156101	Removal of RSCS Rod Blocks from RMCS	N	16 - 2		110.0	110.0
00230101	Remote Vibration Monitoring Non-critical Fans	N	16 - 2	200.0	80.0	280.0
00593301	CRDM Parts Reverse Engineering	N	16 - 2	10.0	75.0	85.0
00185301	Keep-fill Pump Upgrades	O	15 - 3	25.4	1,191.0	1,216.4
01072801	Upgrade trip logic RFT hi exh temp	O	15 - 3	14.3	183.0	197.3
00781401	PSA Upgrade-Scope & Capability	N	15 - 2	313.2	567.0	880.2
00719201	Cooling Tower Fill Replacement		15 - 2	10.0	2,400.0	2,410.0
00628801	Replace Power Range Neutron Monitoring	N	15 - 1	410.0	0.0	410.0
00707001	DG-1/2 Spare Generator Refurbishment	N	15 - 1		215.0	215.0
00278301	RHR-FCV-64A, B, C	N	15 - 1	90.0	0.0	90.0
00148501	Seal Oil Skid Filter Replacement	O	15	16.0		16.0
00018253	RFW-V-10A/B, 32A/B, 65A/B Conceptual Study				100.0	100.0
00977001	Replace TG 501 Cameras	O	12 - 4	40.0		40.0
00165301	Turbine Supervisory System Upgrade - Design Only		12 - 3	72.3		72.3
00202101	HJ3B SERIES CB'S NO LONGER AVAILABLE. - Design Only		12 - 3	20.0		20.0
00264801	Install dissolved oxygen monitors on the SCW system	O	12 - 3	5.0	55.0	60.0

Capital Totals				7,507.6	65,842.7	73,494.3
Capital Totals w/o Condenser				6,007.6	25,700.7	31,708.3
EAC Budget Constraints w/o Condenser						24,010.0

Example shown is from the current FY10 project list.

Summary

- ✦ Provide responsible and cost effective energy solutions for the region's ratepayers
- ✦ Top quartile industry performance
- ✦ Invest in the plant for long term operation
- ✦ Cost predictability for BPA and the region
- ✦ Increased focus on the long term viability of Columbia