

EXHIBIT NO. ____ (RG-10HC)
DOCKET NO. UE-07 ____
2007 PSE PCORC
WITNESS: ROGER GARRATT

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

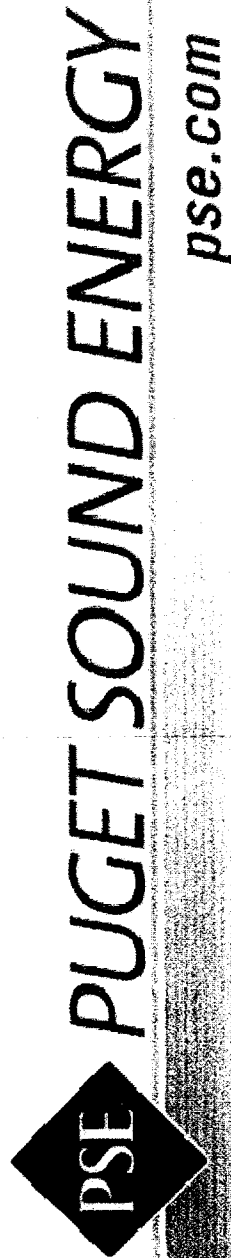
Respondent.

Docket No. UE-07 ____

**NINTH EXHIBIT (HIGHLY CONFIDENTIAL) TO THE
PREFILED DIRECT TESTIMONY OF
ROGER GARRATT
ON BEHALF OF PUGET SOUND ENERGY, INC.**

**REDACTED
VERSION**

MARCH 20, 2007



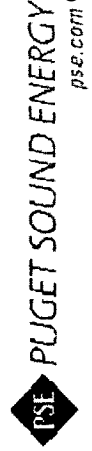
Resource Acquisition Update All-Source RFP Short List Selections

Meeting with WUTC Staff // October 13, 2006

Agenda

- Review Phase I Results
- Phase II Analysis
- Phase II Results
- Commercial Negotiations Update

Phase I Results



October 13, 2006//WUTC Staff Meeting

Revised Candidate Short List – 10 projects/3 PPAs

Fuel	Project	Owner /Developer	MW	Status	Offer	COD/Term
Geothermal	Redacted					
Hydro						
Wind						
Wind						
Wind						
Wind						
Natural Gas	Redacted					
Natural Gas						
Natural Gas						
Natural Gas						
Natural Gas						
Coal						
Coal						
PPA						
PPA						
PPA						
	Goldendale	Calpine	277	Operating	ownership	2007



Phase II Analysis

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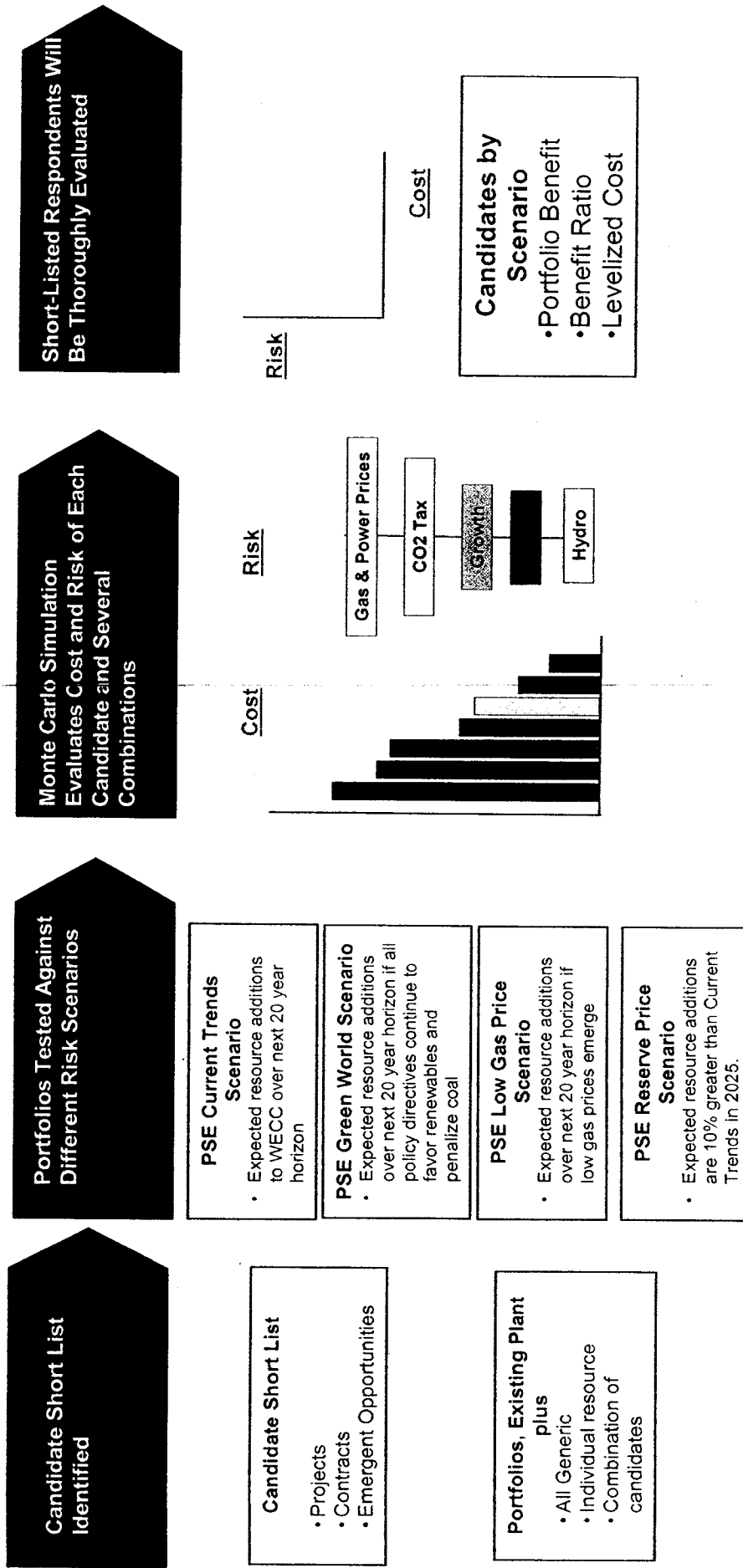
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Table of Contents

- Phase II Quantitative Analysis Process
 - Data Flows
 - Four Scenarios and Price Assumptions
 - 16 Resource Alternatives Evaluated
 - 7 Portfolios
- Phase II Results Static (by price scenario)
- Phase II Results Dynamic (Monte Carlo)



Phase II evaluation tested variety of portfolios under 4 different scenarios



Portfolio benefit ratio is balanced with levelized cost and portfolio benefit

Levelized cost is the average annual cost per MWh produced during a 20-year period for each project.

Portfolio benefit is the 20-year present value of all portfolio benefits derived from each project in comparison to the 2005 LCP generic portfolio.

Portfolio benefit ratio is the present value of portfolio benefits divided by the present value of the project revenue requirements

Reconcile # Projects Analyzed

16	13 projects plus 3 PPAs
+1	
+1	
+1	
-1	
-1	
-1	
Redacted	
<hr/>	
+16	

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Per WAC 480-07-160

Phase II - 16 Resource Evaluations

0	000 Generic Portfolio of wind, PPA, Gas and Coal
1	Redacted
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	552 Goldendale (Own) – 277 MW CCCT
16	

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Phase II - 7 Portfolios Evaluated in addition to the All Generic Portfolio

Port 1	(PPA),	(PPA),	(PPA) and Goldendale (OWN)
Port 2	Like Portfolio 1, with substitute of		for Goldendale, i.e., all PPA
Port 3	Like Portfolio 1, but without		
Port 4	Like Portfolio 1 with substitute of		for Goldendale
Port 5	Like Portfolio 1 with substitute		for
Port 6	Long Lead Hydro and Coal with bridge PPA.		
Port 7	Similar to LCP strategy of 10% wind, 45% coal, 45% gas.		

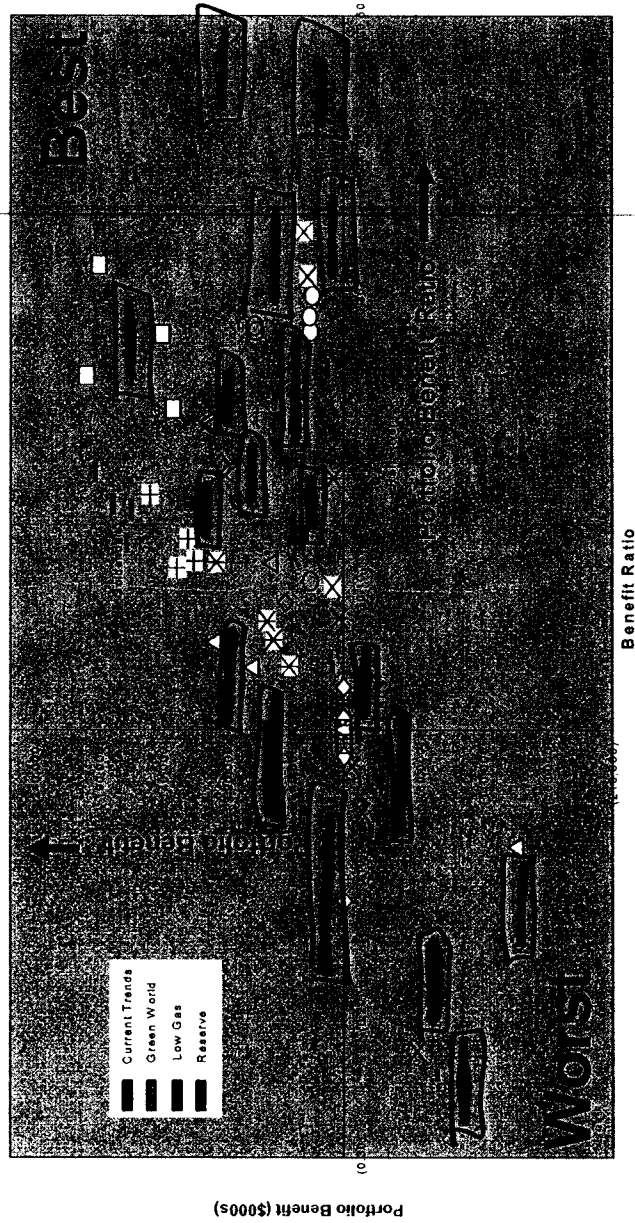
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Phase II – Individual Resources

- The following chart reflects the portfolio benefit on and the portfolio benefit ratio
 - ◆ Every project is indicated by a shape (e.g. Goldendale is a horizontal bar)
 - ◆ Every scenario is specific color (e.g. Low Gas is red)



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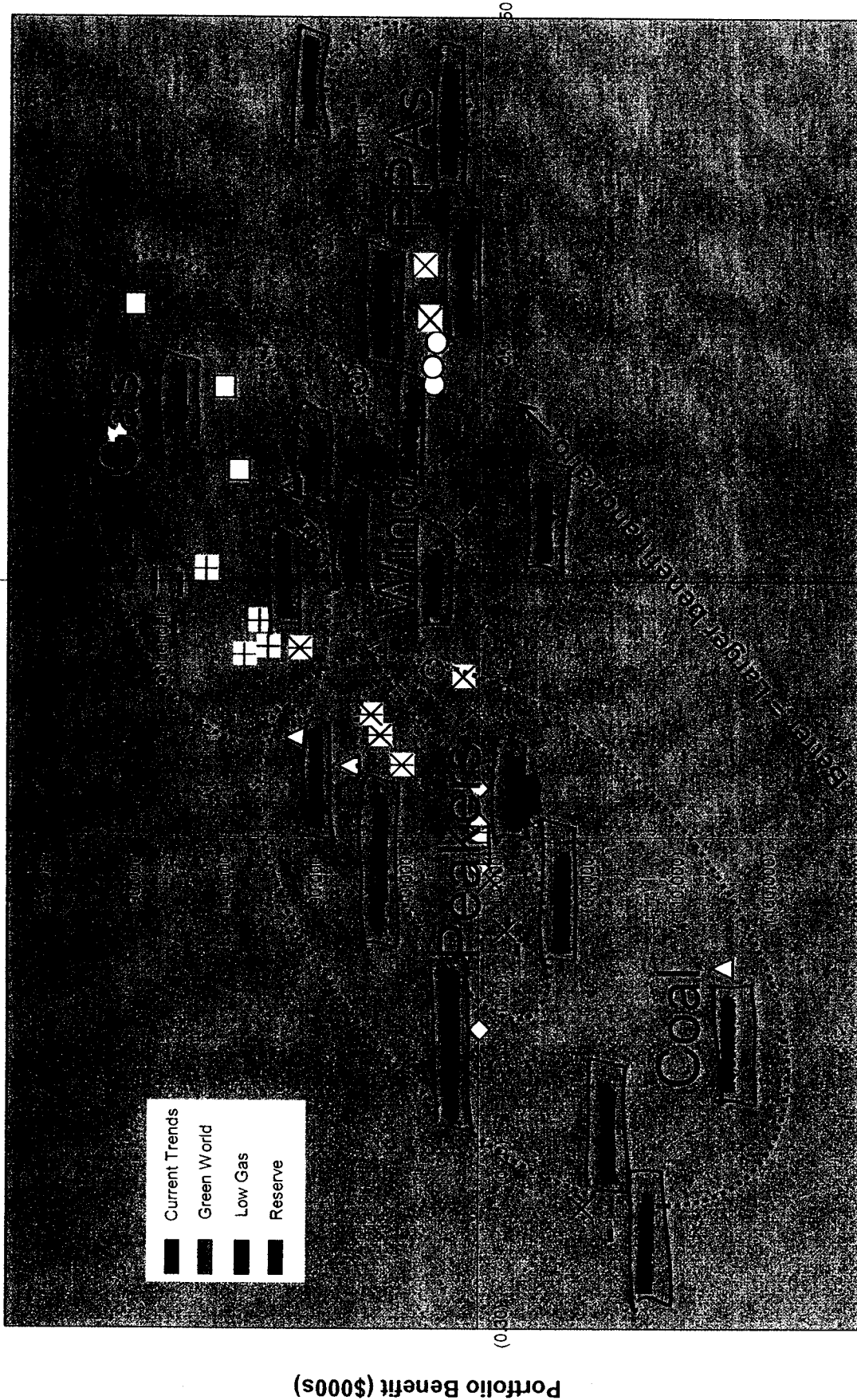
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Phase II – Individual Resources



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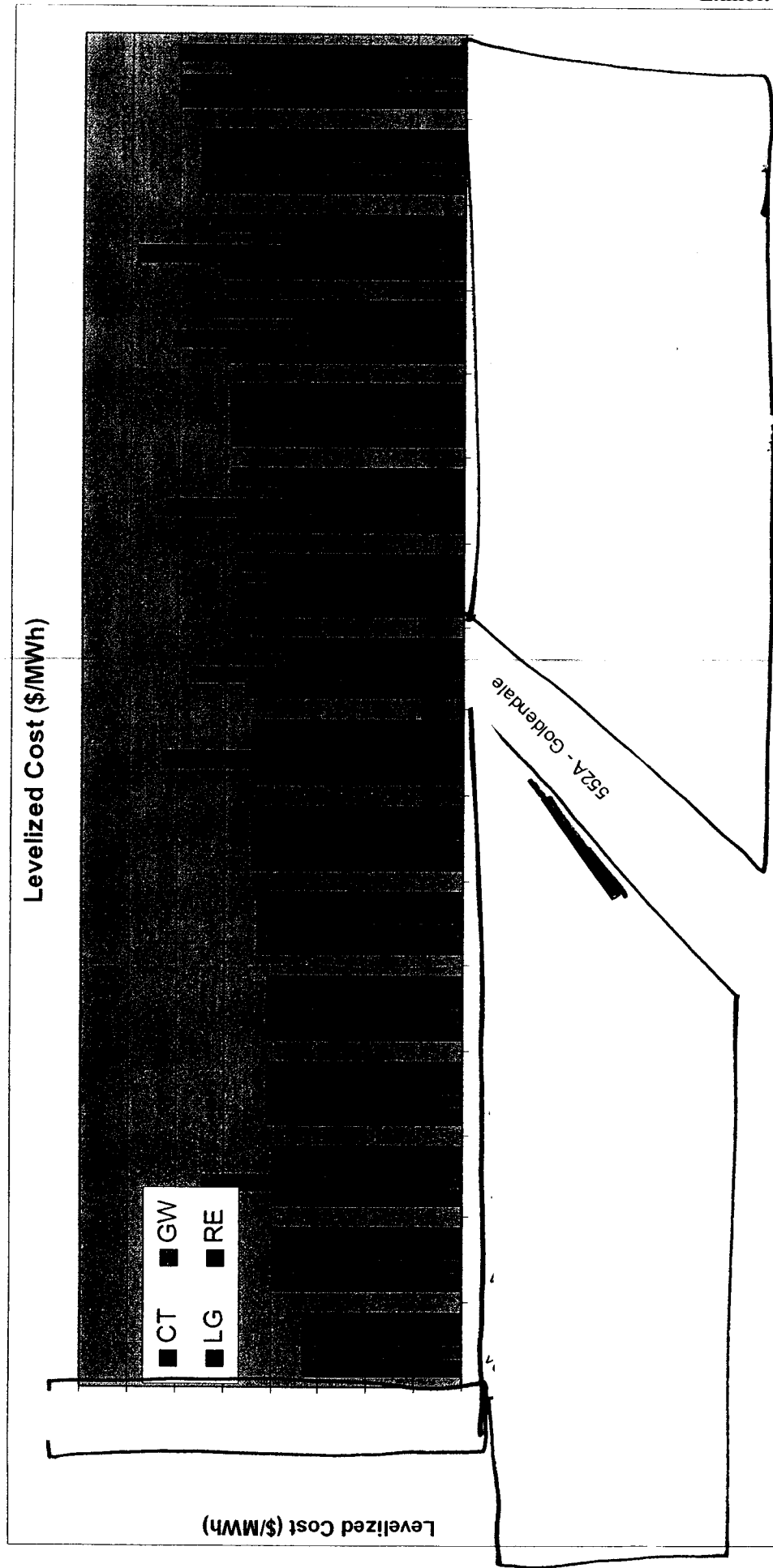
Benefit Ratio

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Levelized Cost of Individual Resources



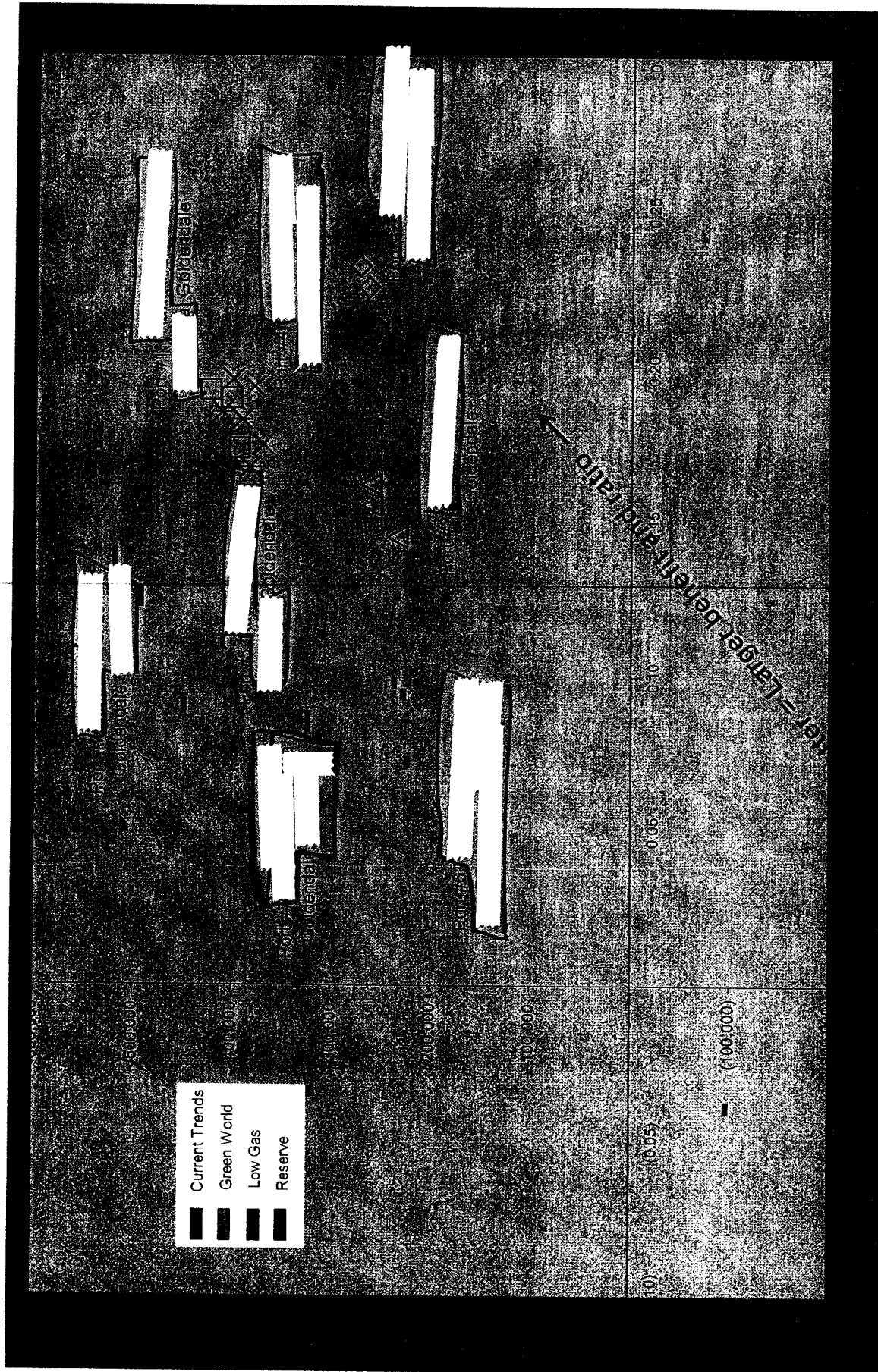
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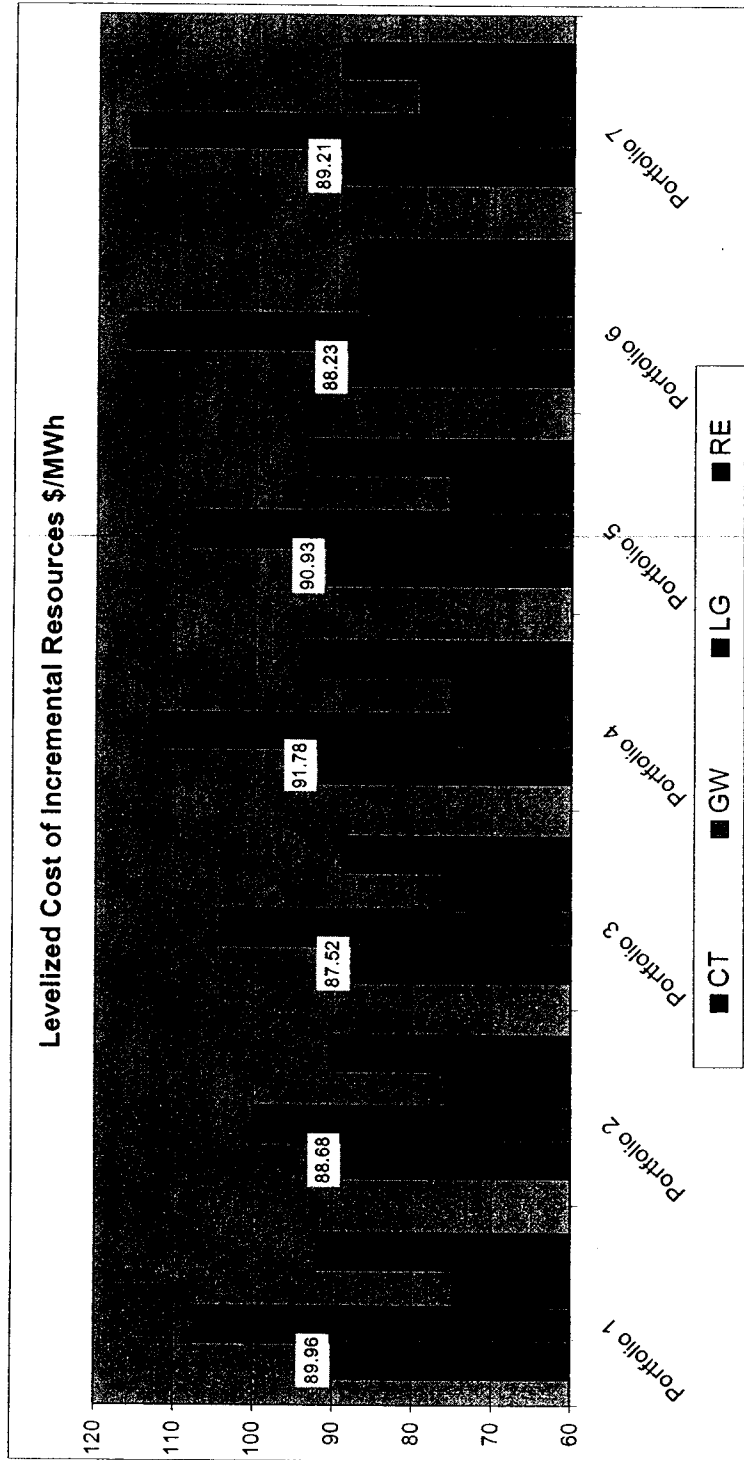
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Phase II – Portfolios



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Levelized Cost of Portfolio Additions



Levelized cost (20 year)
of resource additions in
\$/MWh

	CT	GW	LG	RE
Portfolio 1	89.96	107.45	74.76	91.96
Portfolio 2	88.68	100.08	75.76	90.44
Portfolio 3	87.52	104.33	76.07	88.77
Portfolio 4	91.78	111.86	75.08	94.27
Portfolio 5	90.93	108.34	75.42	93.22
Portfolio 6	88.23	116.30	86.99	87.11
Portfolio 7	89.21	115.97	79.40	89.28

Goldendale shows lowest cost and risk in the Current Trends price scenario

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Resource Cost and Risk - Current Trends

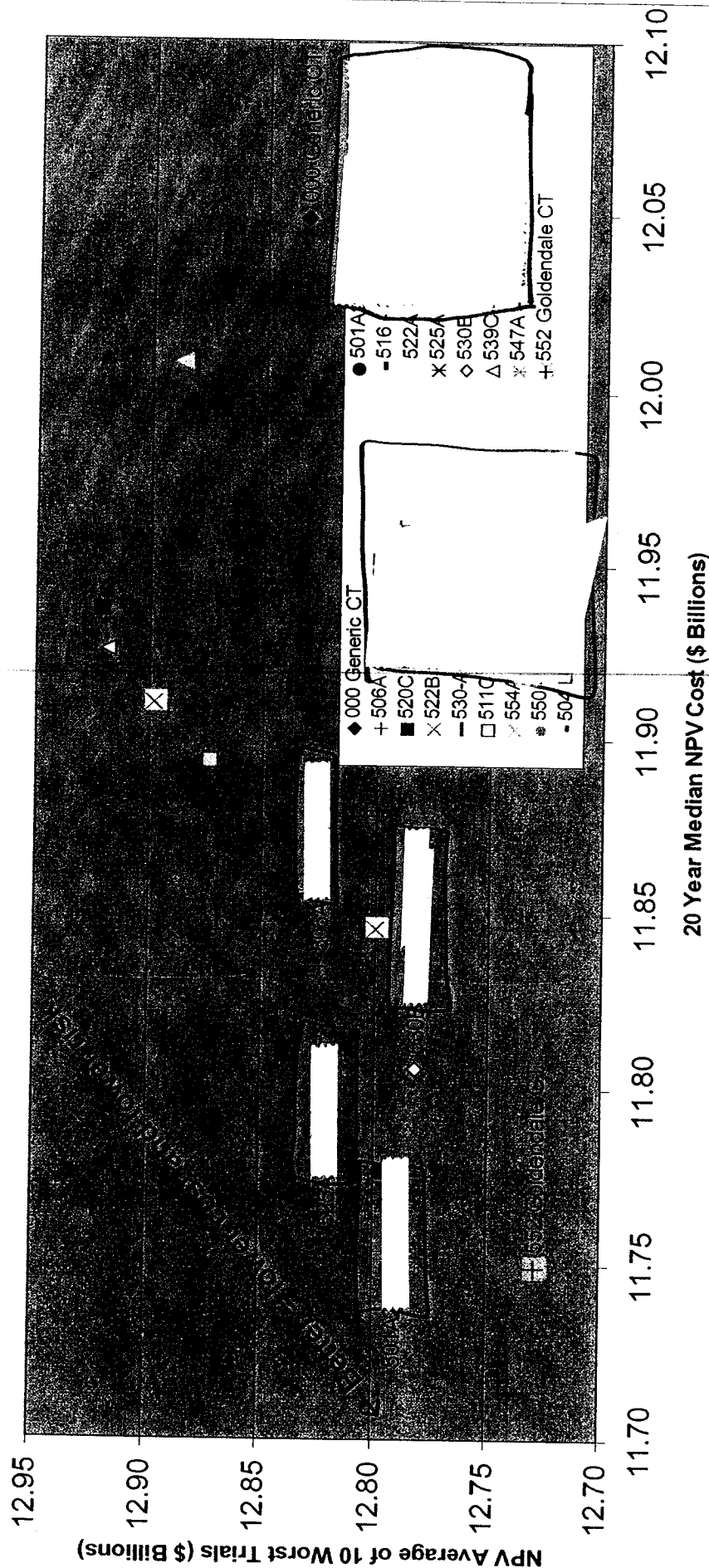


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Phase II Short List Selections

Final Short List Selections: 5 projects/2 short term PPAs

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Fuel	Project	Owner /Developer	MW	Status	Offer	COD/Term
Geothermal						
Wind						
Natural Gas						
Natural Gas	Goldendale	Calpine	277	Operating since September 2004	ownership	Jan-07
Natural Gas						
PPA						
PPA						



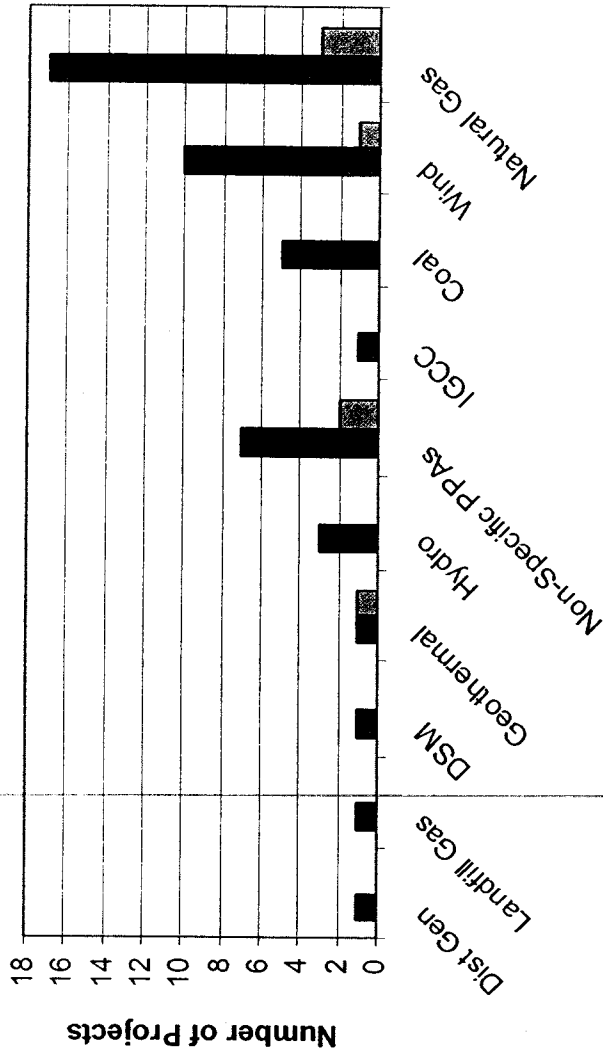
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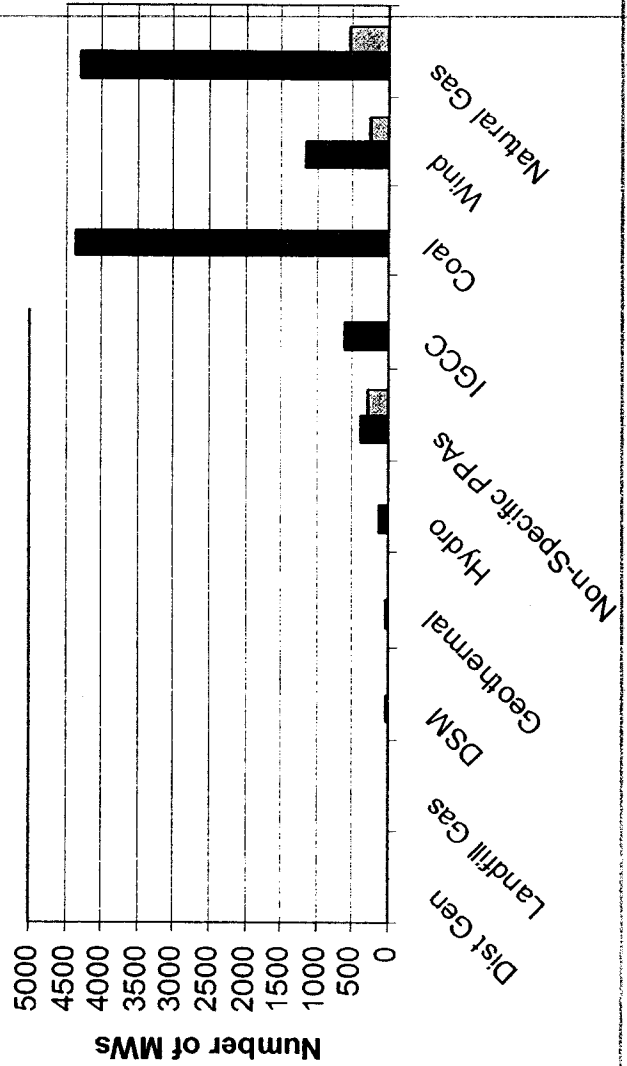
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2005 RFP Proposed vs. Short Listed Projects

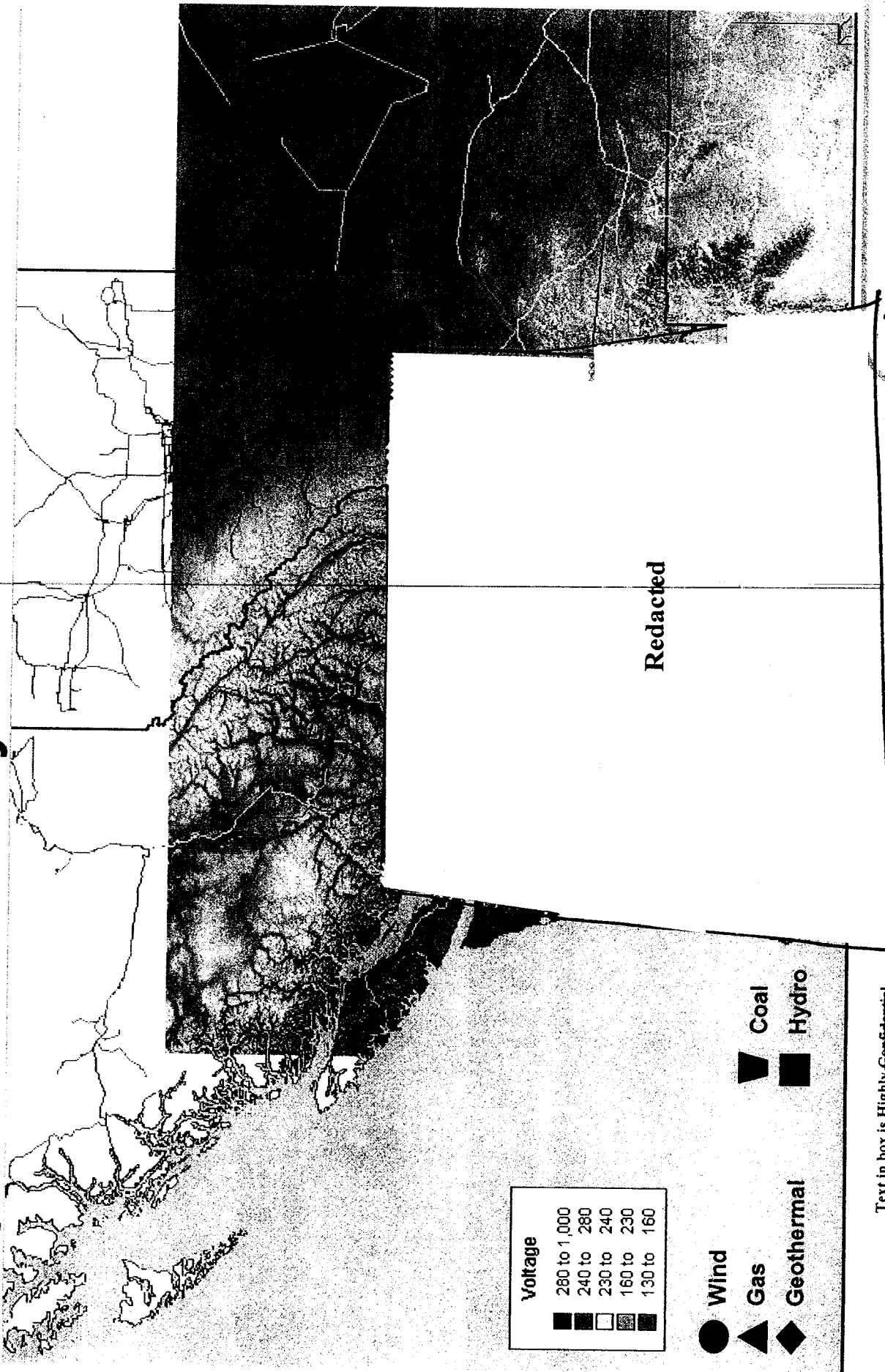
By Number of Projects...



By Number of Megawatts...

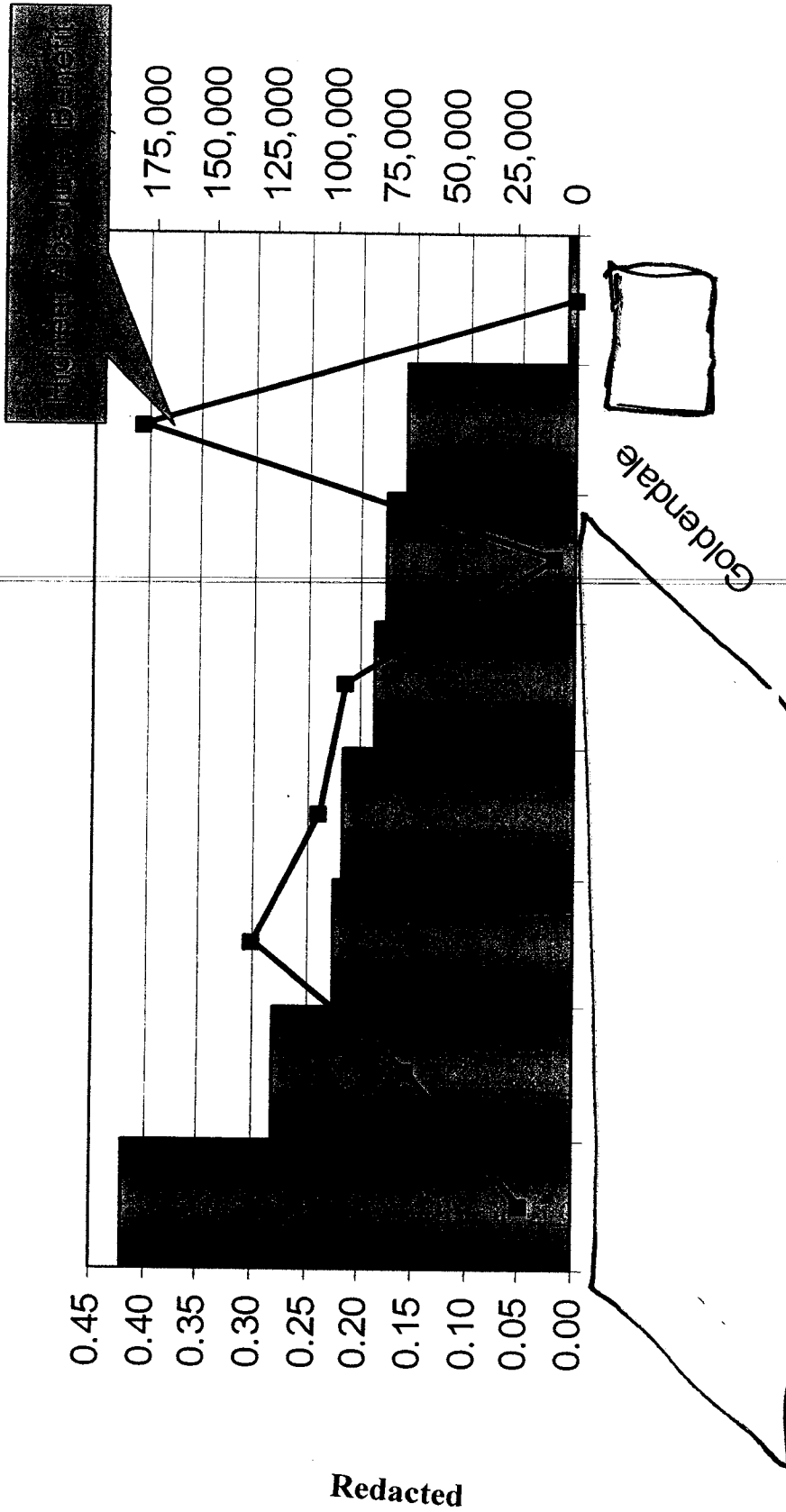


Project Short List by Location



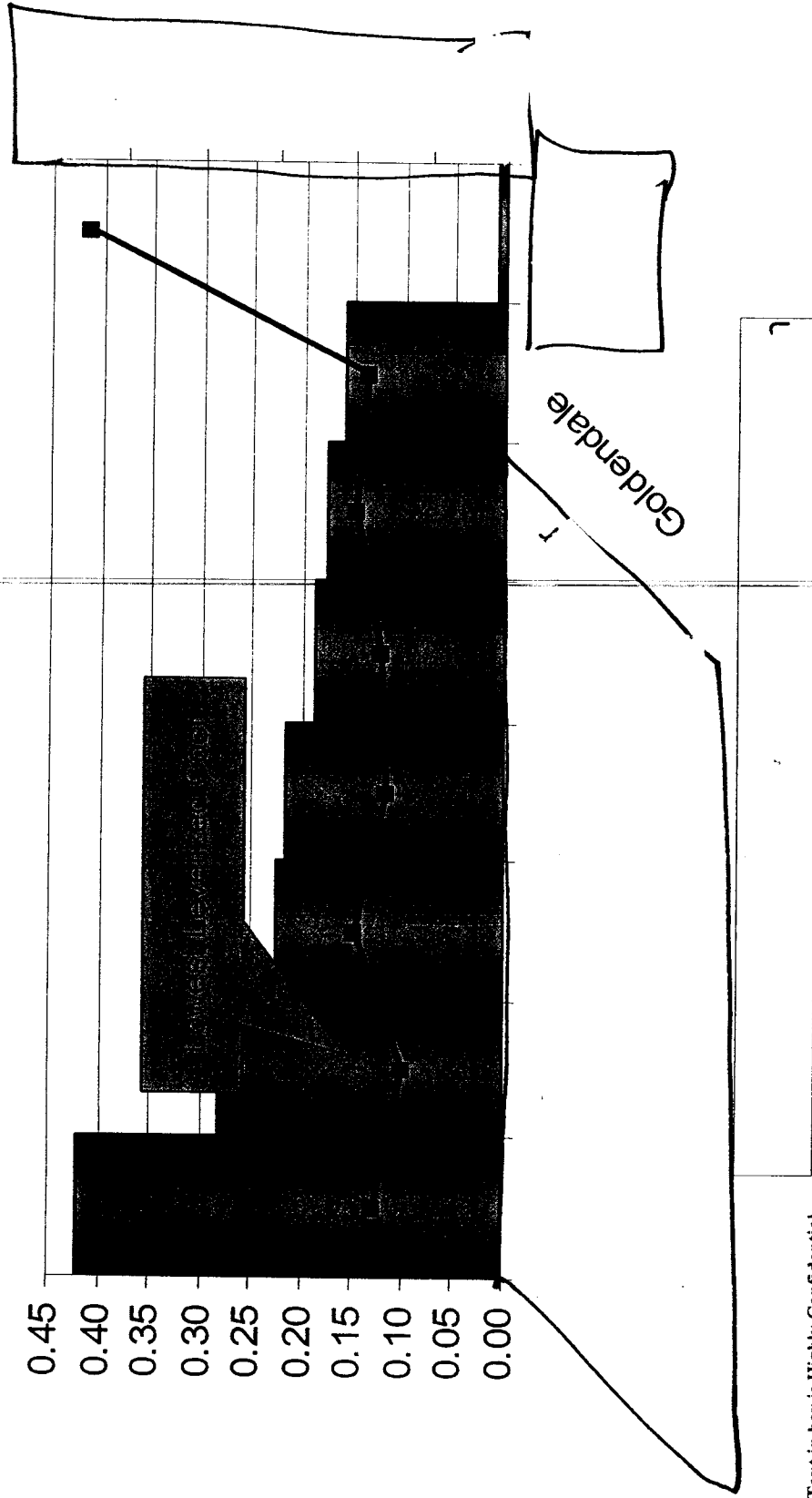
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Benefit ratio must be balanced with absolute portfolio benefit



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...Benefit ratio must be balanced with 20-year levelized cost



“Continuing Investigation”

- [Redacted]
♦ Pros: [Redacted]
♦ Cons: [Redacted]
- [Redacted]
♦ Pros: [Redacted]
♦ Cons: [Redacted]

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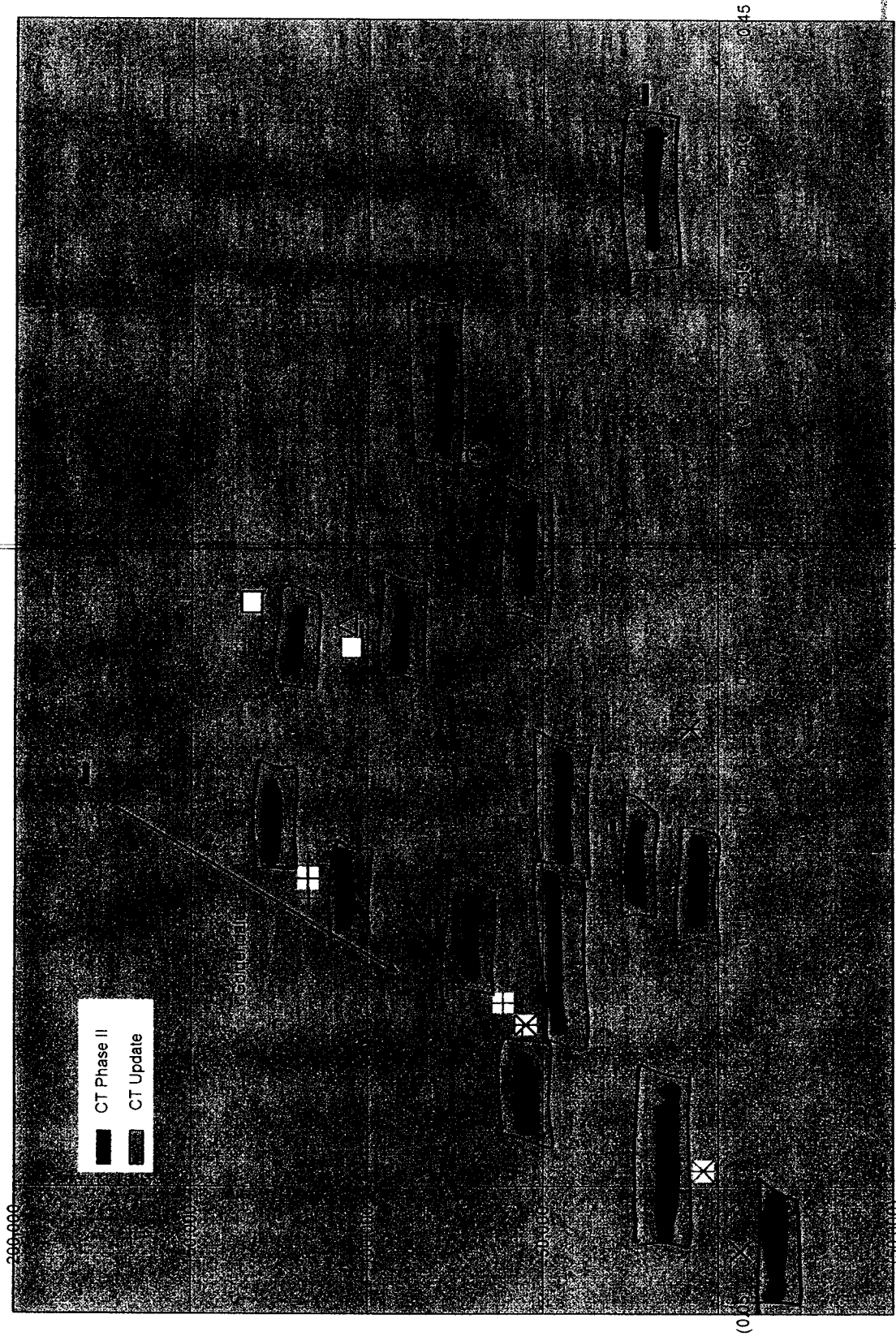
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Post Phase II Interim Update



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Updated gas price does not change PSE's short listed selections



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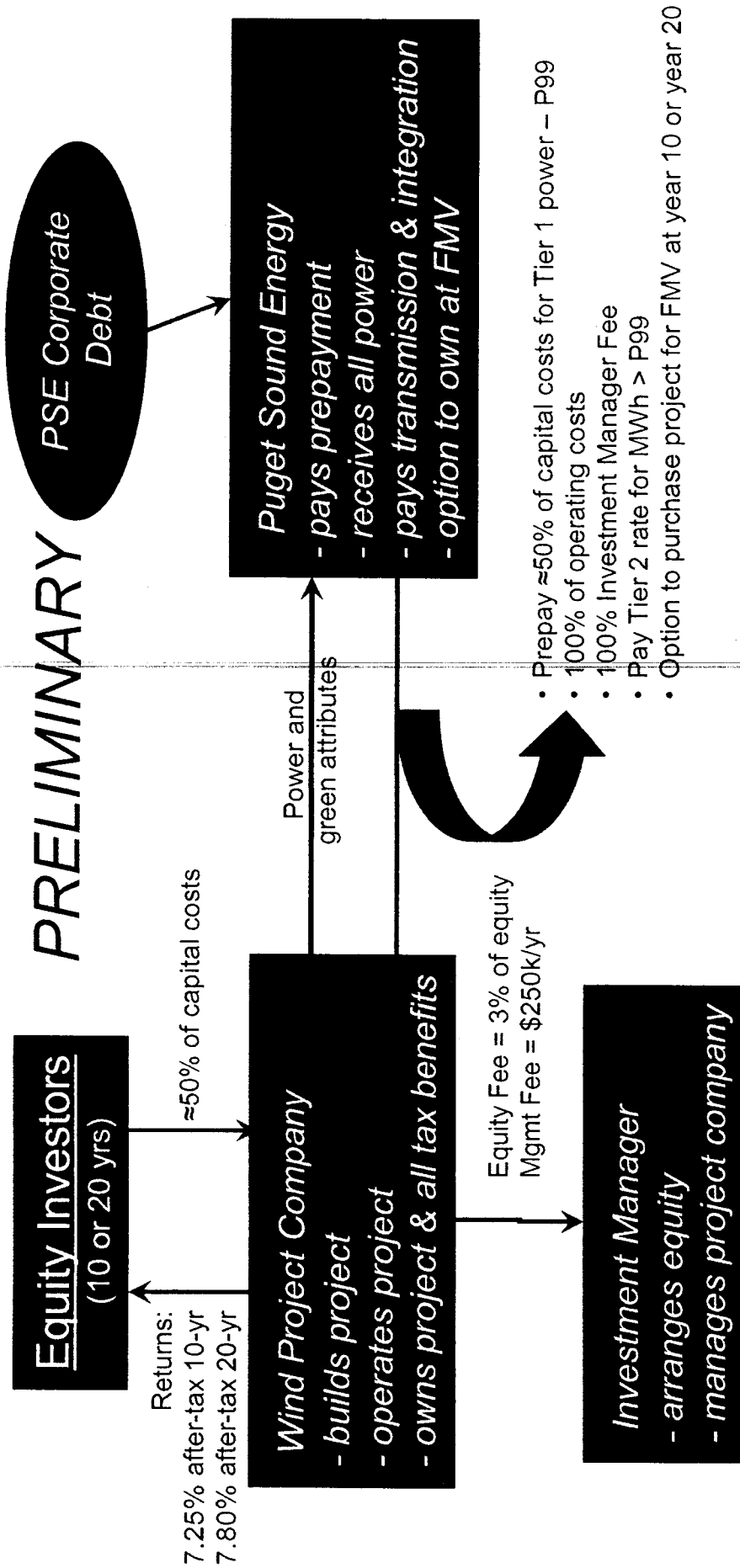
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Commercial Landscape

- Significantly higher resource costs than 2004 RFP
- Strong competition for renewables
 - ◆ High likelihood that Washington will have an RPS
 - ◆ PSE looking at possibility for expansion of existing wind projects
- PSE's tax appetite is limited; alternative tax financing structures being explored
 - ◆ 200-MW White Creek project as potential financing model for co-ops and munis
 - ◆ Application for IOUs for projects \$50M or greater
 - ◆ Preserves significant amount of PTC benefit
 - ◆ As close to ownership as possible

Hybrid Finance Structure for Wind Projects



Notes:

1. Extremely important that Wind Project Company and PSE recognized as two separate tax payers
2. Prepayment reduces risk to equity investor and thus lower returns required by equity investor

3. Year 10:

- recalculate energy estimates at P50 and P99
- reset contracted power price for Tier 2 power sales
- PSE buyout at Fair Market Value (FMV) subject to minimum 10 year returns to equity investor

4. PSE sets up regulatory asset October 18, 2006/10th Staff Meeting

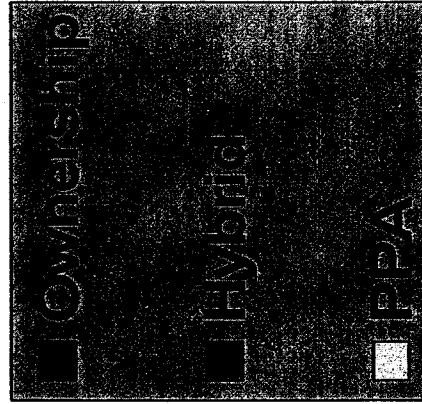
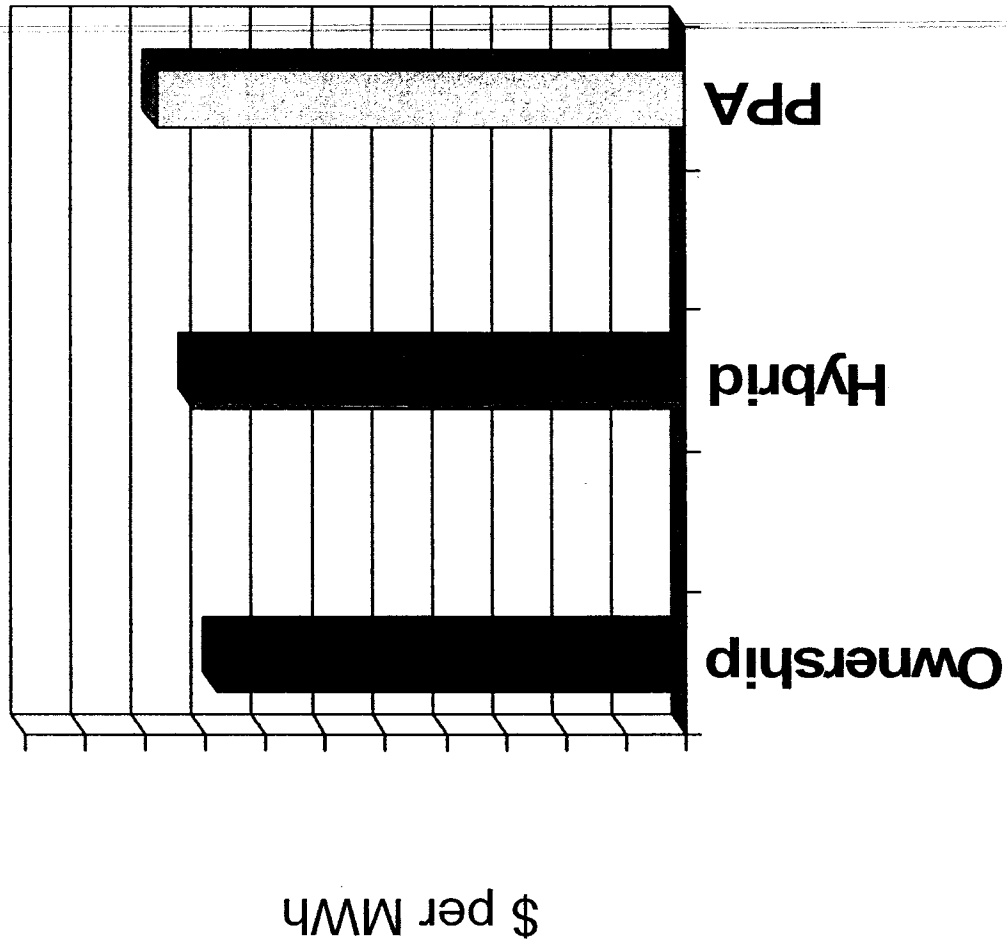
Comparison of Wind Acquisition Strategies

Relationship to Wind Project	PSE Ownership	Prepay Hybrid Finance Structure	Power Purchase Agreement
Legal Title	PSE	Tax Equity	IPP
Capital Investment	PSE	50% PSE and 50% Tax Equity	IPP
Physical Possession	PSE	Tax Equity	IPP
Operating Costs	PSE	PSE	IPP
Operating Control	PSE	Tax Equity (subject to negative covenants in favor of PSE)	IPP
Right to Receive Power	PSE	PSE	PSE
Right to Curtail Production	PSE	None	None
Basis for Cost of Energy	CAPEX + OPEX + PSE blended cost of capital	CAPEX + OPEX + Partial PSE cost of capital and partial cost of Tax Equity	Negotiated rates based on power market conditions
CAPEX Included in Rate Base	100%	Prepay Amount (~50% of CAPEX)	0%
Benefit of PTCs	PSE (assuming adequate tax capacity)	PSE Indirectly, through low cost of energy (Tax Equity directly as owner and producer)	Retained by Project Company (indirect subsidy to power price)
Impact of PTCs on Rate Base	Included at full value (even if PSE cannot use them)	None	None
Assets Recorded on Balance Sheet	100% of CAPEX	Prepay Amount (~50% of CAPEX)	0 (but see capital lease rules)
Liabilities Recorded on Balance Sheet	PSE debt, as used	PSE debt to fund Prepay	0 (but see capital lease rules)
Residual Value	PSE	Tax Equity but PSE may purchase at 10 & 20 yrs at FMV (at 10 yrs FMV "collared" by contracted rates for power, conditioned on minimum returns to investors)	IPP
Modifications or Improvements to Equipment	at PSE discretion and expense	by request, and as negotiated	by request, and as negotiated

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Economic Comparison – Illustrative Only



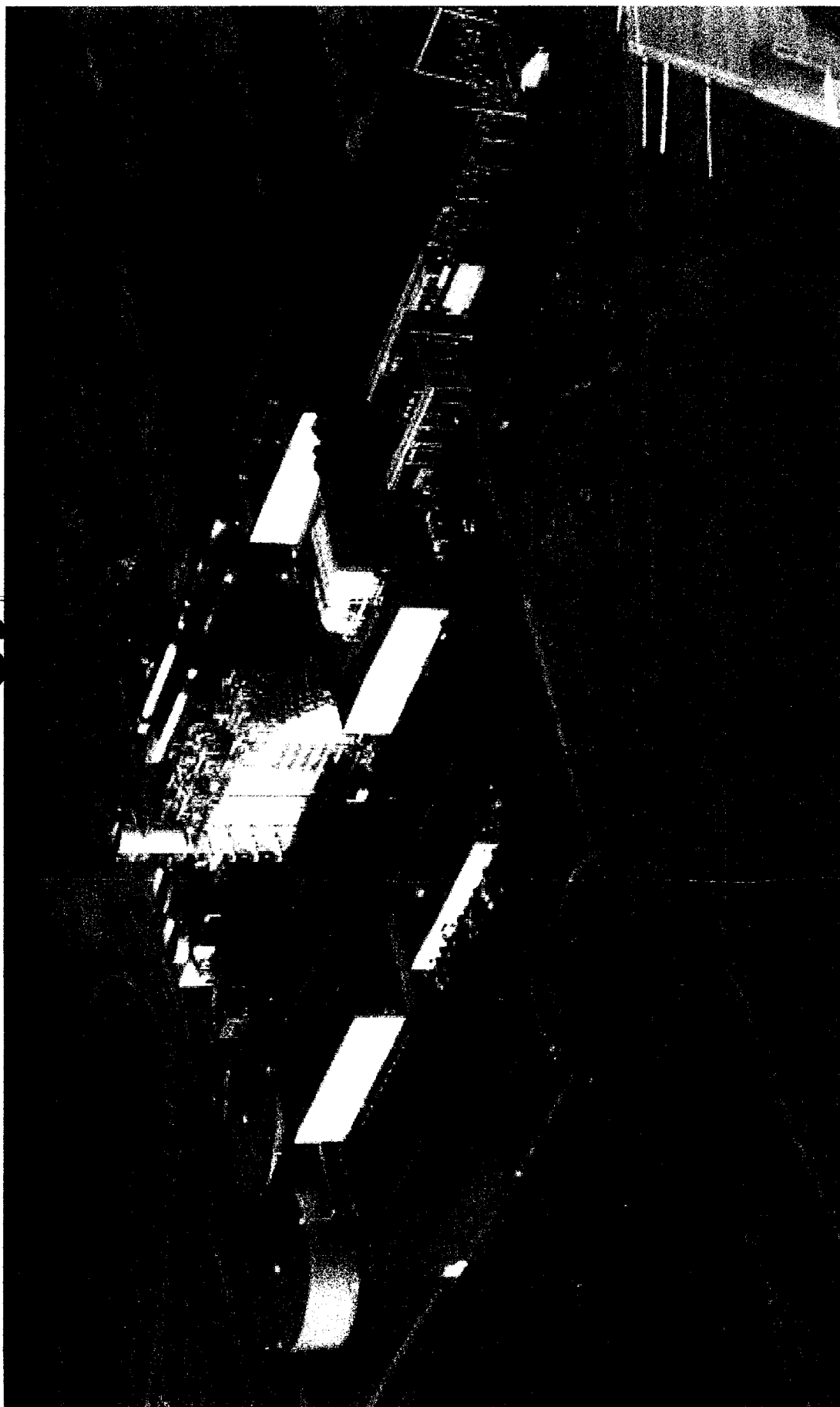
Post-Proposal Negotiations Update

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Goldendale Energy Center



Goldendale Profile

COD: September 2004

Location: West of the City of Goldendale, WA; Goldendale Industrial Park

Size: 250-MW combined cycle plant; incremental 25 MW duct fire capability

Technology: 1x1; GE 7FA turbine (Model 7241); Hitachi HRSG w/duct burner; 90-MW Hitachi steam turbine; 115-MW Siemens generator; hybrid wet/dry cooling

Heat Rate: [REDACTED]

Fuel: [REDACTED]

Gas Transport: NWPL 5.1 mile lateral (50,350 Dth/d); no NWPL mainline transportation

Transmission: 315 MW Klickitat PUD to BPA Harvalum Substation (term through 2031)
250 MW from BPA Harvalum to Mid-C (contract term 2001-2023)

Water Supply: 30-year agreement with the City of Goldendale. Sanitary and wastewater discharged to City of Goldendale sewer system; stormwater is directed to drainage ditch across the facility to 2 detention ponds

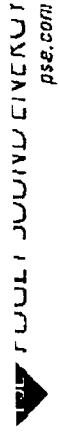
Operation: 170 starts (Sept04-Sept06); 8445 hours of operation

O&M: No LTSA (O&M provided by Calpine Services)

Levelized Cost \$ [REDACTED] (based on interim gas update)

Goldendale Gas Transport Plan

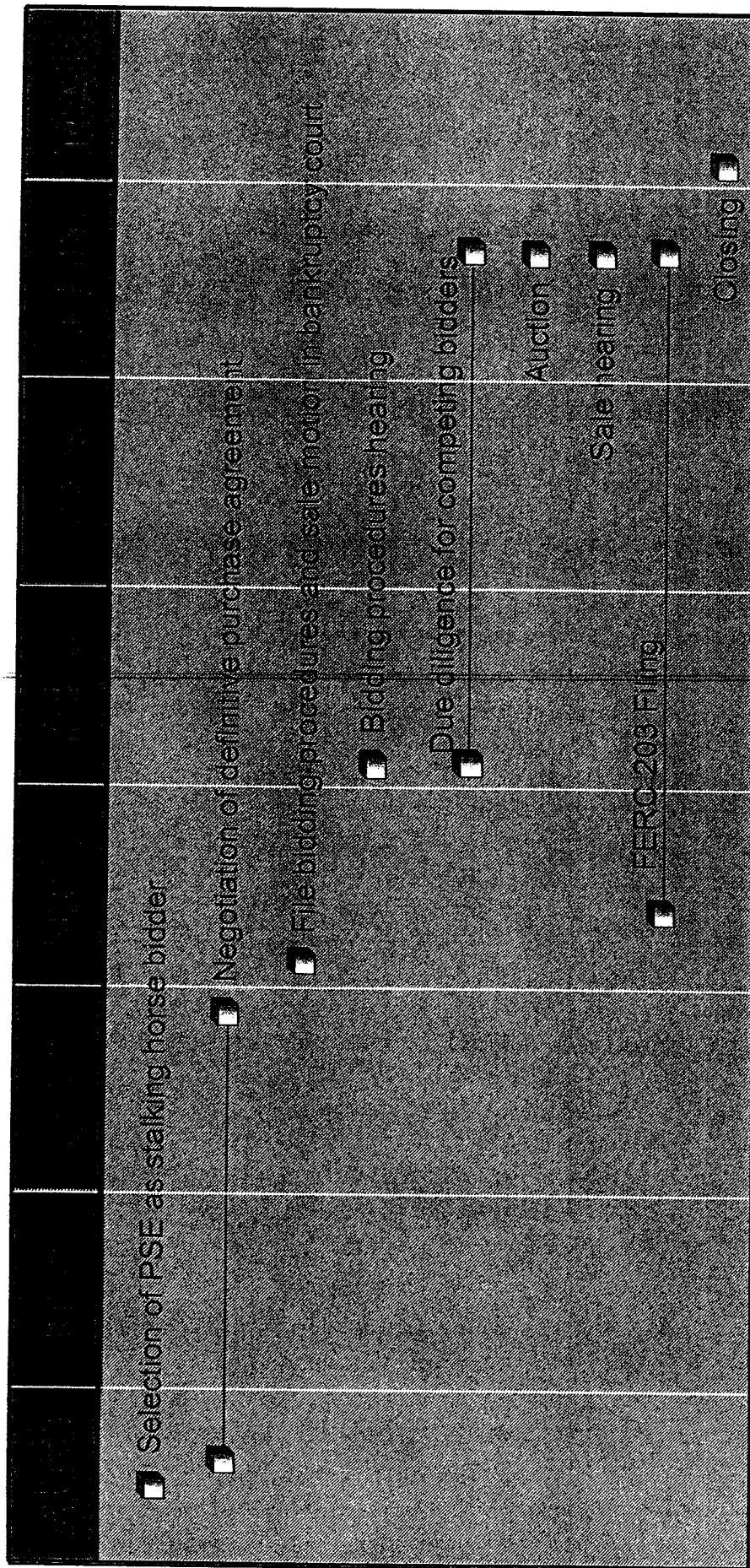
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Calpine Bankruptcy Process



Note: Timing is best estimate.



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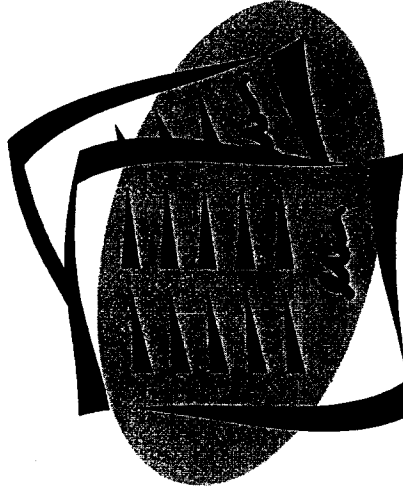
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Purchase Power Agreements

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-  selected as most favorable short term PPAs
- Required update to PSE's KWI model to test resources with and without acquisitions
- Price refresh week of October 16th



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Appendix



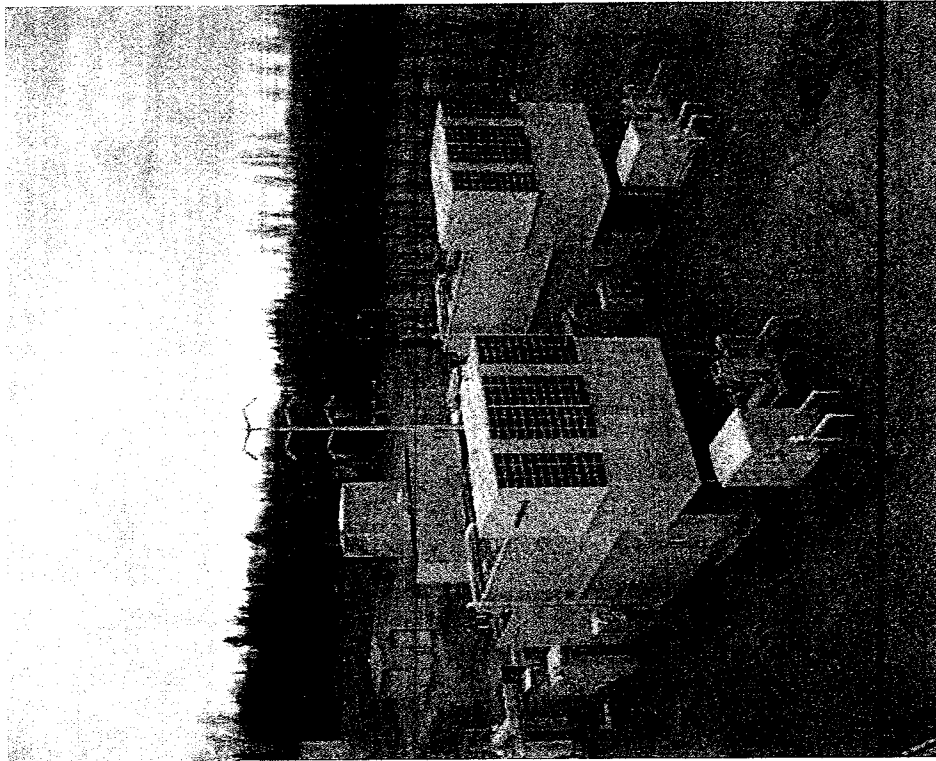
Whitehorn Units 2&3



Overview – Whitehorn

- Location
 - ◆ Adjacent to the BP Cherry Point Refinery
 - ◆ Northwest corner of Whatcom County, 2 miles from Birch Bay
 - ◆ 10 miles south of Canadian border
- Currently Leased from Public Service Resources Corporation (PSRC)
 - ◆ Annual ~~lease~~ payments of [REDACTED] every 6 months in arrears
 - ◆ Units are GE MS7001Es peakers, rated at 75 MW each and installed in early 1980s
 - ◆ Unit #2 recently experienced force outage requiring an overhaul, at PSE cost
 - ◆ Lease terminates on February 2, 2009

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Proposed Purchase – Whitehorn

- PSE has agreed, in principle, to purchase units from PSRC at end of lease

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- ♦ **Capitalized Cost \$000**

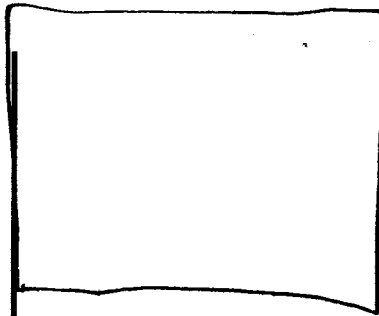
Contract price

PSRC legal fees & transaction costs

PSE legal fees & transaction

Real estate excise tax @ 1.78%

Total

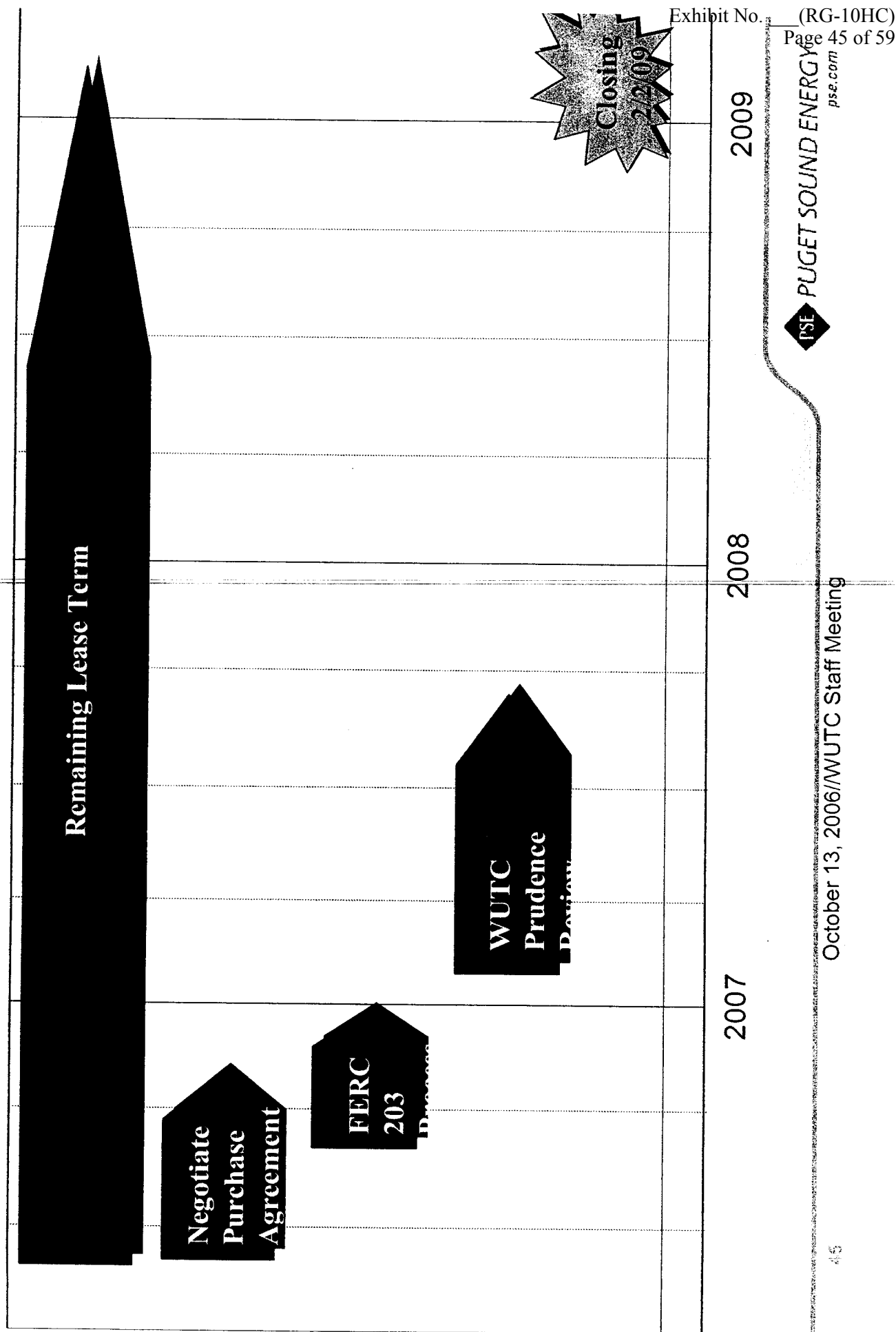


(capped)
(estimate)

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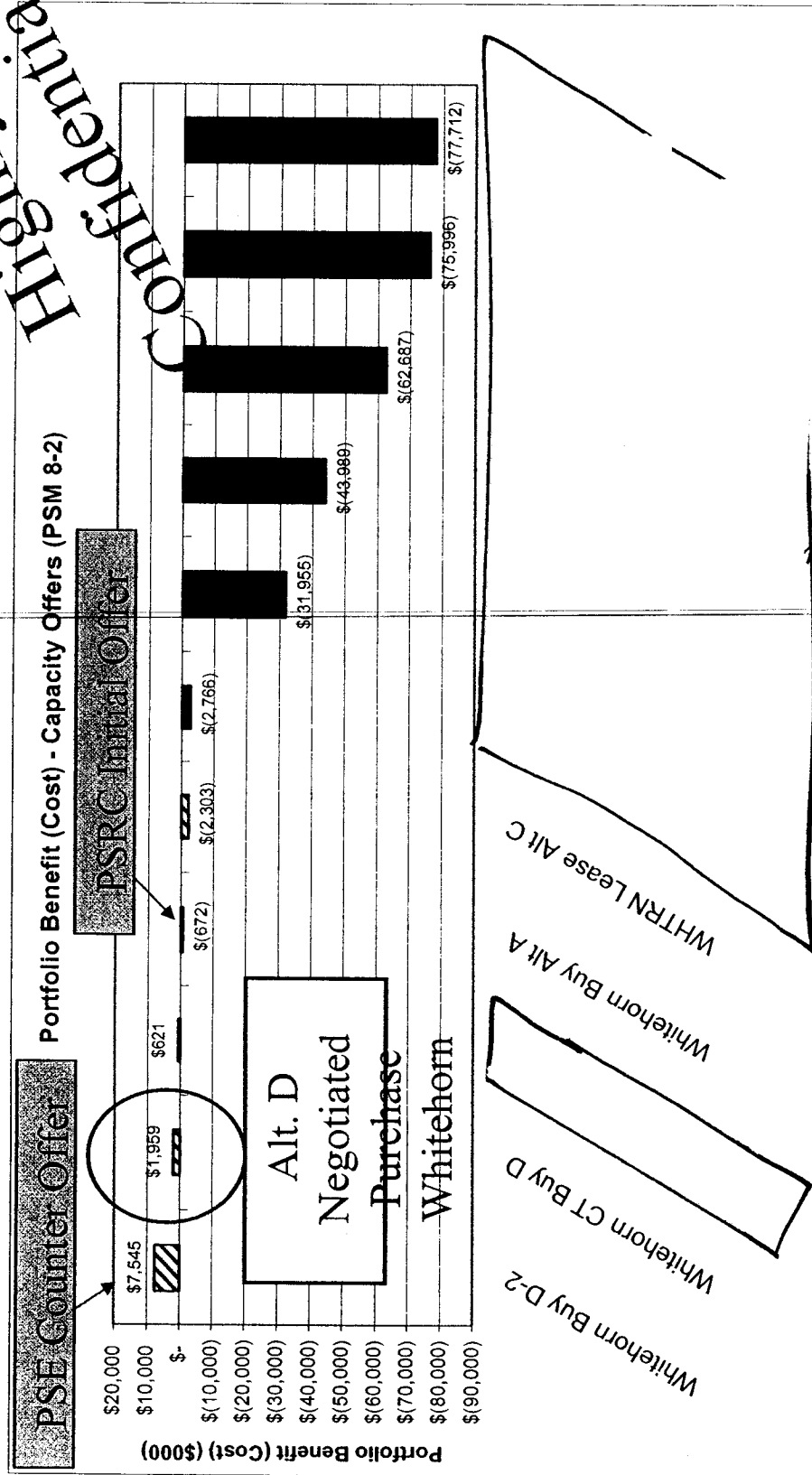
- Conditions precedent to closing
 - ♦ FERC Approval by 12/22/06
- Purchase agreement will provide PSE with a general release under the lease that would significantly restrict PSRC's ability to claim defaults against PSE for the remainder of the lease term.

Whitehorn Transaction Timing



Whitehorn Purchase

20-yr portfolio benefit is favorable compared with RFP capacity offers



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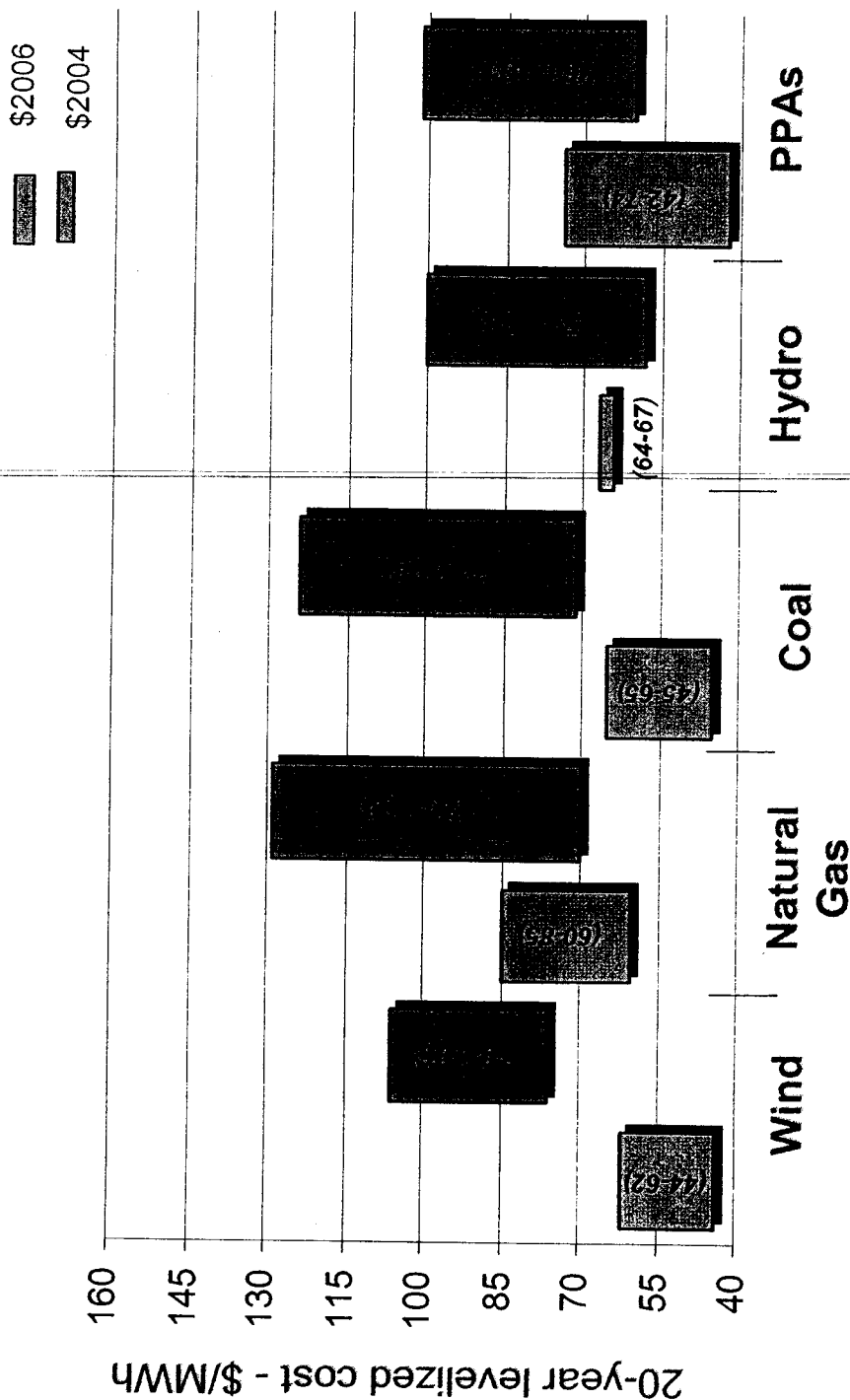
EMC Recommendation September 8, 2006

- EMC recommend to the President and CEO that the Company enter into definitive purchase agreements with Public Service Resource Corporation to acquire the Whitehorn 2&3 units at the end of their lease, upon achievement of commercial terms satisfactory to the Senior Vice President of Energy Resources.

Next Steps – Whitehorn

- Obtain FERC 203 approval, filed 9/11/06
- Obtain President & CEO approval
- Execute definitive purchase agreements

Significant increase in resource costs since 2004 RFP



1. PPA range represents fixed price offers only and is inclusive of imputed debt and exclusive of credit
2. 2004 levelized costs do not include transmission from Mid-C to PSE's system

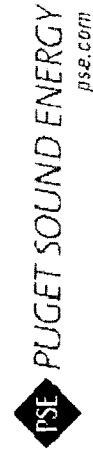
Four Scenarios

Scenario	Reference Current Trends	Reserve/Overbuild	High Price/Green World	Low Gas Price	Notes
WECC Demand (AURORA)	Reference (from EPIS) WECC Average Growth Rate 1.8%	Reference (from EPIS) WECC Average Growth Rate 1.8%	Low WECC Average Growth Rate 1.1%	Reference WECC Average Growth Rate 1.8%	Low Growth Rate is 60% of Reference Growth Rate for each area
Gas Price (Nominal \$ Levelized for 2007-2026)	Global Insights Reference; Levelized, plus Kioderx forwards 2007 – 2010 \$ [REDACTED] MMBTU	Global Insights Reference; Levelized, plus Kioderx forwards 2007 – 2010 \$ [REDACTED] MMBTU	Global Insights High Price; Levelized, plus Kioderx forwards 2007 – 2010 \$ [REDACTED] MMBTU	Global Insights Low Economic Growth; Levelized; Kioderx forwards 2007 – 2008 \$ [REDACTED] MMBTU	Global Insights (12/05) and Kioderx forwards (2007-2010) as of 12/19/2005
PSE Demand (PSM)	Reference	Reference	Low	Reference	Most recent PSE load forecast.
Carbon Costs (AURORA)	NCEP Nominal \$/ton by year: 2010: \$5.00 2015: \$6.38 2020: \$8.14	NCEP Nominal \$/ton by year: 2010: \$5.00 2015: \$6.38 2020: \$8.14	Clean Power (Jeffords) Nominal \$/ton by year: 2010: \$21.00 2015: \$31.17 2020: \$45.35	NCEP Nominal \$/ton by year: 2010: \$5.00 2015: \$6.38 2020: \$8.14	NCEP increases 2.5% real per year. Clean Power increases about 4% per year real over 20 years
Overbuild	No	Net Additions are approx. 30% greater in 2015 and 10% greater in 2025	No	No	

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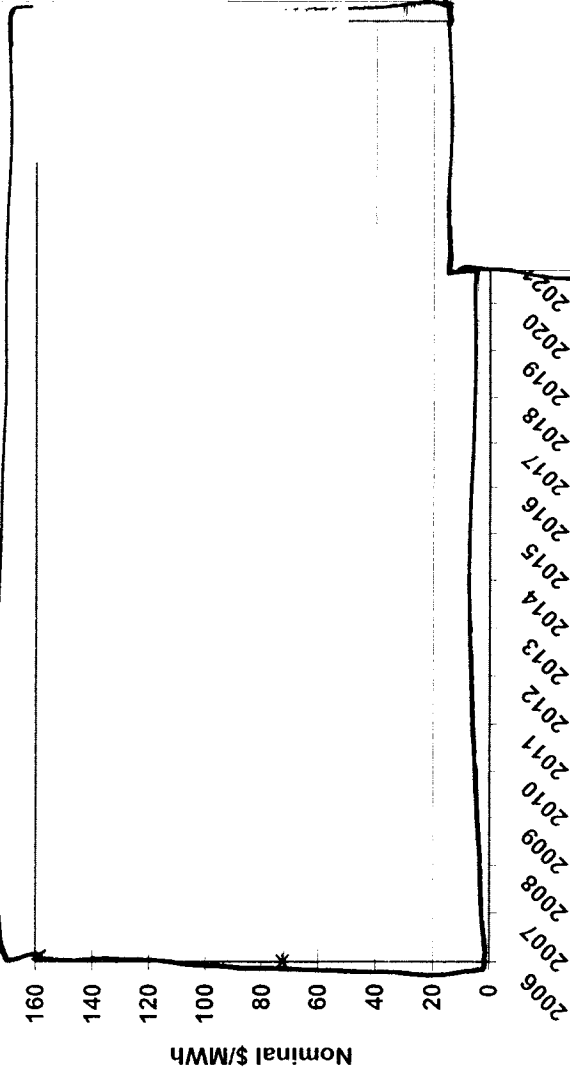
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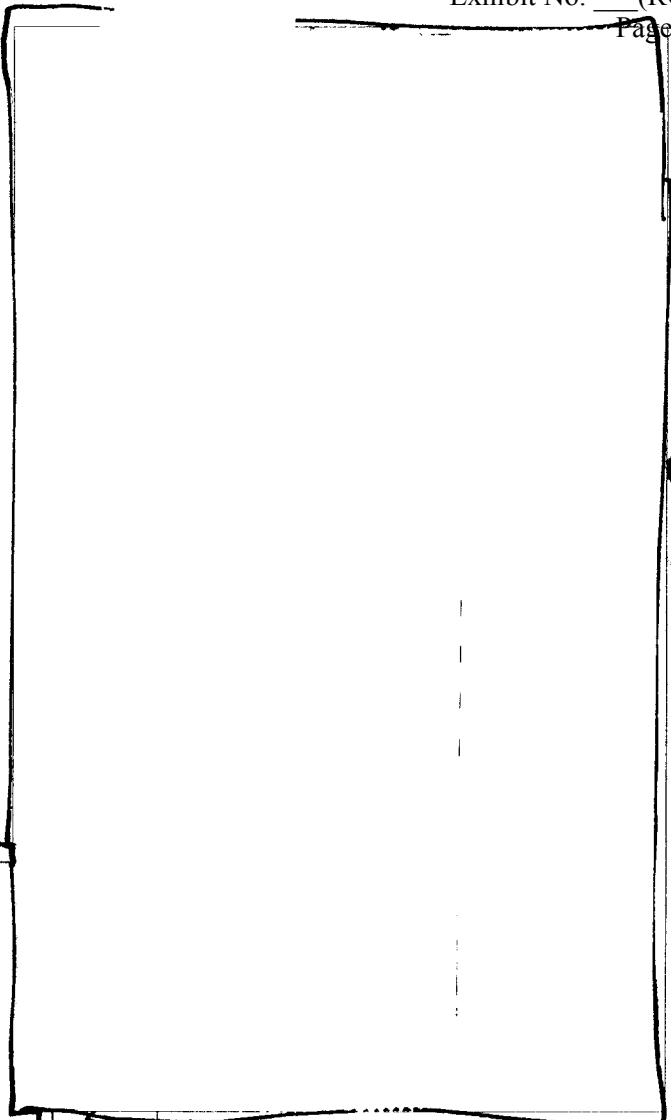
Scenario Power and Gas Prices

WECC PNW Washington Central



AURORA model power prices forecasts

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Global Insights Gas (12/05):
Reference, High and Low for
2011 - 2026

Kiodex forwards 2007 – 2010,
except through 2008 for Low
Gas

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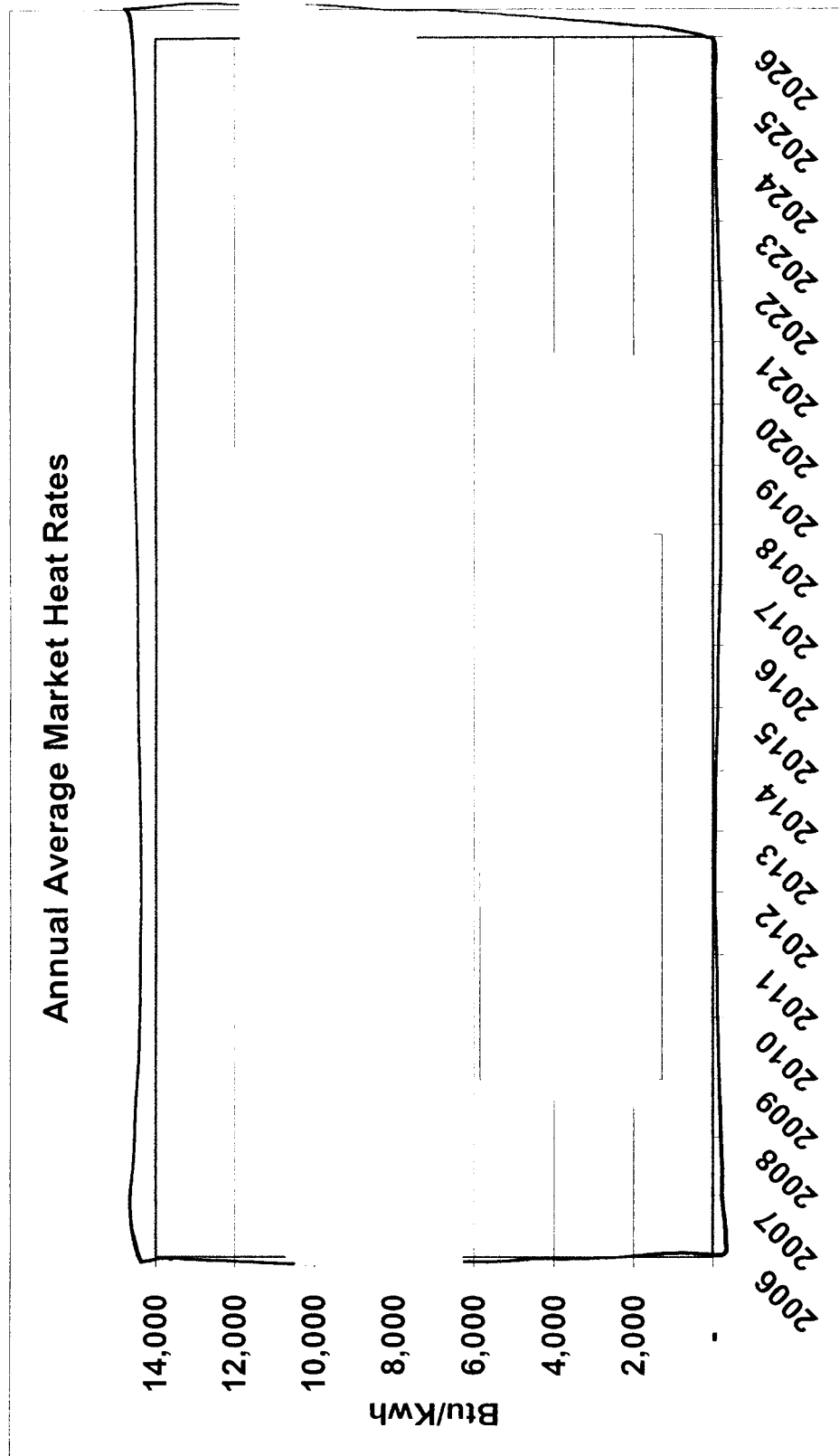
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Scenario Heat Rates

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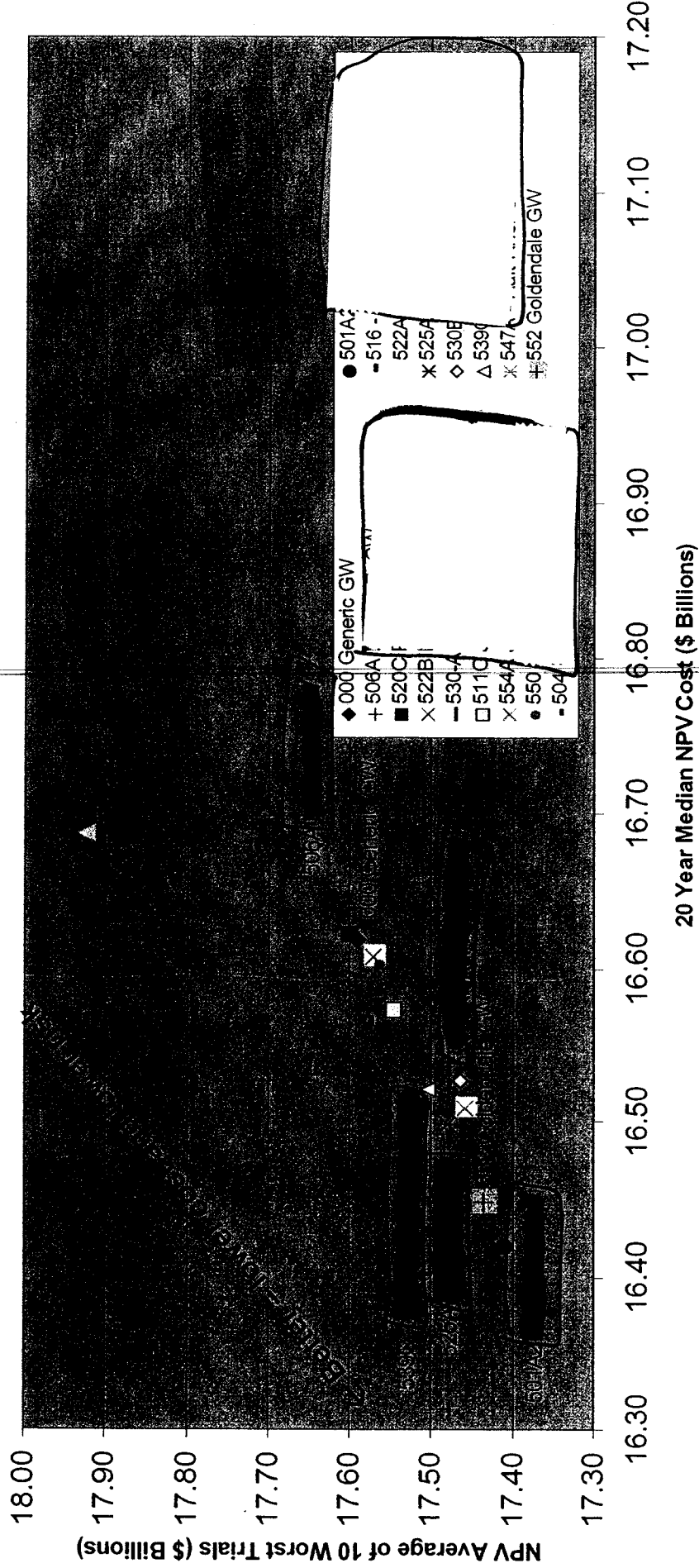
Portfolio Design Criteria

Portfolios will be designed to:

- Add resources to meet, or come close to meeting, B2 Standard for energy need. Because PSE will have another RFP at the end of 2007, filling need for future years not as critical.
- Meet Renewable Portfolio Standard as proposed by WA (Initiative 937). 9% 2016 15% 2020
- Test portfolio cost and risk of owning new gas plant(s) versus contracting via PPAs
- Test incremental benefit of short listed resources by adding and subtracting from portfolios.
- Test portfolio cost and risk of short list projects that most closely approximate the 10% wind plus approximately equal mix of coal and gas from the 2005 LCP.
- Test portfolio cost and risk of choosing long lead projects with bridge PPA.

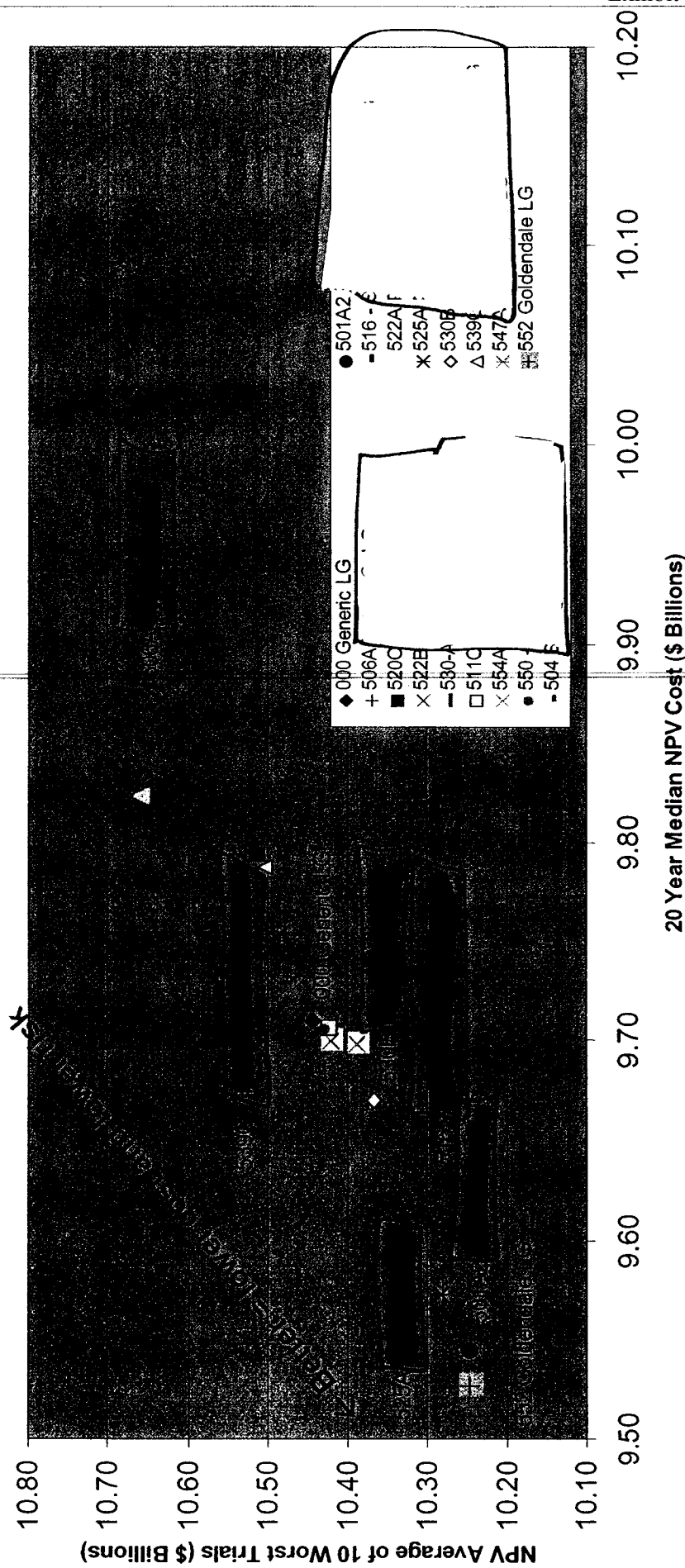
PPA show lowest cost and risk in Green World Scenario

Resource Cost and Risk - Green World



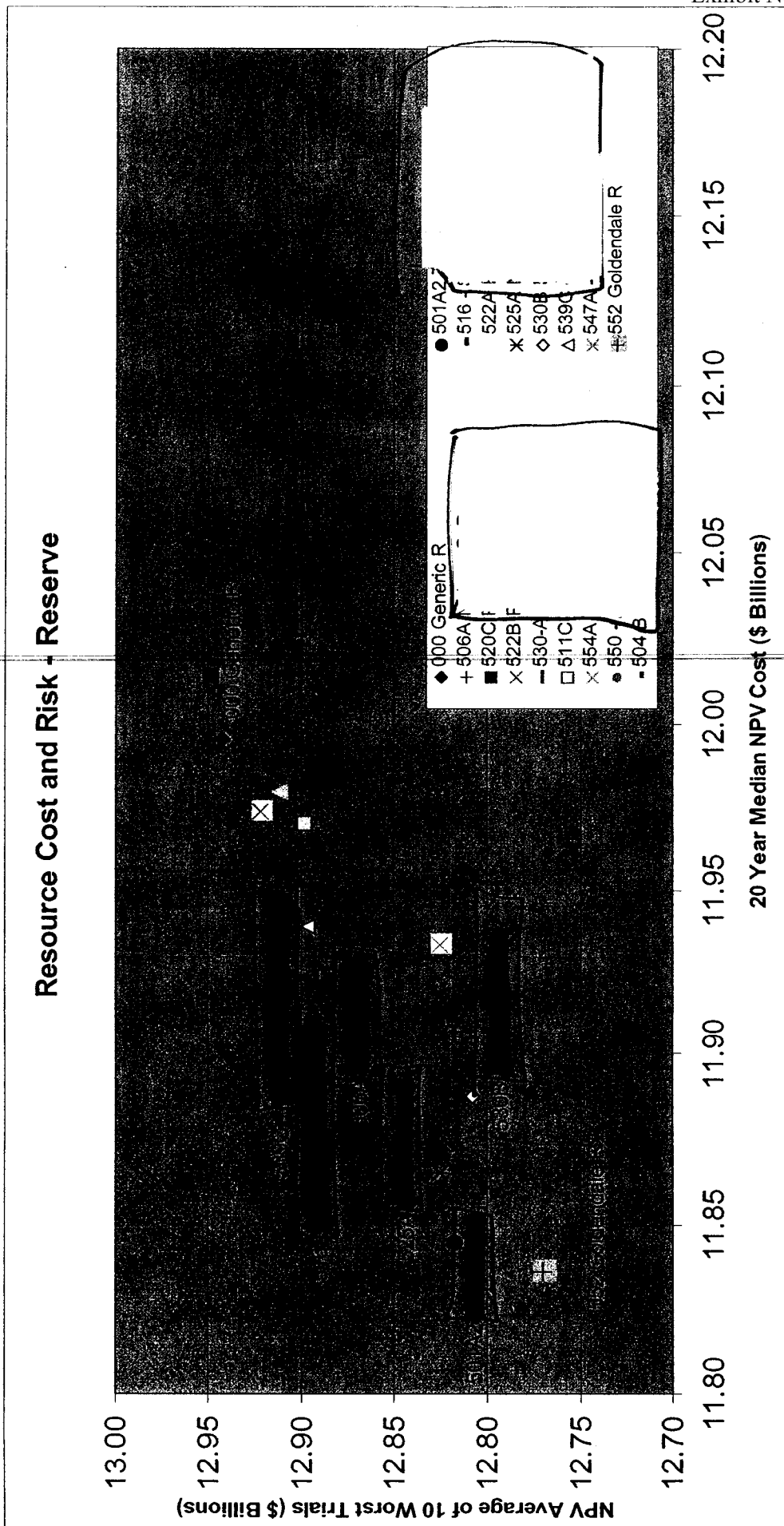
Gas Plants show lowest cost and risk in Low Gas Price Scenario

Resource Cost and Risk - Low Gas



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Cost and Risk in Reserve Price Scenario Similar to Current Trends Price Scenario



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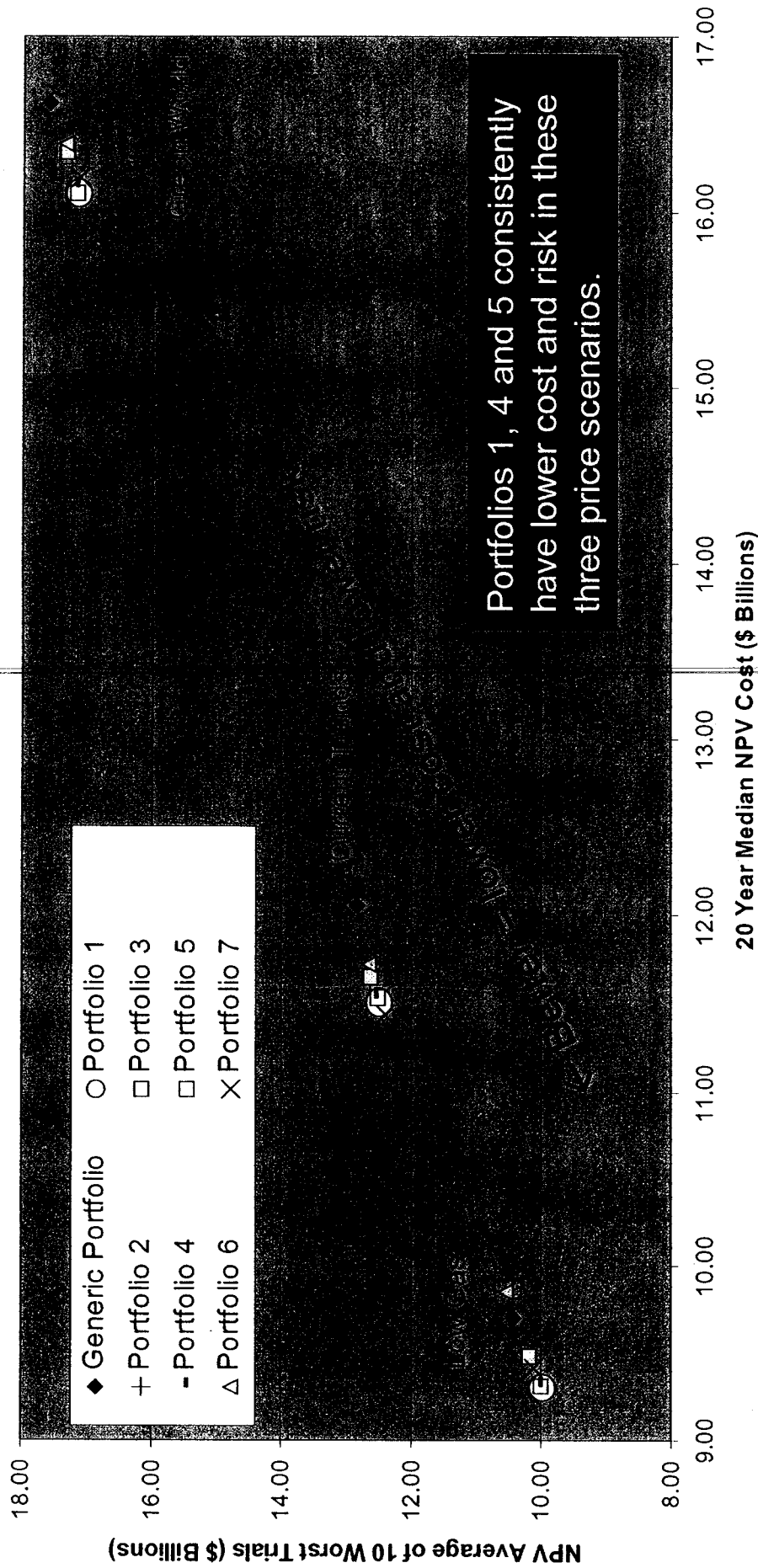
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Portfolio Cost & Risk

Portfolio Cost and Risk



Evaluation Summary

Fuel	Project/Offer	MW	Benefit Ratio	Cost \$/MWh	Portfolio Benefit \$000	Comments
G			0.18		8,139	
W			0.19		95,499	
			0.22		106,292	
NG			0.23		133,084	
NG	Goldendale	277	0.16		179,820	Distressed asset - low capital cost; opportunistic purchase; potential to redirect transmission to PSE's system; requires participation in bankruptcy auction process; project shows lowest cost and risk in Phase II Current Trends scenario
NG			0.01		40	
PPA			0.42		21,039	
PPA			0.28		69,041	
20-year levelized cost						

Exhibit No.

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Non-Selected Proposals

Fuel	Project/Offer	Owner /Developer	MW	Benefit Ratio ¹	Levelized Cost \$/MWh	Portfolio Benefit \$000	Comments
W				0.17		42,744	
W				(0.099)		(25,673)	
W				0.06		16,443	
NG				0.063		54,928	
C				0.061		101,961	
C				(0.054)		(15,936)	
PPA				0.318		n/a	

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