

Columbia Generating Station O&M

2010 Integrated Program Review (IPR)

May 19, 2010

Agenda

- BPA Introduction
 - Background
 - BPA and Energy Northwest Accounting Differences
 - CGS 0&M
 - Cost History and Forecast
 - CGS Capital Costs
 - CGS Fuel Costs
 - CGS Performance Indicators
- Workshop Schedule
- Ways to Participate
- BPA's Financial Disclosure Information
- Energy Northwest Presentation

Background of CGS O&M

- The Columbia Generating Station (CGS) costs are included in the revenue requirement of the Power Services rate structure and are tied to operations of the nuclear plant
- 1,107 MW net boiling water reactor
- Owned by Energy Northwest
- Located on the Department of Energy Hanford Site
- Began commercial operation in December 1984
- 2 year refueling and maintenance outage cycle
- Submitted an application for license extension to the NRC in January 2010
- BPA purchases 100% of CGS power and pays all operating costs per the Project, Net Billing and Direct Pay agreements
- BPA's goal is that the plant be operated in a safe, reliable, and cost-effective manner such that its performance is in the top quartile of the industry (technical performance) and top half of the industry (cost performance) relative to its peers on a sustained basis.

CGS O&M Accounting Differences

- Energy Northwest prepares budgets and long range forecasts for CGS on a cost basis.
- Energy Northwest uses the cost basis budget for its accounting, cost control purposes and benchmarking.
- Energy Northwest also prepares a budget based on funding (cash) needs.
- BPA prepares its rate cases and budgets for CGS on a cash basis.
- Energy Northwest and BPA have different fiscal years:
 - Energy Northwest has a July-through-June fiscal year.
 - BPA has an October-through-September fiscal year.
- These differences make a cost to cash and fiscal year conversion necessary.
- Energy Northwest's CGS budget is submitted annually to BPA in April and nondisapproved by BPA in May.
- The Energy Northwest CGS Long Range Plan is updated annually and presented to BPA.

CGS O&M Accounting Differences (continued)

- Differences between cost basis and cash basis:
 - Nuclear fuel burn-up vs. Nuclear fuel procurement
 - Timing of spent fuel waste disposal fees
 - Timing of generation tax payment
- Additional funding needs included in BPA's budget for CGS:
 - NEIL insurance
 - Decommissioning Trust Fund contributions

Columbia Generating Station (CGS)

Columbia Generating Station	2009 Actuals	2010 SOY	2011 WP-10 Rate Case	2011 IPR	2012 IPR	2013 IPR
COLUMBIA GENERATING STATION	278,669,712	246,600,000	312,900,000	312,900,000	306,600,000	359,300,000
NEIL INSURANCE	761,216	2,300,000	2,100,000	2,500,000	2,000,000	2,000,000
DECOMMISSIONING CONTRIBUTIONS	8,776,921	8,911,000	9,882,000	9,882,000	11,266,000	13,745,000
Total	288,207,849	257,811,000	324,882,000	325,282,000	319,866,000	375,045,000

Program Description

 BPA acquires 100% of CGS generation and funds 100% of its costs plus directly funds the Decommissioning Trust Fund and NEIL insurance premiums.

Strategic Objectives

- S1- Policy and Regional Actions
 S2 FCRPS Operations and Expansion
- S3 Tiered Power Rates

- S9 Stakeholder Satisfaction
- I4 Asset Management

I6 – Collaboration

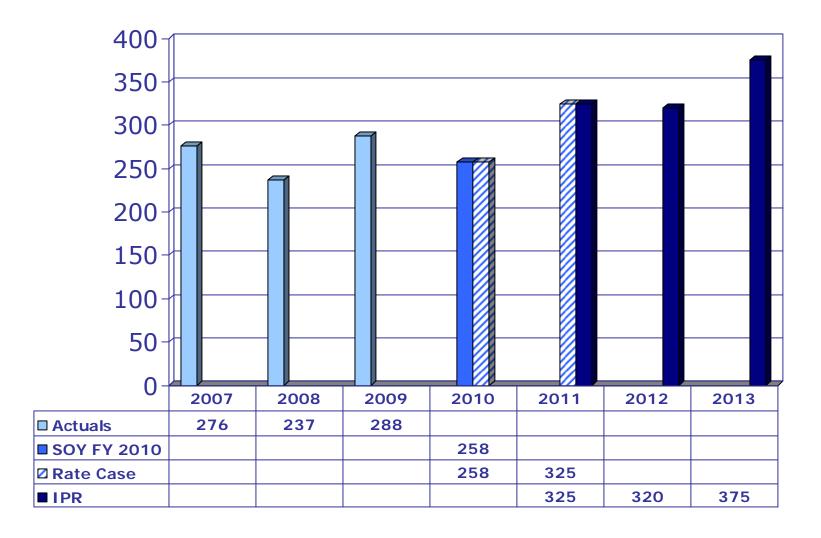
Key Products and Outputs

CGS continued safe, reliable operation is the key product. CGS will have a maintenance and refueling outage in FY 2011. The condenser will be replaced during this outage along with other capital and major maintenance projects.

FY 2012-13 Program Spending Drivers

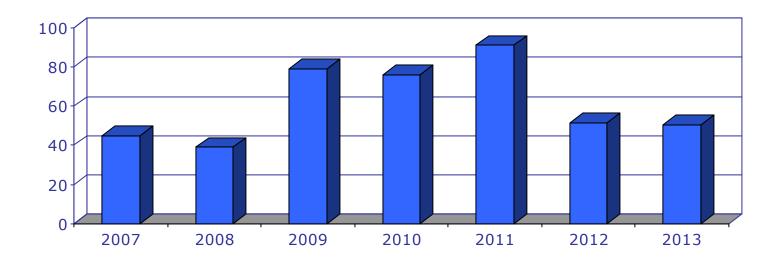
FY 2012 and FY 2013 proposed spending levels reflect the current Energy Northwest Long Range Plan. Increases are due to the purchase of nuclear fuel as the uranium inventory is being replenished. Decommissioning Trust Fund contributions have also increased to be consistent with the funding schedule agreed upon between BPA and Energy Northwest (EN) and the schedule that was submitted to the US Nuclear Regulatory Commission in March 2009. CGS will have a maintenance and refueling outage in FY 2013.

CGS O&M Cash Basis



CGS Capital

Energy Northwest Fiscal Years – Dollars in Millions



Energy Northwest (EN) capital numbers are in EN fiscal years since all the associated debt service calculations are based on that view.

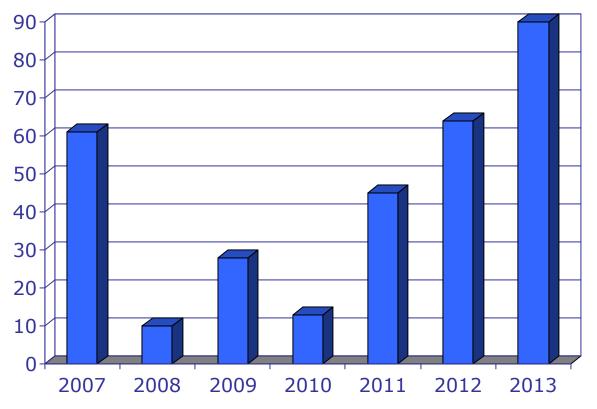
EN's focus on increased investment to improve Plant reliability is reflected in the graph above.

BPA and EN effectively financed another \$16 million by extending tax-exempt debt rather than issuing taxable bonds in addition to the \$75 million of bonds issued for capital additions in the Spring of 2010. FY 2011 capital was included in the Spring 2010 financing.

The condenser replacement project is being implemented in FY 2011.

CGS Nuclear Fuel

BPA Fiscal Years – Dollars in Millions



Nuclear fuel funding needs are increasing due to the end of the Uranium Tails project and the need to replenish uranium and enrichment inventory used in previous years, the purchase of additional spent fuel storage casks, and enrichment costs that were deferred from EN FY 2011 into EN FYs 2012 and 2013.

The nuclear fuel numbers from 2007 through 2009 are from the FY 2006 Rate Case.

FY 2010 and 2011 are from the FY 2010 Rate Case.

FY 2012 and 2013 are from the FY 2010 IPR.

CGS Performance Indicators

Quarterly Management Review

- Performance Index
- Capability Factor
- Forced Loss Rate
- Collective Radiation Exposure
- Cost of Power
- Generation

Additional Indicators

Operation

- Water Use Rate
- Automatic SCRAMS
- Fuel Reliability
- Equipment Reliability Index
- Late Critical Preventative Maintenance items
- Corrective Maintenance Backlog
- NRC Violations and Findings

Cost

- Capital Year to Date
- O&M Year to Date

Workforce

- Industrial Safety Accident Rate
- Station Event Free Days Clock Resets



Columbia Generating Station May 19, 2010

Brent Ridge Asset Manager/Controller

Agenda

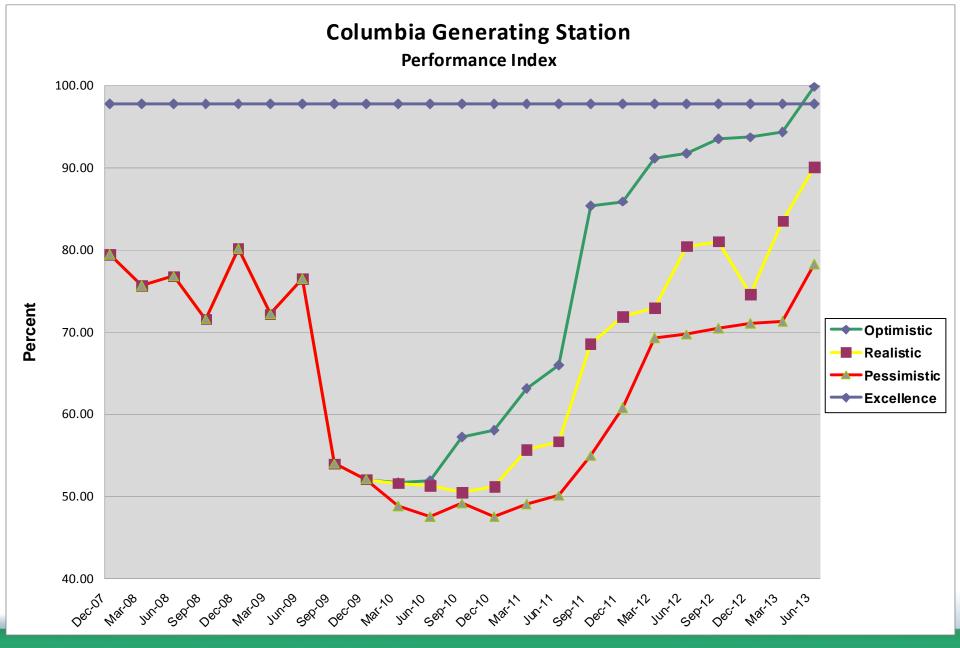
- Overview
- CGS Performance Indicators
- Compare Rate Case Periods
- ▼ Variance & Risks
- **▼Long Range Plan**
- ▼ Process & Project Details
- **X** Summary



Overview

➤ EN estimates for Bonneville's FY12-13 have not changed since last year (excluding NEIL insurance and decommissioning). EN committed to Bonneville and the region that estimates would not go up and that is what we have delivered.







FY10-11 Comparison to FY12-13

BPA Rate Ca	ase FY10 - 11	BPA Rate	Case FY12 - 13
\$594,503	\$582,693	\$692,921	\$694,911
		Decom. NEIL Ins. \$27,021	Decom. NEIL Ins. \$29,011
Decom. NEIL Ins. \$23,193 Nuclear Fuel	Decom. NEIL Ins. \$23,193	Nuclear Fuel \$150,078	Nuclear Fuel \$154,314
\$70,023 	Nuclear Fuel \$58,715		
Direct/Indirect O&M \$501,287	Direct/Indirect O&M \$500,785	Direct/Indirect O&M \$515,822	Direct/Indirect O&M \$511,586



Cost of Power (Cash)

	FY10-11	FY12-13	Delta
O&M	\$500,785	\$511,586	\$10,801
Fuel	58,715	154,314	95,599
Decommissioning / Insurance	23,193	29,011	5,818
Total	\$582,693	\$694,911	\$112,218
Generation (GWh)	15,901	17,696	1,795
Cost of Power	\$36.65	\$39.27	\$2.62

FY10-11 vs FY12-13 Variance

(\$ in thousands)

Total FY12-13	\$694,911
Total FY10-11	\$582,693
Total Variance	\$112,218
Fuel - new contracts	\$95,599
Fuel Revenue from SWU sale	\$12,000
Decommissioning	\$6,218
ISFSI Decommissioning	\$20
NEIL Insurance	(\$400)
O&M	(\$1,219)
Total Variance	\$112,218



Fuel

- ➤ Variance \$95,599k
- ➤ Over the past several years we have benefitted from the relatively low costs resulting from the Uranium Tails Pilot Project. We are now back in the market, at significantly higher prices, in order to maintain our strategic inventories

Fuel Revenue

- ➤ Variance \$12,000k
- ➤ The sale of excess Separative Work Units (SWU) will be realized in FY11 and is a one time only revenue.

Decommissioning & Insurance

- ➤ Variance \$6,218k and \$400k, respectively
- ➤ Decommissioning calculations are done by Energy Northwest and agreed to by BPA. The costs are a pass through on the EN books and paid directly by BPA. The increase in FY12-13 is part of the ongoing plan to meet the obligation.
- ➤ NEIL Insurance costs are obtained from and paid directly by BPA.

CGS O&M

- ➤ Variance \$1,219k
- ➤ The decrease in O&M is a recognition that EN will have to reduce costs in order to be successful in honoring the bottom line committed to in the long range plan. The details of how this will be accomplished will be developed over the next several months.

Risks to LRP

- Increased investment in equipment reliability projects
- Benefits are expected to escalate dramatically in the out years
- Additional funding for spares and other inventory items
- A managed attrition plan will be required to meet our commitments



CGS Long-range Plan (O&M)

Calendar Year	20	2010 2011 2		20	012 20		013	20	
Item Description		FY11 FY12			FY13			FY14	
		BPA Rate		BPA I	e Period	BPA I			
Direct and Indirect O&M Costs									
Baseline costs	\$	119,917	\$	121,651	\$	116,347	\$	114,966	
Outage Costs (Incremental)		38,704		932		20,700		932	
Admin / General (A&G) O&M includes escalation		60,648		69,062		72,466		73,699	
O&M Projects		50,043		9,392		42,981		10,143	
Facilities O&M Projects		752		569		569		621	
Information Technology O&M Projects		752		160		492		492	
O&M Risk Reserve		1,593		859		2,070		776	
Outage Risk Reserve		1,095		-		1,122		-	
Baseproj Contingency		312		518		518		518	
Subtotal Direct & Indirect O&M Costs	\$	273,816	\$	203,143	\$	257,265	\$	202,147	
Escalation on Direct & Indirect		-		4,693		13,163		13,963	
Subtotal Direct & Indirect O&M Costs	\$	273,816	\$	207,836	\$	270,428	\$	216,110	



CGS Long-range Plan (Capital)

Calendar Year	2010	20)11	1 2012		2 2013		20
Item Description	FY	′ 11	FY	FY12 FY		FY13 F		FY14
	BPA	A Rate		BPA I	Rate	Period		BPA F
Capital Costs								
PHC Capital Projects	\$ 38	3,212	\$ 13	,175	\$ 2	21,727	\$	8,825
Moveable Capital & Downtown Capital Projects	1	1,720	1	,346		1,346		1,346
Facilities Capital Projects		299	10	,258		6,200		5,693
Information Technology Capital Projects	5	5,943	5	,183		6,227		7,642
Admin / General (A&G) Cap includes escalation	7	7,314	8	,000		8,100		3,500
Capital Risk Reserve	2	2,237	3	,877		4,028		2,330
Main Condenser Replacement includes escalation	40	0,870	8	,460		-		-
Subtotal Capital Costs	\$ 96	5,595	\$ 50	,299	\$ 4	47,628	\$	29,336
Escalation on Capital Costs		-	1	,184		2,813		2,809
Subtotal Capital Costs	\$ 96	6,595	\$ 51	,483	\$!	50,441	\$	32,145



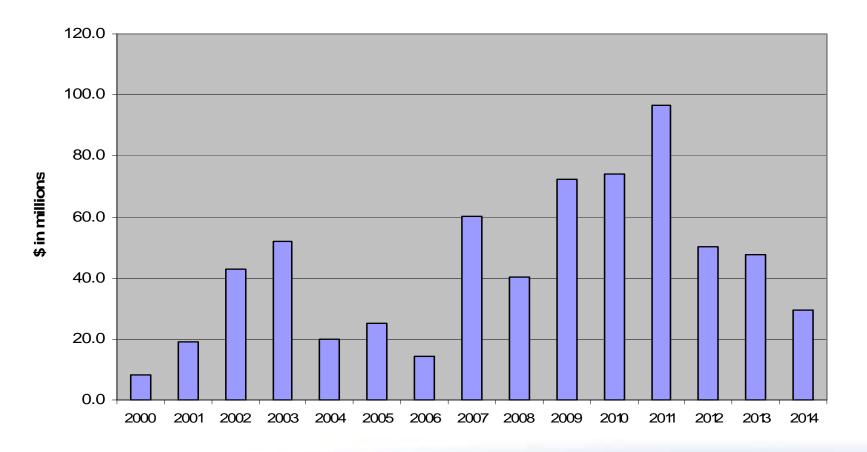
CGS Long-range Plan (Total)

Calendar Year	2010	20	2011		2012		12 2013	
Item Description	FY	11	FY	12	F`	FY13		FY14
	BPA	Rate		BPA I	Rate F	Period		BPA F
Fuel Related Costs								
Nuclear Fuel Amortization	\$ 30	,583	\$ 43	,555	\$ 3	8,081	\$	49,847
Spent Fuel Fee	7,	,085	8	,918		8,280		9,078
Subtotal Fuel Related Costs	\$ 37	,668	\$ 52	,473	\$ 4	6,361	\$	58,925
Total Unescalated Budget	\$ 408	,079	\$ 305	,915	\$35	1,254	\$ 2	290,408
Total Escalation		-		,877	1	5,977		16,771
Total Costs - Industry basis	\$408	,079	\$311	,792	\$36	7,231	\$3	307,179
Total Net Generation (Gwh)	7.	,395	9	,383		8,313		9,383
Outage Days		78		-		40		-
Cost of Power (Cents per kWh, constant FY11\$)	5.	.518	3	.260		4.225		3.095
Cost of Power (Cents per kWh, escalated)	5.	.518	3	.323		4.418		3.274

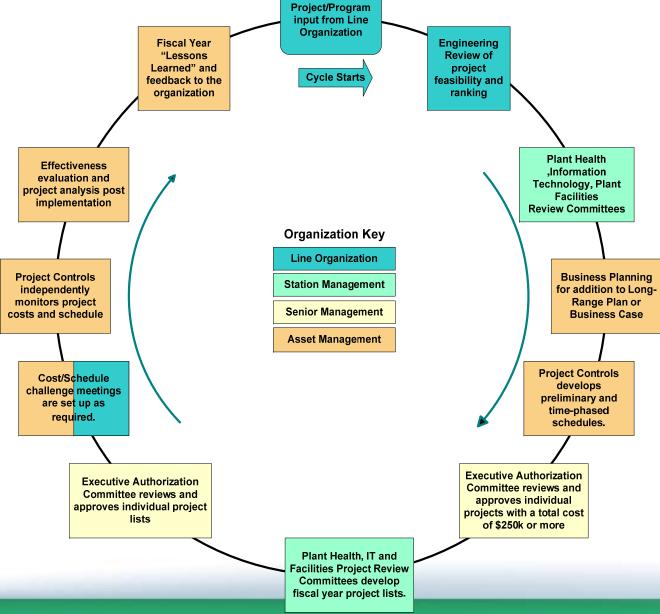


CGS Capital

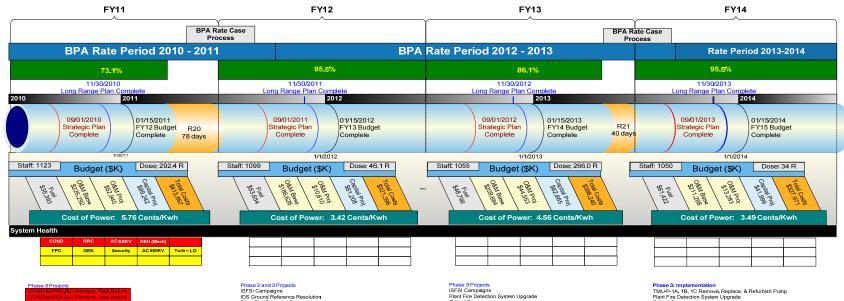
(FY11 Dollars)



Discovery and Consideration







Cooling Tower Fill Replacement

CW-M-P/1A, 1B, 1C Remove, Repl, Refurb Motor CW-P-1A, 1B, 1C Remove, Repl Refurb Pump Digital Fault Recorder (Replaces Oscillograph) Eliminate Drywell Identified Leakage Keep-fill Pump Upgrades LPCS-M-P-1 Remove,Repl,Refurb LPRM Procurement

Main Transformers Online Dissolved Gas Monitor Modify CW Piping to support draindown/temp TSW On Line Noble Chem Application PDIS System Replacement Plant Fire Detection System Upgrade Plant License Extension/Renewa Removal of RSCS Rod Blocks from RMCS

Replace Battery charger E-C2-1 Refurbish DG 2 Generator

RFW-P-1A,1B Remove,Repl,Refurb RHR-M-P/2A,B,C Remove,Repl,Refurb RHR-P-2A,B,C Remove, Repl, Refurb RRC-M-P-1A/B Refurb Rx Building 606 Office Structure Seal Oil Skid Filter Replacement Shield DW Travel Paths TSW Pump Swap Logic Turbine Building Outage Temp Power

Upgrade transformer vard oil collection Upgrade/Replace Plant Elevators Yokagawa Recorders

Evaporator Steam Supply Control Replace Seal Steam Pressure controllers Replace Moisture Separator Reheater Tube Replace Main Generator Voltage Regulator

O&M Projects
FPC-P-1A/B Baseplate & Suction Piping Complete Elect Wiring Diagram Drawings

RCS Chemical Decontamination CRD RepainRefurb Buried Piping Integrity Program ECCS Strainers - GSI 191 Impact Separate Redundant Fiber Optice Cables IR Windows SR Enclosures PSA Upgrade-Scope & Capability Non-Segmented Bus Hardware

Containment Vacuum Breakers Moisture Separator Reheater TCVs

IDS Ground Reference Resolution Plant Fire Detection System Upgrade Critical Spares CW-P-1A, 1B, 1C Remove, Replace, & Refurbish Pump HPCS Voltage Regulator Replacement HPCS Governor Replacement Upgrade CFD Pre-coat Pump (CF-P-4) DMAWMA Love Controller Replacement On Line Noble Chem Application Main Transformers Online Dissolved Gas Monitor HPCS-GEN-DG3 Synchronizing Check Circuitry Plant License Extension/Renewal Replace Process Rad Monitors Scram Discharge Volume Instrument Mods. Dose Reduction (Formerly Stellite Reduction Components)
Power Block Elevator Enhancement
RHR-P-2A, 2B, 2C Remove, Replace, Refurbish Pump RHR-M-P2A/B/C Remove, Refurbish Moto LPCS-M-P/1 Remove, Repl, Refurbish Stack Monitor Upgrade Replace Moisture Seperator Reheater Tube Bundles Replace Main Transformer Study/Testing Replace the CAS/SA Compressors TSC Power Source (Management Discretion)
Replace the Main Generator Voltage Regulator RCIC Turbine Speed Control Upgrade Steam Tunnel Fan Power Source CW-M-P/1A 1B 1C Remove Replace & Refurbish Motor Replacement of Whole Bodey Contamination Monitors Replace Cooling Breakers on Transformers Remote Vibration Monitoring Non-critical Fans DEH Equipment Incentive Payment, Contract #320931 Isolation Power Supply on Loss of RPS B Upgrade trip logic RFT hi exh temp RHR-FCV-64A, B, C Evaporator Steam Supply Control Rx Building 441' Railroad Bay Monorail Power Outlet FPC-CP-1 Upgrade Timers and Controllers E-GEN-1 Install Torsional Vibration Monitoring Equipment

Replace Heat Exchanger RCC-HX-1A,B,C HD Tank Discharge Pipe Support Design

Upgrade Auto Scram Timer

Replace ASD Fortress Display - Design Only

Critical Spares
Upgrade CFD Pre-coat Pump (CF-P-4) On Line Noble Chem Application Main Transformers Online Dissolved Gas Monitor Replace Process Rad Monitors Scram Discharge Volume Instrument Mods.
Dose Reduction (Formerly Stellite Reduction Components) Power Block Elevator Enhancement Replace the CAS/SA Compressors
TSC Power Source (Management Discretion)
Steam Tunnel Fan Power Source Replace Cooling Breakers on Transformers Isolation Power Supply on Loss of RPS B Upgrade trip logic RFT hi exh temp RHR-FCV-64A, B, C Evaporator Steam Supply Control FPC-CP-1 Upgrade Timers and Controllers FPCCP-1 Upgrade Timers and Controllers E-GEN-1 Install Torsional Vibration Monitoring Equipment Replace Heat Exchanger RCC-HX-1A.B.C HD Tank Discharge Pipe Support Design Replace ASD Fortress Display - Design Only MT-CRA-2 Load Cell Displays

Replace Video Capture

DMAWMA Love Controller Replacement Digital Backbone for Power Block Replace Transformer TR-N2 Replace Transformer TR-S

Replace Security System Computer (placeholder)

Plant Fire Detection System Upgrade Critical Spares TSW-P-1A, 1B Remove, Replace, Refurbish Pump TSW-M-P/1A, 1B Remove, Refurbish, Reinstall Motor Replace Process Rad Monitors Power Block Elevator Enhancement Refurbish Main Transformer Alternate Decay Heat Removal System Replace SWDCW Metal Bellows Expansion Joints Replace SW Piping Downstream SW-RO-2A Digital Backbone for Power Block TMU-M-P/1A, B, C Motor Remove, Replace, Refurbish

Phase 2: Design/Engineering

RetireReplace TDAS and PPC FPC-CP-1 Upgrade Timers and Controllers E-GEN-1 Install Torsional Vibration Monitoring Equipment HD Tank Discharge Pipe Support Design Replace ASD Fortress Display - Design Only Upgrade AST MT-CRA-2 Load Cell Displays Replace RRC-FT-14A-D & 24A-D

E-GEN-1, Replace Main Generator Lead Bushings

Replace Security System Computer

Phase 1: Scope/Estimate SRM/RM Replacement

Replace Transformer TR-N2 Replace Transformer TR-S Replace FP-FNG-110 and Controller Reactor Manual Control Syst Upgrade Replace Heat Exchanger RCC-HX-1A,B,C Replace Generator Voltage Regulator

All Budgets are Projections <u>ONLY</u> and MUST be Authorized by the EN Executive Board



Summary

Energy Northwest has an on-going commitment to the long range plan bottom line numbers. There will be challenges in meeting those commitments, however, we plan to be successful, just as we have the last two years.

Next Steps

Detailed Workshop Schedule

2010 Integrated Program Review (IPR) Workshop Schedule

All workshops are subject to change as necessary

	Workshop Topic	Date	Time
-	Asset Management Overview Pre-IPR meeting held at the Quarterly Business Review	May 3, 2010	3:00-4:00 PM
1	Executive Welcome and Overview Executive Welcome, Introductions, Process Overview Power, Transmission, Corporate overview	May 10, 2010	9:00-1:00 PM
2	Federal Hydro Asset Strategy & Capital Discussion FCRPS Hydro Asset Strategy Federal Hydro Capital Program for FY 2012-17	May 13, 2010	9:00-12:00 PM
3	Transmission Asset Strategies & Capital Discussion Transmission Asset Strategies Transmission Capital Programs for FY 2012-17	May 17, 2010	9:00-4:00 PM
4 5	Transmission Expense Transmission Expense Programs for FY 2012-13 Transmission Overflow Discuss Remaining Topics, Follow Ups, Etc.	May 18, 2010	9:00-12:00 PM 1:00-4:00 PM
7	Power Internal Operating Costs, Acquisition/Ancillary Services & Residential Exchange Power Internal Operating Cost for FY 2012-13 Power Acquisition and Ancillary Services for FY 2012-13 Residential Exchange Program for FY 2012-13 Columbia Generating Station (CGS) CGS Expense and Capital Program for FY 2012-17	May 19, 2010	9:00-12:00 PM 1:00-4:00 PM

Detailed Workshop Schedule

2010 Integrated Program Review (IPR) Workshop Schedule

All workshops are subject to change as necessary

	Workshop Topic	Date	Time
8	FCRPS Hydro Operation & Maintenance Program and Cultural Resources FCRPS Hydro O&M Program for FY 2012-13 Cultural Resources Program	May 20, 2010	9:00-12:00 PM
9	Fish & Wildlife, Lower Snake River Comp (LSRC) and Northwest Power Planning Council (NWPPC) F&W Expense & Capital Program for FY 2012-17 LSRC Program for FY 2012-13 NWPPC Expense Program for FY 2012-13 Columbia River Fish Mitigation (CRFM) FY 2012-17		1:00-4:00 PM
10	Power Overflow Discuss Remaining Topics, Follow Ups, Etc. Energy Efficiency & Renewable Resources Energy Efficiency Expense & Capital Program for FY 2012-17 Renewable Resources for FY 2012-13	May 24, 2010	9:00-12:00 PM 1:00-4:00 PM
12	Facilities Asset Strategy Facilities Asset Strategy	May 25, 2010	9:00-10:30 AM
13	Information Technology (IT) Asset Strategy IT Asset Strategy		10:30-12:00 PM
14	Agency Services Agency Services Expense & Capital Programs for FY 2012-2017		1:00-4:00 PM
15	General Manager Meeting	June 8, 2010	9:00-12:00 PM
16	General Manager Meeting	July 13, 2010	9:00-12:00 PM

Ways to Participate

- All forums are open to the public and will be noticed on the Integrated Program Review (IPR) external website at: http://www.bpa.gov/corporate/Finance/IBR/IPR/.
- Representatives from the Corps of Engineers, Bureau of Reclamation and Energy Northwest will be participating in the IPR process including presentations.
- All technical and managerial workshops will be held at BPA Headquarters.
- If participating by phone please dial into the bridge at 503-230-5566, then any time during or after the message and the double beep, enter 3981#. Presentation material will be posted on the IPR external website prior to the workshop taking place.
- The IPR process will include a public comment period for proposed program spending levels. The comment period opens May 10, 2010 and will close on July 29, 2010.
- Comments can be submitted at any of the scheduled workshops or submitted in writing to:
 - Bonneville Power Administration, P.O. Box 14428, Portland, OR 97293-4428,
 - Email to <u>comment@bpa.gov</u>,
 - Faxed to (503) 230-3285

BPA's Financial Disclosure Information

- All FY 2010-2017 information has been made publicly available by BPA on May 14, 2010 and does not contain Agency-approved Financial Information.
- All FY 2009 information has been made publicly available by BPA and contains Agency-approved Financial Information.
- All FY 2011 Rate Case data has been developed for publication in rates proceeding documents and is being provided by BPA.