# Energy Northwest Presentation to Bonneville Power Administration Power Function Review

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### **Agenda**

- Introduction
- Draft FY 2006 Budget Summary and Details
- Draft FY 2006-2011 Columbia Long Range Plan
- Energy Northwest New Business
- Conclusion



#### Introduction

- Recent Actions Taken to Support Region
- Columbia FY 2005 Challenges and Impacts
- Columbia Recent Accomplishments
- US Nuclear Fleet
- Cost Drivers
- Industry Benchmarking
- Columbia Historical Performance



## Recent Actions Taken to Support Region

- Debt Optimization Program (DOP) has Allowed BPA to Prepay \$1.1 Billion of Federal Debt
- DOP is Providing Significant Financial Benefits to the Region's Rate Payers
- Approximately \$287 Million of Bond Fund Reserves were Freed Up through Refinancing and the Issuance of Surety Bonds between FY 2000 through FY 2004
- Goal is to Under-run FY 2005 Budget by \$5.0 Million
- Cost Competitiveness Study
- Staffing Reduction of 51 in FY 2005



# Recent Actions Taken to Support Region

- Re-engineered Approach Saving \$4.3 Million on 20 Jet Pump Modifications & Cleaning
- Deferred \$1.5 Million Independent Spent Fuel Storage
- Deferred \$0.7 Million for License Renewal
- Total Savings in FY 2005 up to \$5.0 Million
- Continue to Finance Capital Projects in FY 2005, as well as Nuclear Fuel Purchases if Approved
- Fuel Management Strategy Resulting in Significant Savings
- Increased Reliability and Increased Generation



### FY 2005 Challenges/Impacts

- Unbudgeted Costs
  - Forced Outage
  - Security Scope
  - Cost Competitiveness Study
  - Health Insurance Increase
- Cost Offsets
  - First Quarter Incentive not Achieved
  - Non-labor Under-runs
  - Deferred Projects
- Resulted in a \$5 Million Budget Reduction



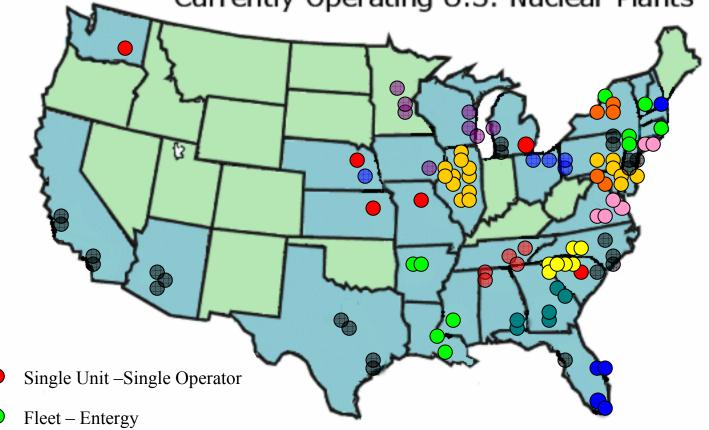
### **Recent Accomplishments**

- Higher Actual Generation than BPA Forecast
- FY 2004 Highest Generation Year
- Initiated a Cost Competitiveness Effort
- Established Cost Reduction Targets for:
  - Baseline
  - Staffing
  - Projects



#### The US Nuclear Fleet

#### Currently Operating U.S. Nuclear Plants



- Fleet Exelon
- Fleet Dominion

- Fleet Duke
- Fleet Southern
- Fleet FPL Group
- Fleet Constellation

- Fleet 1st Energy
- Fleet NMC
- Fleet TVA
- The rest of the story



#### **Cost Drivers**

- Security
  - Station Modifications
  - Staffing
- Independent Spent Fuel Storage Installation
- Focus on Reliability
  - Critical Spares Program
  - Capital Projects
  - Equipment/Obsolescence Issues
- Staffing
  - Knowledge Retention
  - Benefits
  - PERS Retirement Costs



### **Cost Drivers (Cont.)**

- Regulatory Costs
  - Nuclear Regulatory Commission
  - Energy Facility Site Evaluation Council
- Refueling Outage
  - Outage Scope
  - Value Proposition of Services Unique to Nuclear
- Waste Disposal
  - US Ecology
  - Yucca Mountain



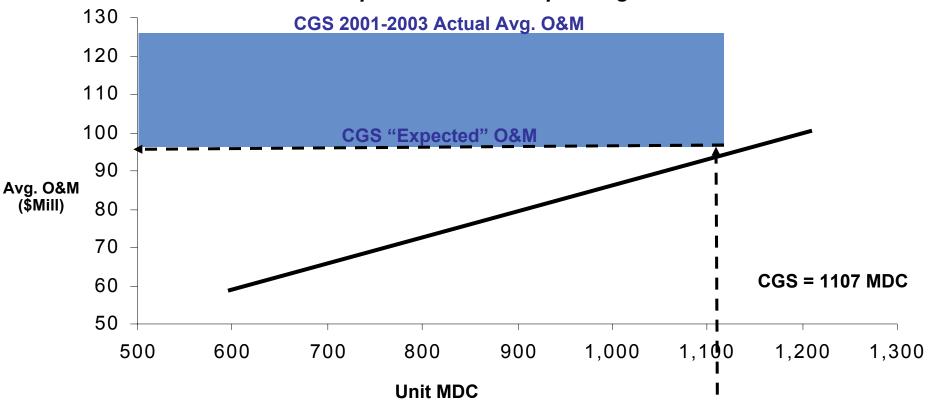
### **Industry Benchmarking**

- Continuous Process
  - Institute of Nuclear Power Operations
  - Nuclear Energy Institute
  - Nuclear Regulatory Commission
- Many Information Sources
  - Electric Utility Cost Group Data
  - Industry Groups
  - Utility Service Alliance



### **Columbia Benchmarking Results – O&M Costs**

# 2001-2003 Averages of Single Unit BWRs and PWRs "Expected" Level of Spending for CGS

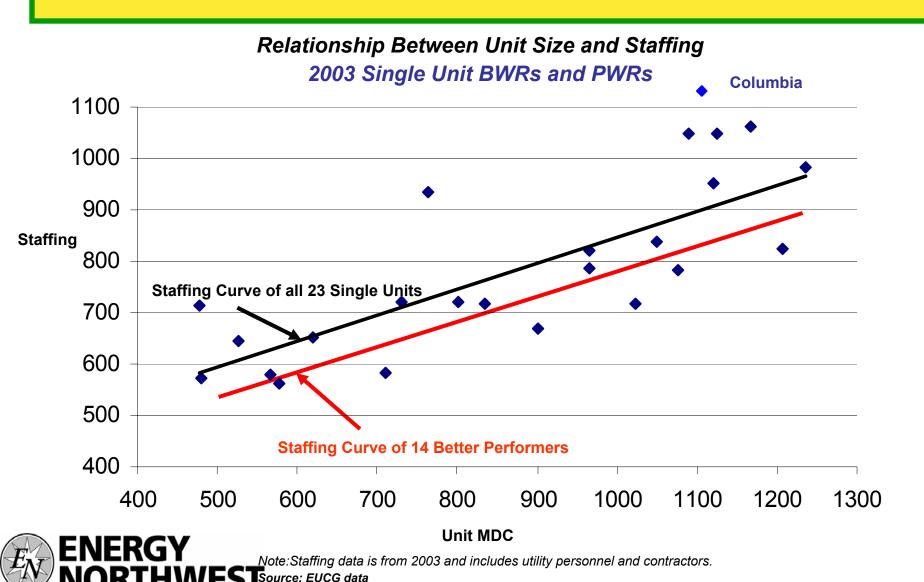




Notes: Range of the expected level of O&M is based on the single unit BWR/PWR O&M and better performer cost curves considering the unit MW size of CGS.

Source: analysis of EUCG data

### Columbia Benchmarking Results – Staffing

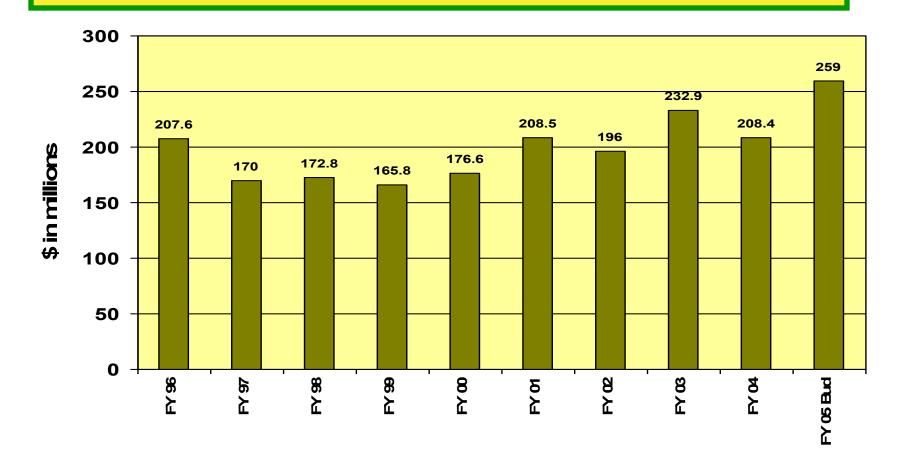


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### **Columbia Historical Performance**

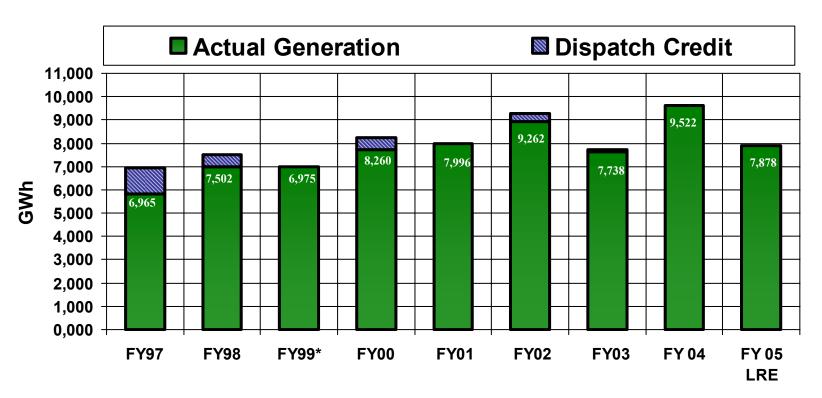


### **Industry Basis Actual Cost History**





### **Columbia Net Generation History**

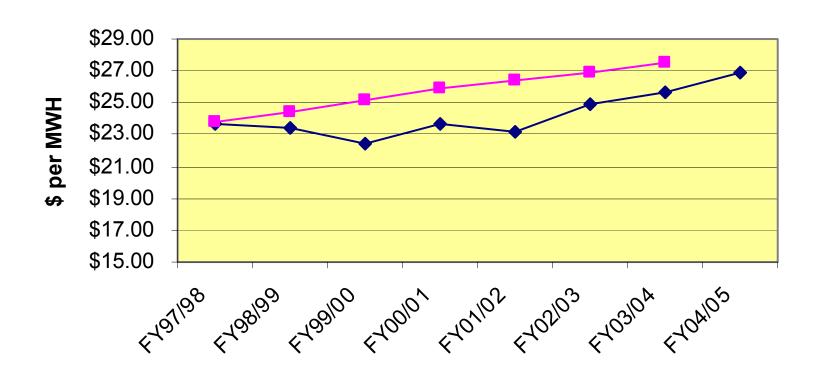


**Energy Northwest Fiscal Year** 

<sup>\*</sup> Fiscal year 1999 included 74 days of fuels saving dispatch



# Columbia Cost of Power Rolling 2 Year Average

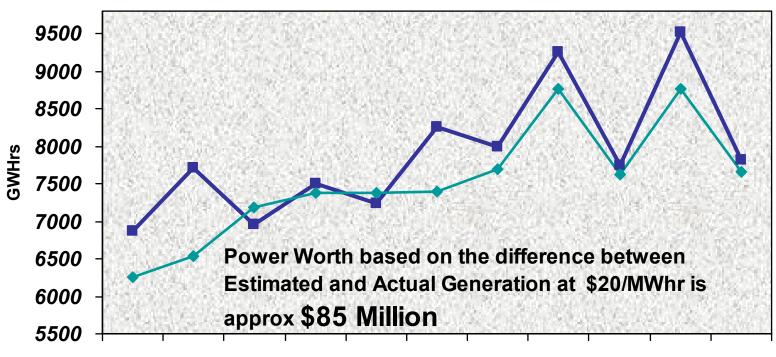




→ 2 Year Rolling Average — CPI

# Columbia Generation Actual vs. Rate Case Estimate

**─**Actual Generation → Rate Case Estimate

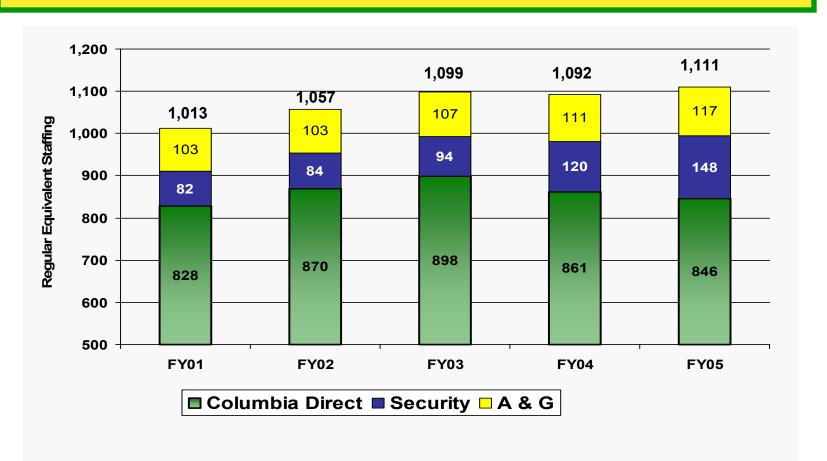


FY95 FY96 FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05





# CGS Full Time Equivalent Employees (Direct and Indirect)

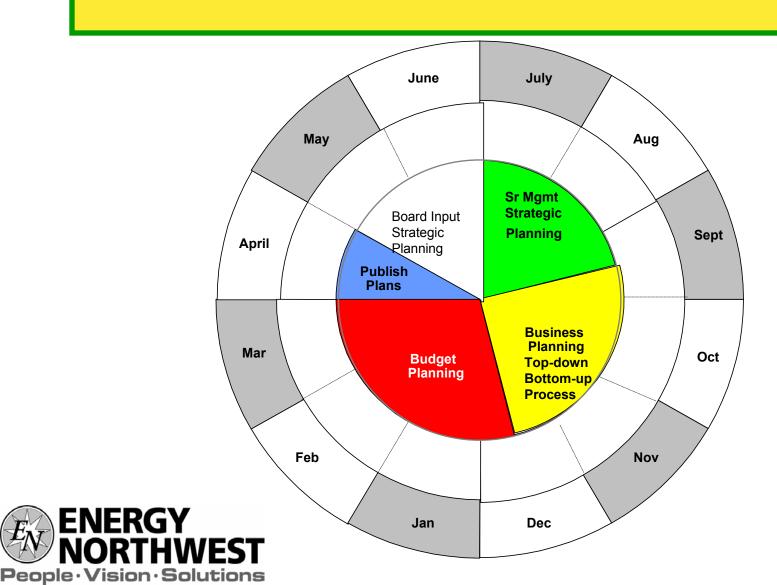




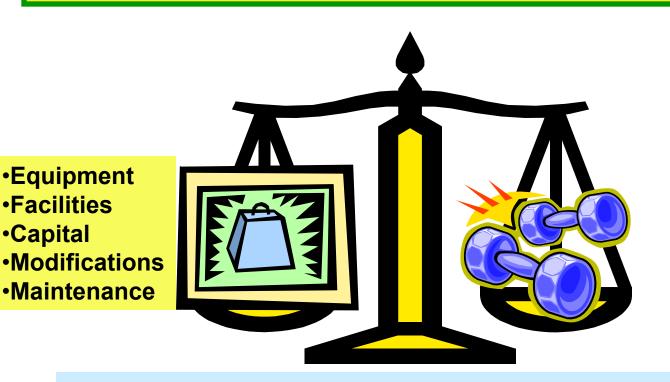
# Columbia FY 2006 Budget (Draft)



### **Energy Northwest Planning Cycle**



### **Budgeting Balancing Act**



- People
- Wages
- Benefits
- Incentives
- •EDP
- Training
- Wellness
  - **Program**

Along with safe, reliable operation while cutting costs.



Equipment

Facilities

Capital

### **Budget Objectives**

- Columbia's Cost Target was Established to Bring CGS In-line with the Top 50% of Single Nuclear Plants:
  - **❖** Reduce CGS Baseline Costs:
    - Staff Reductions Charging to Columbia
    - o Reduce Non-labor Costs by 10%
  - ❖ Reduce Plant, Information Technology and Facilities Project Costs
- Continued Implementation of Activity Based Management & Improved Cost Culture
- Continue to Finance Capital Projects



### FY 2006 Budget Summary

- Controllable and Incremental Costs Proposed at \$199.5 Million
  - \$6.2 Million Lower than FY 2005 Forecast for FY 2006
  - \$56.9 Million Lower than FY 2005 Budget (Outage)
- Industry Cost of Power Planned for \$20.88/MWh
- Baseline Includes Labor Escalation of \$1.5 Million
- Absorbed Escalation in Non-labor Expenses
- Capital Projects Total \$8.1 Million
- Reduced 60 Columbia Staffing Positions
- Reduced 27 Corporate Positions



### Staffing\*

	Budget FY 2006	Budget FY 2005	Variance
Direct	934	994	(60)
A & G**	90	117	(27)
Total	1,024	1,111	(87)



<sup>\*</sup> Represents Regular Full Time Equivalent Employees

<sup>\*\*</sup> Reflects Columbia's % allocation of Corporate Staffing

# FY 2006 Budget Versus Prior\* Long Range Plan (LRP)

(Dollars in Thousands)

Budget Line Items	Pı	Y 2006 roposed Budget		ior Year* LRP Target		Variance
Direct/Indirect/Capital Fuel Related Costs	\$	155,118 44,368	\$	161,125 44,635	\$	(6,007) (267)
Total - Controllable and Incremental	<u>¢</u>		<u> </u>		<u>c</u>	
	<u>\$</u>	199,486	<u> </u>	205,760	\$	(6,274)
Net Generation (GWh)		9,556		9,556		-
Cost of Power (\$/MWh)	\$	20.88	\$	21.53	\$	(0.65)



<sup>\*</sup>Issued June 2004

# FY 2006 Challenges Included in Budget (Dollars in Millions)

State Retirement Increase	\$ 3.0
Low Level Waste Disposal	1.5
Health Insurance Increase	1.0
Security Wage Increase	1.0
Severance Pay Increase	1.1
Regulatory Fees Increase	0.8
Total Challenges	\$ 8.4

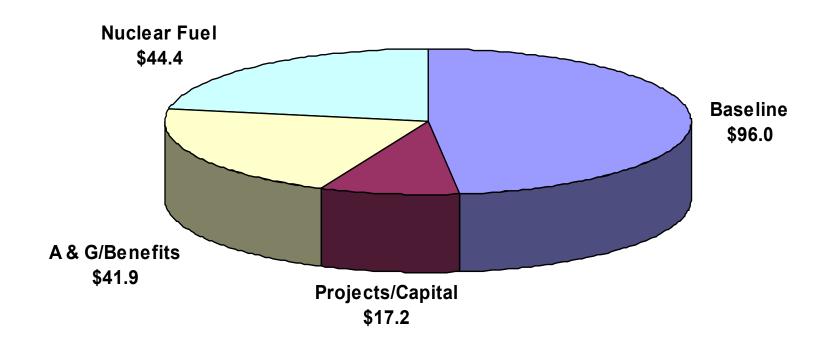


### **FY 2006 Budget Reductions**

Direct Labor	\$ (3.6)
Projects	(6.0)
Absorbed Non-labor Escalation	(1.8)
Results from 10% Reduction	(3.0)
Total Reductions	\$ (14.4)

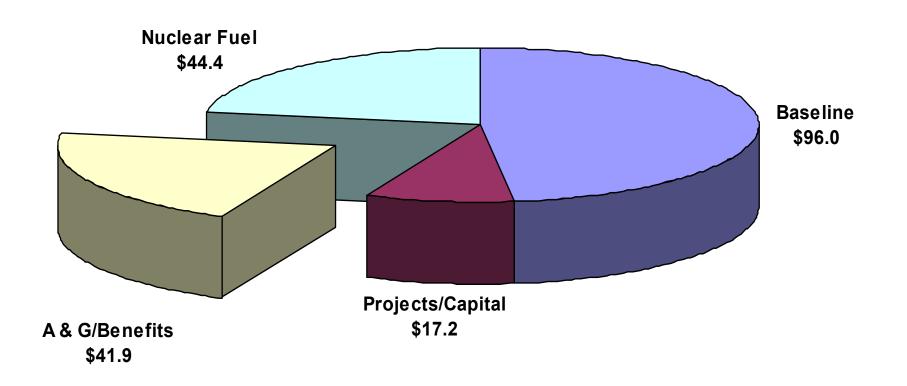


### FY 2006 Total Costs by Category





### FY 2006 A&G/Benefit Costs





# FY 2006 Administrative & General

(Dollars in Millions)

Corporate Programs		\$23.0
Employee Benefits		
Health Insurance	\$9.8	
FICA	6.9	
State Retirement	5.9	
401k Match	1.5	
Other	<u>2.7</u>	
Total Benefits		<u>\$26.9</u>
<b>Total Administrative &amp; General</b>		<u>\$49.9</u>

Columbia receives \$41.9 million of A&G



# **Employee Benefit Costs** (Dollars in Thousands)

			0	riginal	
	F	Y 2006	F	Y 2005	
	<u> </u>	<u>Budget</u>	<u>B</u>	<u>udget</u>	<u>Variance</u>
Medical Benefits	\$	9,833	\$	8,942	\$ 891
F.I.C.A		6,927		7,495	(568)
Retirement		5,897		2,373	3,524
401k Match		1,464		1,970	(506)
Other		2,733		3,421	(688)
Total Benefit Costs	\$	26,854	\$	24,201	\$ 2,653



# **FY 2006 Corporate Program Costs**

(Dollars in Thousands)

Information Systems	\$7,142
Incentives	4,252
Business Services	2,577
Senior Mgmt/Administrative Assistants	2,421
Human Resources	2,284
Corporate Training	1,756
Community Relations/Board	943
Loss Prevention	646
Administration	441
Support Nuclear Industry	296
Material and Services	<u>216</u>
Total Corporate Programs	<u>\$22,974</u>



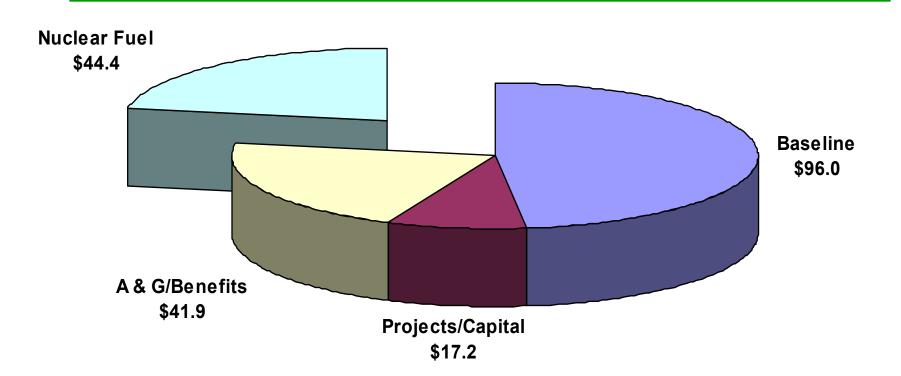
# FY 2006 Corporate Programs Staffing\*

Information Systems	35
Business Services	18
Human Resources	12
Senior Mgmt/Administrative Assistants	10
Training	7
Community Relations/Board	6
Administration	4
Loss Prevention	2
Downtown Buildings	2
Material and Services	<u>1</u>
Total Corporate Programs Staffing	<u>97</u>

<sup>\*</sup>Represents Regular Full Time Equivalent Employees



#### **FY 2006 Nuclear Fuel Costs**





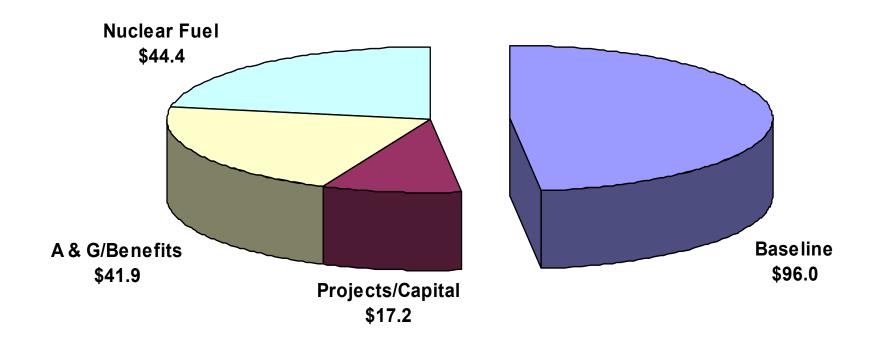
### **FY 2006 Nuclear Fuel Costs**

Nuclear Fuel Amortization	\$34.1
ISFSI Casks (Internal)	1.7
Disposal Fee	9.1
Loaned Fuel	(0.9)
<b>Uranium Enrichment Disposal/Decon</b>	<u>0.4</u>
Total Nuclear Fuel Costs	\$44.4



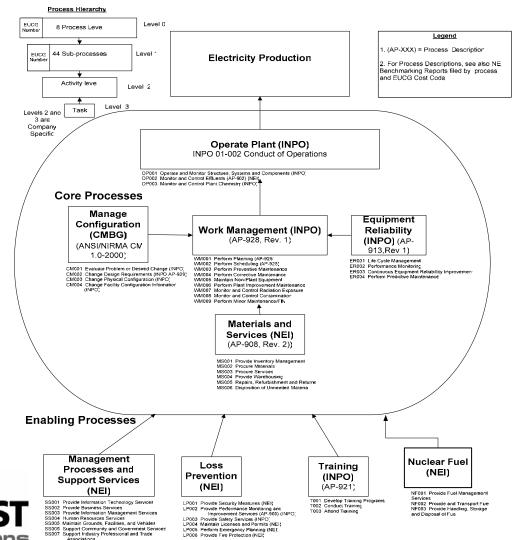
#### **FY 2006 Baseline Operating Costs**

(Dollars in Millions)





#### **Activity Based Management**



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### Activity Based Management (ABM) Process Definitions

- Configuration Management:
  - All Activities Related to Evaluating, Designing, Planning, and Implementing Changes to Plant Procedures, Documents and/or Systems.
- Equipment Reliability:
  - All Activities Related to Designing Long-term Strategies, Evaluating, Conducting Tests and Quality Control to Ensure Optimum Performance of the Plant Structures, Systems and Components.
- Loss Prevention:
  - All Activities Related to the Security, Safety, Regulation and Fire Protection of Plant.

















#### **ABM Process Definitions (Cont.)**

- Materials and Services:
  - All Activities Related to the Purchase of Materials and Services, Warehousing, Offsite Repairs, and Disposing of Unneeded Material.
- Nuclear Fuel:
  - All Activities Related to Managing, Providing, Transporting, Handling, Storage, and Disposal of Nuclear Fuel.
- Operate Plant:
  - All Activities Related to Operating CGS in a Safe, Reliable Manner, Including Maintaining Chemistry Program, Treatment and Storage of Radwaste.











#### **ABM Process Definitions (Cont.)**

- Support Services:
  - All Activities Related to Providing IT Services, Accounting, Budgeting, Human Resources, and Facilities Management.
- Training:
  - All Activities Related to Developing, Conducting and Attending Training.
- Work Management:
  - All Activities Related to the Planning, Scheduling, Performing of Preventive and Corrective Maintenance, Maintaining Non-plant Equipment, Plant Improvement Maintenance, Monitor and Control Radiation Exposure and Contamination.















## FY 2006 Baseline Work Activities (Dollars in Millions)

Configuration Management	\$ 3.6
Equipment Reliability	3.6
Loss Prevention	26.0
Materials and Services	2.9
Nuclear Fuel	0.3
Operate Plant	15.5
Downtown Buildings (net)	(1.4)
Support Services	18.4
Training	6.5
Work Management	20.6
Total	<b>\$96.0</b>



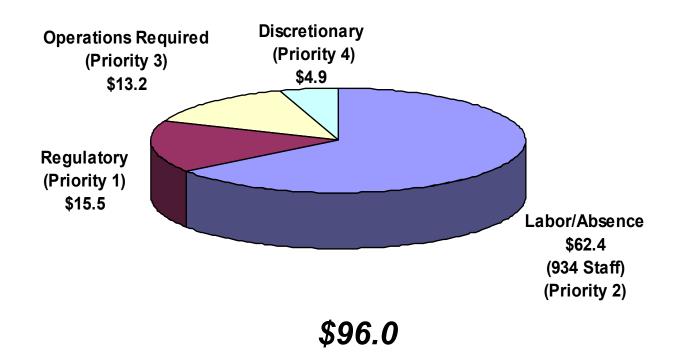
## FY 2006 Baseline Work Activities Direct Staffing\*

Configuration Management	41
Equipment Reliability	60
Loss Prevention	235
Materials and Services	31
Nuclear Fuel	2
Operate Plant	112
Support Services	134
Training	73
Work Management	<u>246</u>
Total	934

<sup>\*</sup>Represents Regular Full Time Equivalent Employees

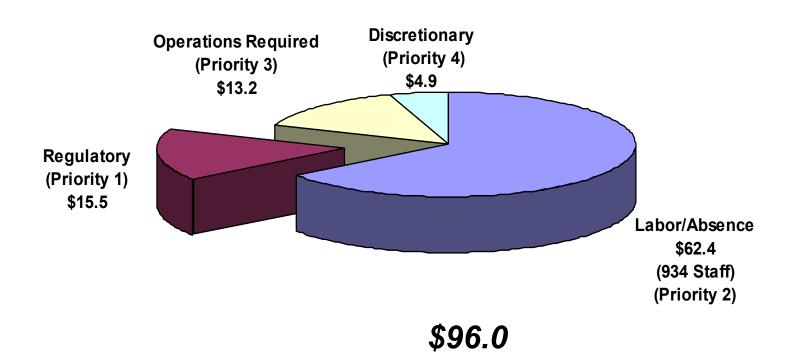


### FY 2006 Baseline Costs by Priority (Dollars in Millions)





### FY 2006 Regulatory Costs (Priority 1) (Dollars in Millions)



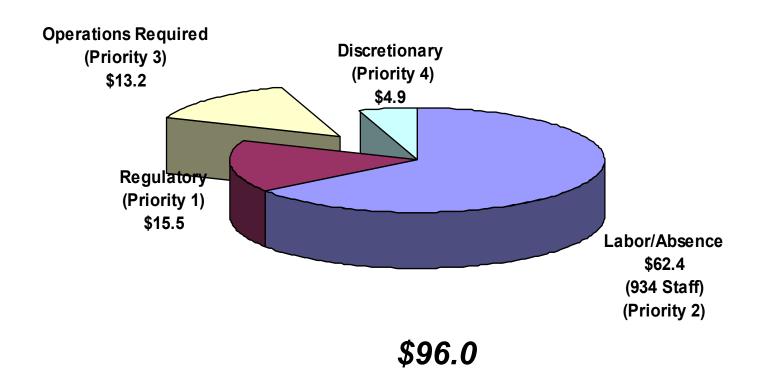


# FY 2006 Regulatory Costs (Priority 1) No Influence on the Timing or \$ Amount (Dollars in Millions)

NRC Fees	\$ 4.7
Radwaste Disposal	2.5
EFSEC Fees	1.8
Shift Scheduled/Holiday Overtime	1.5
EPRI Annual Fee	1.2
INPO Dues	0.7
Nuclear Liability Insurance	0.7
Dept of Energy Fire and Ambulance	0.7
Federal Emergency Management Admin	0.4
NEI	0.4
Other	0.9
Total Regulatory Costs (Priority 1)	<u>\$15.5</u>



### FY 2006 Operational Costs (Priority 3) (Dollars in Millions)



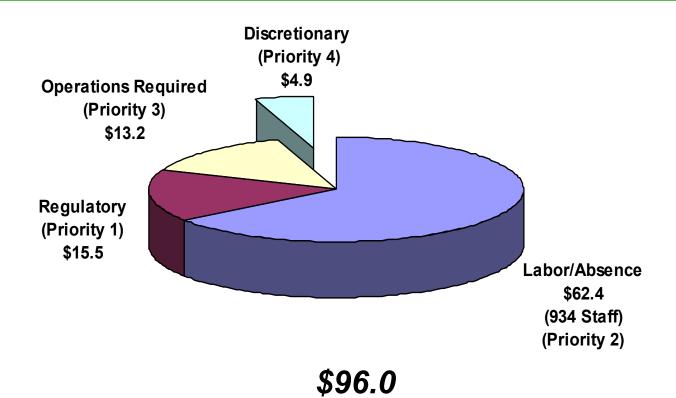


# FY 2006 Operational Costs (Priority 3) Incremental Costs Needed to Maintain Plant (Dollars in Millions)

Maintenance Materials	\$ 4.3
Outside Services	2.5
Chemicals/Gases/Fuels/Oils/Resin	1.6
Management Reserve/Project Contingency	1.5
Utilities	1.5
Senior Reactor Operator Stipend	0.5
Maintenance Service	0.3
Reactor Operator Stipend	0.3
Other Certification Stipend	0.3
Shift Scheduled/Holiday Overtime	0.2
Other	0.2
Total Operational Costs (Priority 3)	<u>\$13.2</u>



### FY 2006 Discretionary Costs (Dollars in Millions)





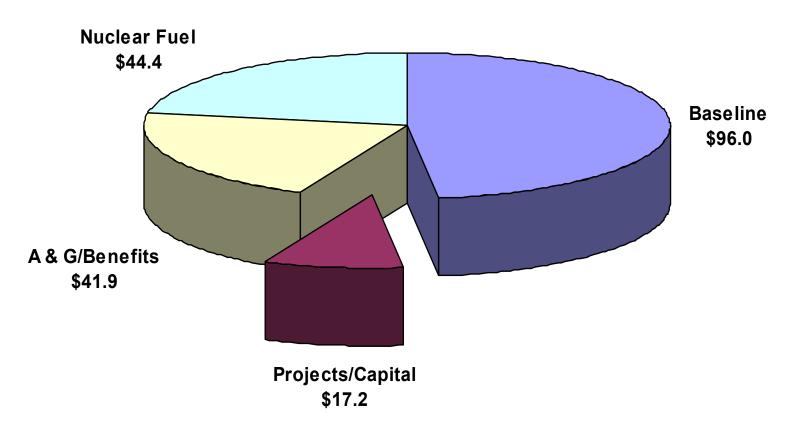
# FY 2006 Discretionary Costs (Priority 4) Incremental Costs that Enhance the Organization, Facilities or Primary Asset (Dollars in Millions)

Outside Services	\$1.8
Travel/Training	1.1
Severance Pay	8.0
Inventory Obsolesce	0.5
Overtime/Holiday Worked	0.5
Equipment Lease	0.4
Support Materials	<u>0.4</u>
Total Discretionary Costs (Priority 4)	<u>\$4.9</u>



#### FY 2006 Project/Capital Costs

(Dollars in Millions)





### FY 2006 Project & Capital Costs (Dollars in Millions)

Plant Modifications/Major Maintenance	\$ 14.9
Information Technology	0.7
Facilities	<u>1.6</u>
Total Project & Capital Cost	<u>\$ 17.2</u>



## FY 2006 Plant Modifications & Major Maintenance

(Dollars in Millions)

Independent Spent Fuel Storage	1.7
Replace Process Radiation Monitors	1.6
Replace Feed water Heaters 6A and 6B	1.5
Design Basis Upgrade	1.4
Minor Plant Design Changes	0.6
Alternative Source Term/Secondary Containment/Main Steam Leakage Control	
Deactivation	0.6
Other Projects	7.5
<b>Total Plant Modifications &amp; Major Maintenance</b>	<b>\$ 14.9</b>



### Columbia Draft FY 2006-2011 Long Range Plan (LRP)



#### **Columbia Initiatives**

- EMS 14001 Certification
- Continued Behavioral Based Safety Initiative
- Quest for Excellence
- Management Reorganization
- Fire Protection
- Design Basis Upgrade
- Columbia Equipment Reliability



### LRP Assumptions

- Baseline operating costs
  - Further Reductions in FY 2006 and FY 2007
- Staffing Levels Driven by Benchmarking/Analysis
- Nuclear fuel
  - 10-year Fuel Plan is Under Revision for Fuel Purchase from DOE
  - Used last year's 10-year Plan
- Includes Plant Modifications, Major Maintenance and Programs



### LRP Assumptions (Cont.)

- Generation
  - Aggressive Goals based on 2% Unplanned Capability Loss Factor (UCLF) and 2% Planned Losses
- Outage costs (2-year cycle)
  - Moving to Shorter Outages (LRP Target Average 28 Days)
  - Emphasize more On-line Maintenance and Modifications



#### Industry Basis Costs\* LRP FY 2006–2011\*\*

(Dollars in Millions)

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
FY 05 LRP	\$ 205.7	\$ 291.5	\$ 215.4	\$ 268.6	\$ 224.3	\$ 295.8
FY 06 LRP	\$ 199.5	\$ 245.0	\$ 197.8	\$ 261.6	\$ 206.4	\$ 273.0
Reduction	\$ 6.2	\$ 46.5	\$ 17.6	\$ 7.0	\$ 17.9	\$ 22.8

Total Projected Reductions FY06 – FY11 ~ \$118.0

Amounts are Preliminary & Subject to Change Until Approved by EN Executive Board

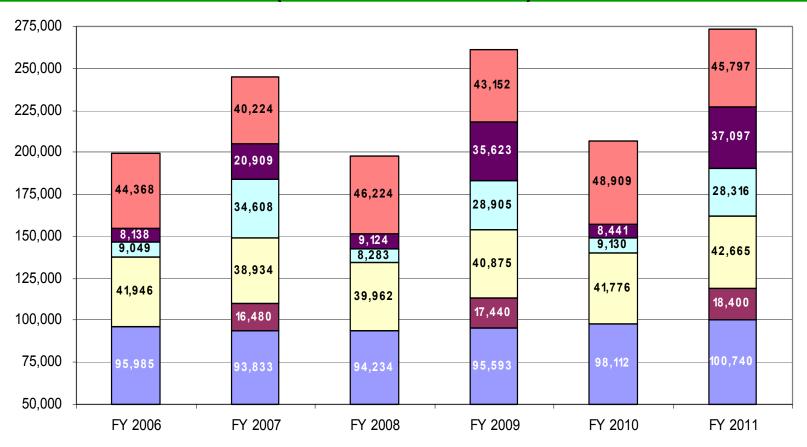


<sup>\*</sup> Includes O&M, A&G, Capital and Fuel costs

<sup>\*\*</sup>Includes 3% Escalation Starting in FY 2007

#### Industry Basis Costs\* LRP FY 2006-2011

(Dollars in Thousands)



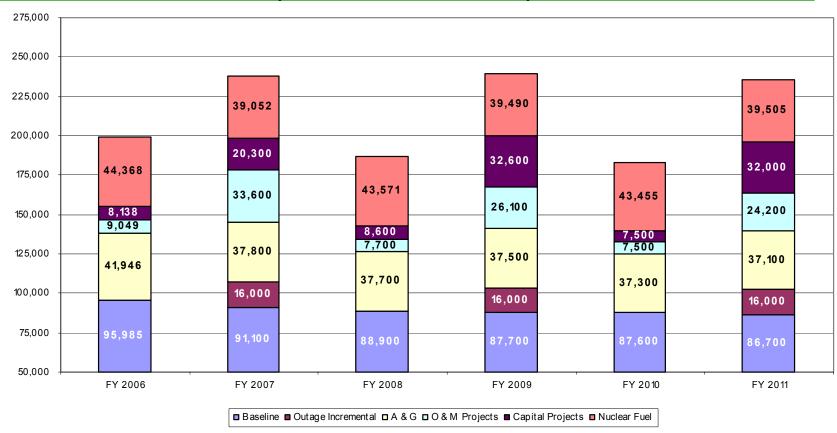
 $\blacksquare$  Baseline  $\blacksquare$  Outage Incremental  $\blacksquare$  A & G  $\blacksquare$  O & M Projects  $\blacksquare$  Capital Projects  $\blacksquare$  Nuclear Fuel



\*Includes 3% Escalation Starting FY 2007

#### Industry Basis Costs\* LRP FY 2006-2011

(Dollars in Thousands)



\*Does Not Include Escalation



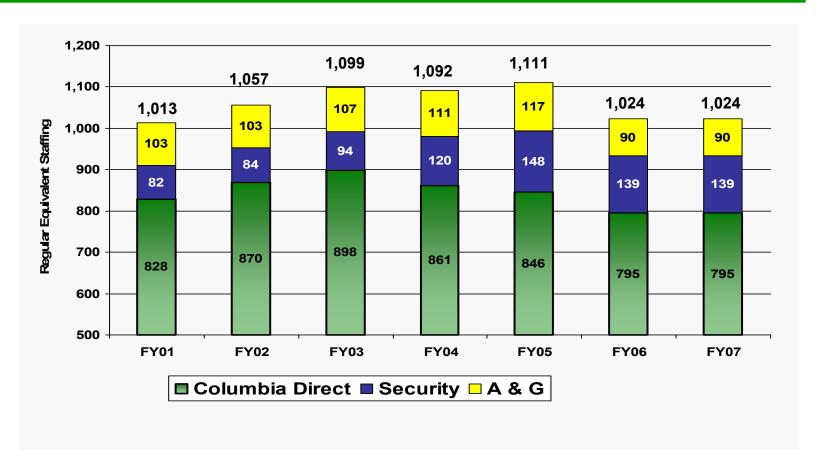
### Columbia Costs\* (Industry Basis) FY 1996-2011



Amounts are Preliminary & Subject to Change Until Approved by EN Executive Board

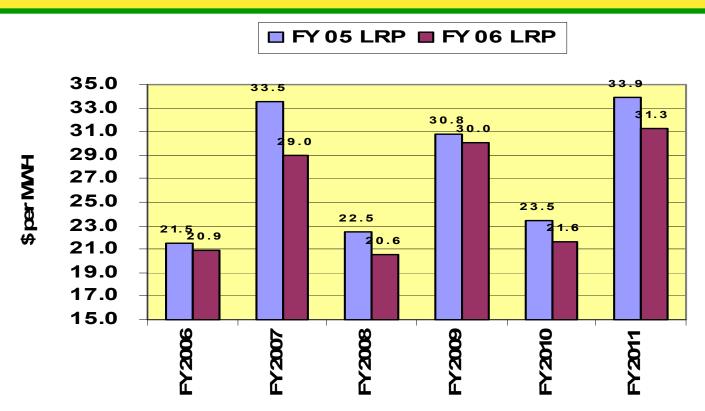


# CGS Full Time Equivalent Employees (Direct and Indirect)



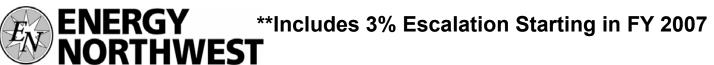


## Industry Basis Cost of Power Targets \* FY 2006-2011 LRP\*\*



Amounts are Preliminary & Subject to Change Until Approved by EN Executive Board

\* Includes O&M, A&G, Capital and Fuel costs



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# Plant Modifications, Major Maintenance and Programs

#### 1. Plant Modifications:

- Drivers Equipment Obsolescence/Regulatory
- Three Step Process with Phased Budget Approval:
  - Year 1 Planning/Scoping/Estimating
  - Year 2 Design
  - Year 3 Procure/Install/Test

#### 2. Major Maintenance:

- Drivers Preventive Maintenance (PM)
   Program/Equipment Reliability
- Projects are periodic per PM Program (i.e., Equipment Overhauls)



## Plant Modifications, Major Maintenance and Programs (Continued)

#### 3. Programs:

 Most Programs are also Periodic/Driven by Regulatory Commitment (i.e., In-service Inspection, Motor Operated Valves)

Projects > \$250K Total Project Cost will typically develop a Business Case for Executive Authorization Committee Review



#### **Incremental Outage Costs**

- Two Year Refuel Cycle (Outages in FY 2007, 2009, & 2011)
- Average Outage Length is 32 Days
- Average \$16 Million in Incremental Outage Costs:
  - Columbia Staff Overtime
  - Temporary Labor
  - Materials and Supplies
  - Support Service Contractor (Williams)
  - Maintenance Support (Utility Services Alliance)
  - Health Physics Support (Bartlett)



#### **FY 2007 Major Projects**

(Dollars in Millions)

- Outage Year (R18)
  - Outage Duration 38 Days
  - Critical Path Replace Feed Water Heaters
  - Major Projects:

•	In Service Inspection/Flow Accelerated Corrosion	\$ 7.9
•	Replace Feed Water Heaters	5.9
•	Vessel Services	5.6
•	Valve Programs	5.5
•	Information Technology and Facilities Projects	4.5
•	Independent Spent Fuel Storage Installation (ISFSI)	3.0
•	Control Rod Drive Parts/Local Power Range Monitors	2.7
•	Design Basis Upgrade	2.0
•	Main Turbine Inspection	1.8
•	Replace Obsolete/Failed Annuciators	1.1
•	License Renewal	0.8
•	TG Building Camera System	0.7
•	Other Projects	12.4
7	Total Major Projects	\$53.9



### **FY 2008 Major Projects**

(Dollars in Millions)

- Non-Outage Year
  - Major Projects:

•	License Renewal	\$ 4.3
•	ISFSI	4.0
•	<b>Information Technology and Facilities Projects</b>	3.5
•	Design Basis Upgrade	2.0
•	Main Turbine Valves	0.9
•	Reactor Recirculation Motor Replacement	0.5
•	Hydraulic Control Unit	0.3
•	Other Projects	<u>0.8</u>
	Total Major Projects	\$ <u>16.3</u>



### **FY 2009 Major Projects**

(Dollars in Millions)

- Outage Year (R19)
  - Outage Duration 28 Days
  - Critical Path Generator Rotor Replacement
  - Major Projects:

•		
•	Generator Rotor Replacement	\$10.0
•	In Service Inspection/Flow Acceleration Corrosion	6.0
•	Vessel Services	4.7
•	Control Rod Drives Blades/Parts	4.5
•	Information Technology and Facilities Projects	4.5
•	License Renewal	4.3
•	Valve Programs	4.2
•	Replace Reactor Closed Cooling-Heat Exchangers	4.0
•	Design Basis Upgrade	2.0
•	Main Turbine Inspection	2.0
•	Drywell Permanent Shielding	0.5
•	Other Projects	<u>12.0</u>
	Total Major Projects	<u>\$58.7</u>



### Strategies to Reduce Costs & Improve Cash Flows

- Rigorous Business Case Development and Review
- Executive Authorization Committee
- Increase Competitive Bidding (Leverage Utilities Service Alliance Supply Chain)
- Maximize On-Line Modification, Maintenance and Program Work
- Enhanced Capitalization Rules for Projects
- Activity Based Management
  - Benchmarking
  - Process Redesign
  - Gain Efficiencies/Reduce Costs

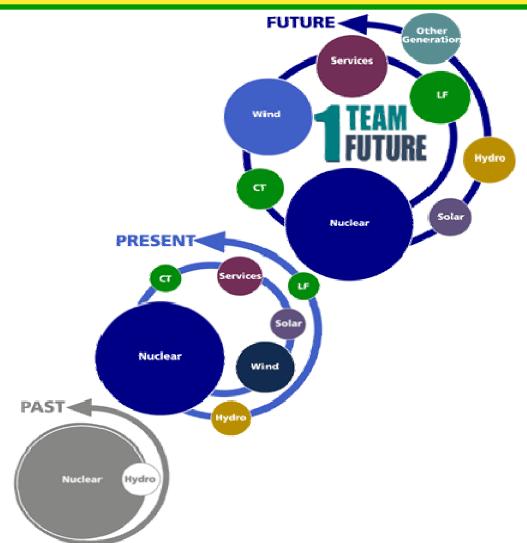


#### What Is Not In Long Range Plan.

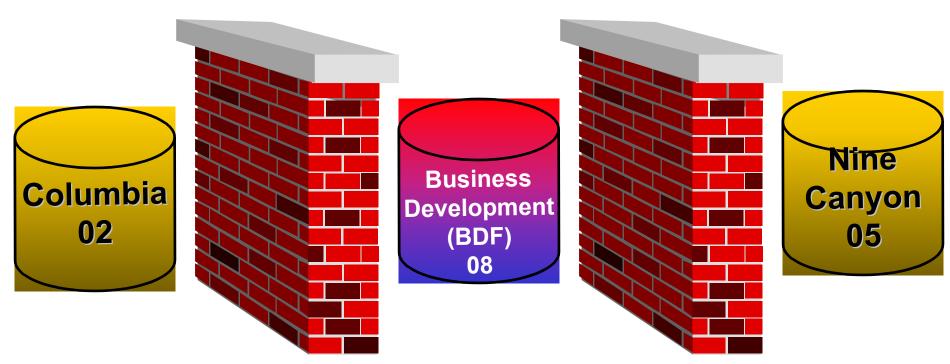
- Security Design Basis Threat
- Fire Protection Rule Changes
- Spent Fuel Pool Cooling
- Normal and Auxiliary Transformers
- Extended Power Uprate
- New Facilities/Buildings



#### **Energy Northwest New Business**



#### **Business Unit Revenues/Expenses**



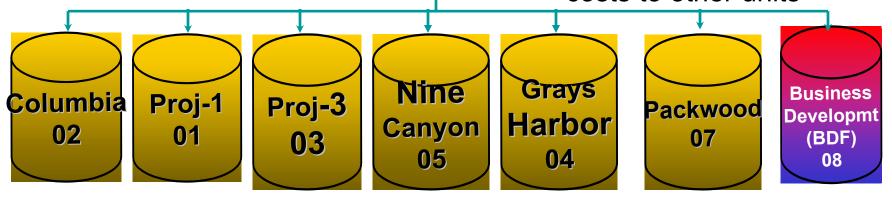
Funds of one business unit cannot be used for payment of costs of any other business unit! - Bond Covenants & Board Resolutions



## **Energy Northwest Overhead Allocations**

Internal Services Fund 09

The Internal Services
Fund captures overhead
costs (like employee
benefits and A&G) that
support all other business
units, and then allocates the
costs to other units





## **Energy/Business Services Absorbing Overhead Costs**

(Dollars in Thousands)

	<b>A</b> mount	Percent
Project 1	\$ 197	0.9%
Columbia (excl. new business)	19,257	90.4%
Columbia New Business Projects	193	0.9%
Project 3	27	0.1%
Packwood	31	0.1%
Nine Canyon Wind Project (1)	85	0.4%
Grays Harbor Energy Facility (1)	85	0.4%
Business Development Fund (1)	1,421	6.7%
Total A&G	\$ 21,296	100.0%

(1) In FY 2005 Budget Energy/Business Services Business Units relieved Columbia's A&G overheads by \$1,591.



# Through FY 2004 E/BS has Provided \$14.3 Million in Benefits to Net-Billed Projects

Net Revenue Returned on Net Billed Projects	\$4.6
Control Rod Drive Project	3.0
Absorbing Overheads	4.6
Reduced Labor from CGS	2.8
D&O Insurance	(0.7)
Approximate Benefit to Net Billed Projects*	\$14.3



<sup>\*</sup> Agreed to by BPA

#### Conclusion

- FY 2006 and LRP Dollar Estimates for Columbia are Draft Not Finalized or Approved by EN Executive Board or BPA
- Balance the Regional Need for Cost Reductions with Safe Reliable Operation of Columbia
- Columbia is Key to Regional Energy Supply and Diversity
- EN Goal is Top 50 Percentile of Better Performing Single Unit Comparable Nuclear Generating Stations
- Long Term Safe and Reliable Operation for Columbia
- Continue to Support BPA's Debt Optimization Program
- Variables Outside EN's Control
  - Security
  - Regulatory

