EXHIBIT NO. ___(DEM-4C)
DOCKET NO. UE-07___/UG-07___
2007 PSE GENERAL RATE CASE
WITNESS: DAVID E. MILLS

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY, INC.,** **Respondent.**	**Docket No. UE-07____** **Docket No. UG-07____**

THIRD EXHIBIT (CONFIDENTIAL) TO THE PREFILED DIRECT TESTIMONY OF DAVID E. MILLS ON BEHALF OF PUGET SOUND ENERGY, INC.

REDACTED VERSION

DECEMBER 3, 2007

Energy Cost Risk Management

March 2007

PSE actively hedges both our Gas & Power Portfolios to reduce risk and rate volatility

- Insulate customers from volatile wholesale commodity markets, and thus provide stable rates
- Reduce PSE's earnings volatility by removing power portfolio risk
- Both portfolios are hedged in a programmatic manner, but with some execution timing discretion
  - Minimum hedge requirements must be met regardless of price
  - Hedging can be accelerated/decelerated based on market view
- Existing hedge strategies are constantly being reviewed with an eye towards continuous improvement

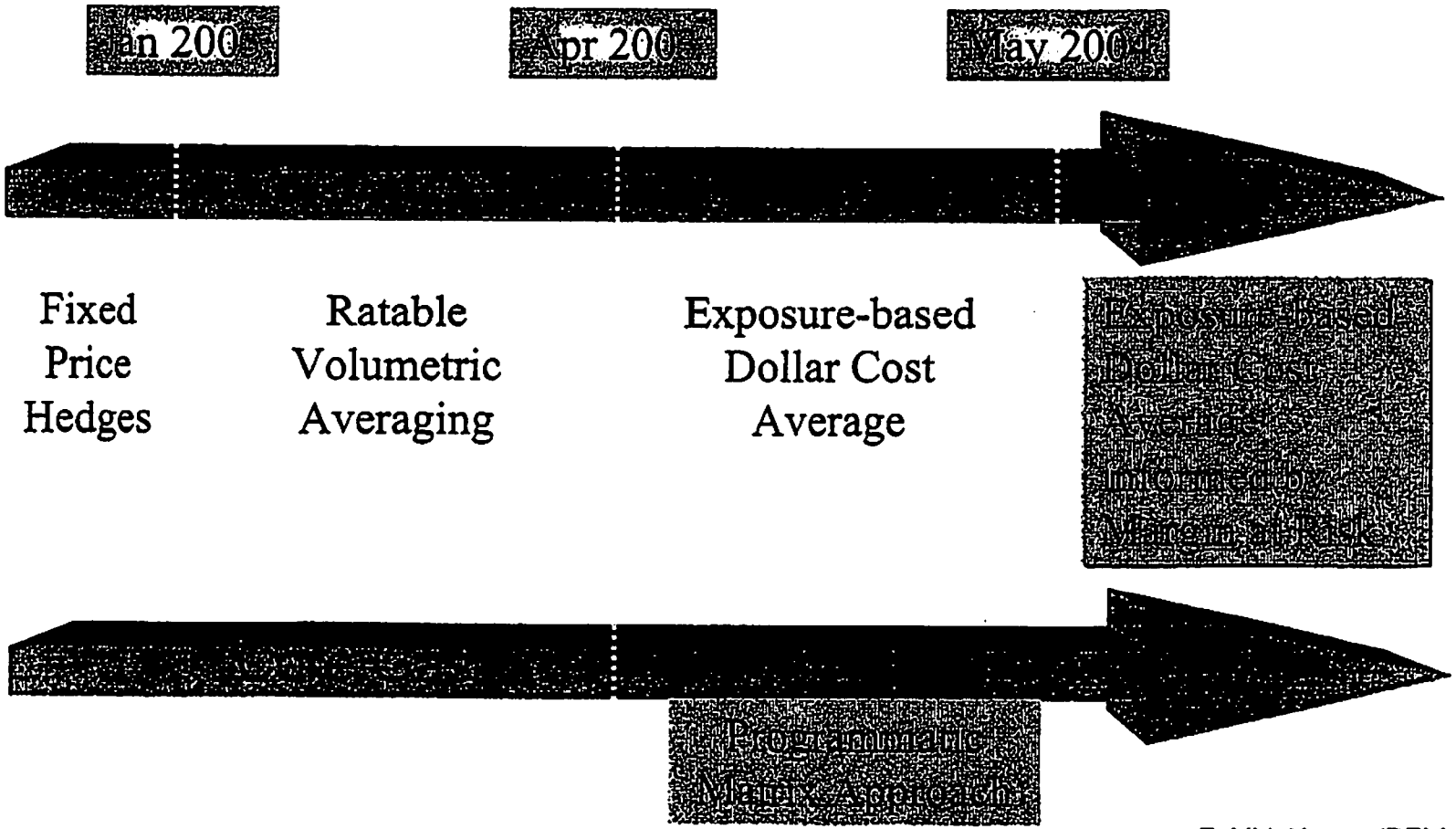
PSE considers a variety of issues when making our energy commodity hedging decisions

- Probabilistic Position
  - Volumetric forecast given price volatility, weather variability, and resource outages
  - Portfolio $$$ exposure to spot market price fluctuations

- Power Cost & Margin @ Risk
  - Measures variability of power cost and earnings over specific future operating periods
  - Quantifies risk reduction as a result of incremental hedging
  - Allows for comparative assessment of different hedge strategies

- Fundamental Market Views
  - Attempts to lower costs to customers vs. purely mechanistic hedging

PSE's Hedging Strategies have evolved over time



Core Gas hedging strategy is seasonal and programmatic ....

Text in box is Confidential

- Mandates that [redacted] of the average load be hedged going into winter (Nov - Mar).
  - Storage accounts for another [redacted] hedged
- Mandates that [redacted] of the average load be hedged going into summer (Apr - Oct)
  - Storage is [redacted]
- Hedging is accelerated if market prices drop below our "threshold price level"

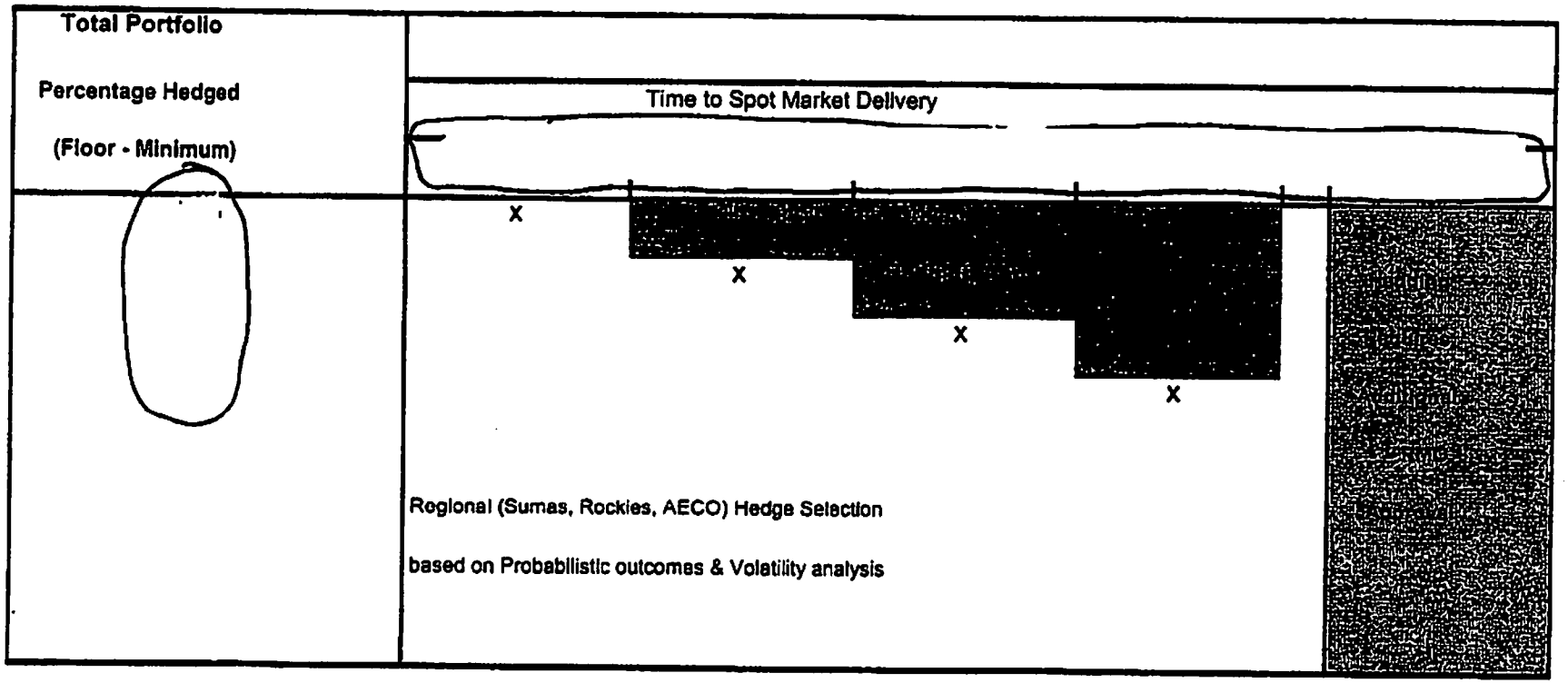
Redacted

- Whole Portfolio approach
  - We hedge the most volatile & likely high priced supply regions, based on probabilistic outcomes and volatility analysis, (Sumas, Rockies or AECO)

.... with timing discretion in [redacted] intervals

Total Quantity

Text in box is Confidential



- Timing is based on fundamental and sometimes technical analysis

Redacted

Proposed revisions to hedging strategies

- In 2006 GRC the WUTC approved establishing of dedicated line of credit for hedging which prompts us to review our existing hedging strategies
- We have previously benchmarked utility practices that support hedge tenor of [redacted]
- Conducted in-depth market research that shows customers favor retail rate stability
- Existing programmatic hedge strategy structure has performed well
- Proposal for discussion:
  - Power: (a) Extend tenor from [redacted]
    (b) Extend current maximum [redacted]
  - Core Gas: Extend from [redacted]

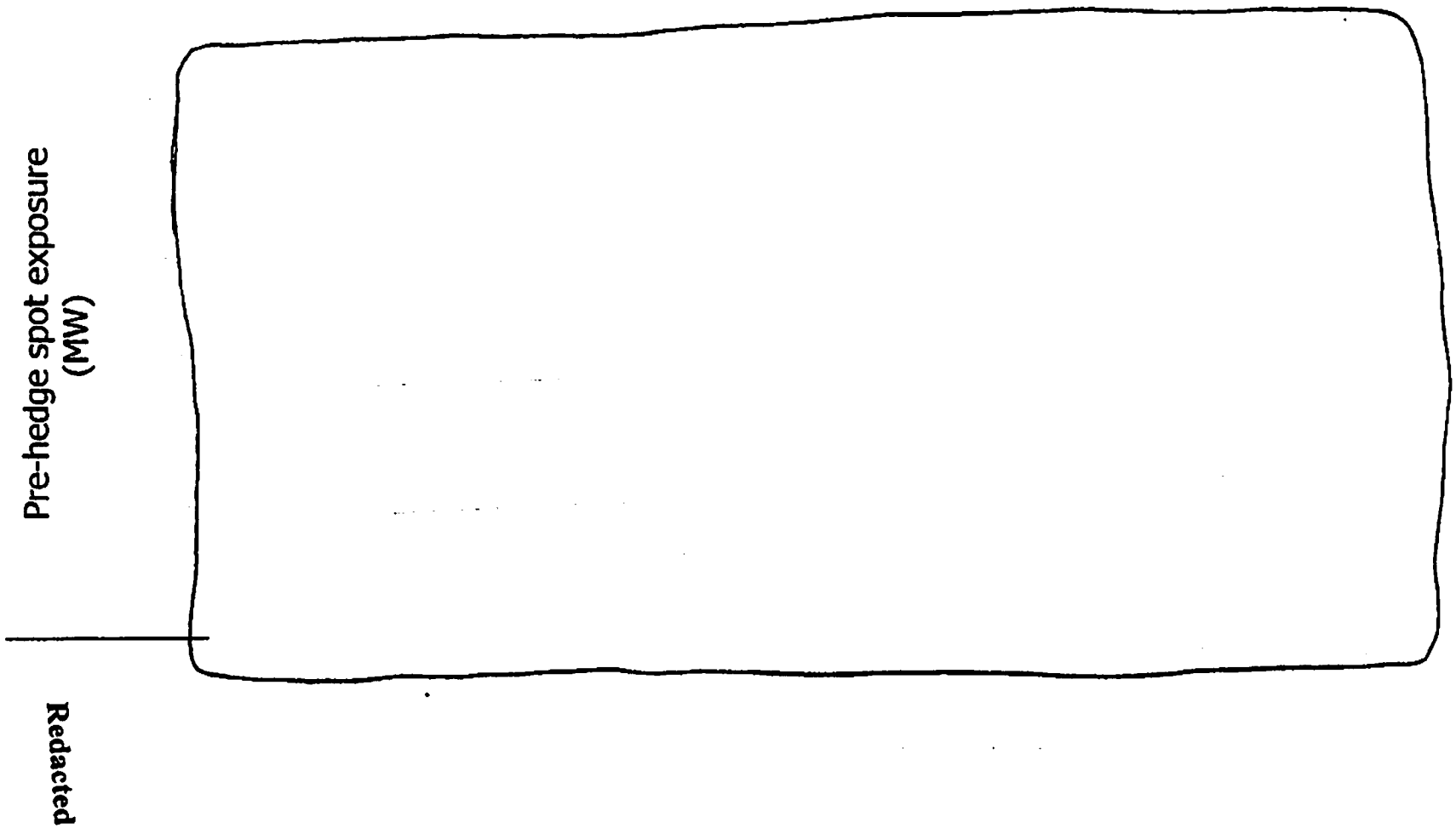
Redacted

Revised strategy retains many of the features of our current approach

- Programmatic design, meaning some amount of hedging must be done on a ratable, monthly basis
- Allows the volume of hedging to be adjusted as informed by market fundamentals
- Extends the tenor of hedges from [redacted]
- Revised approach differs by:
  - Extending the existing [redacted] exposure from [redacted] for the power book.

Redacted

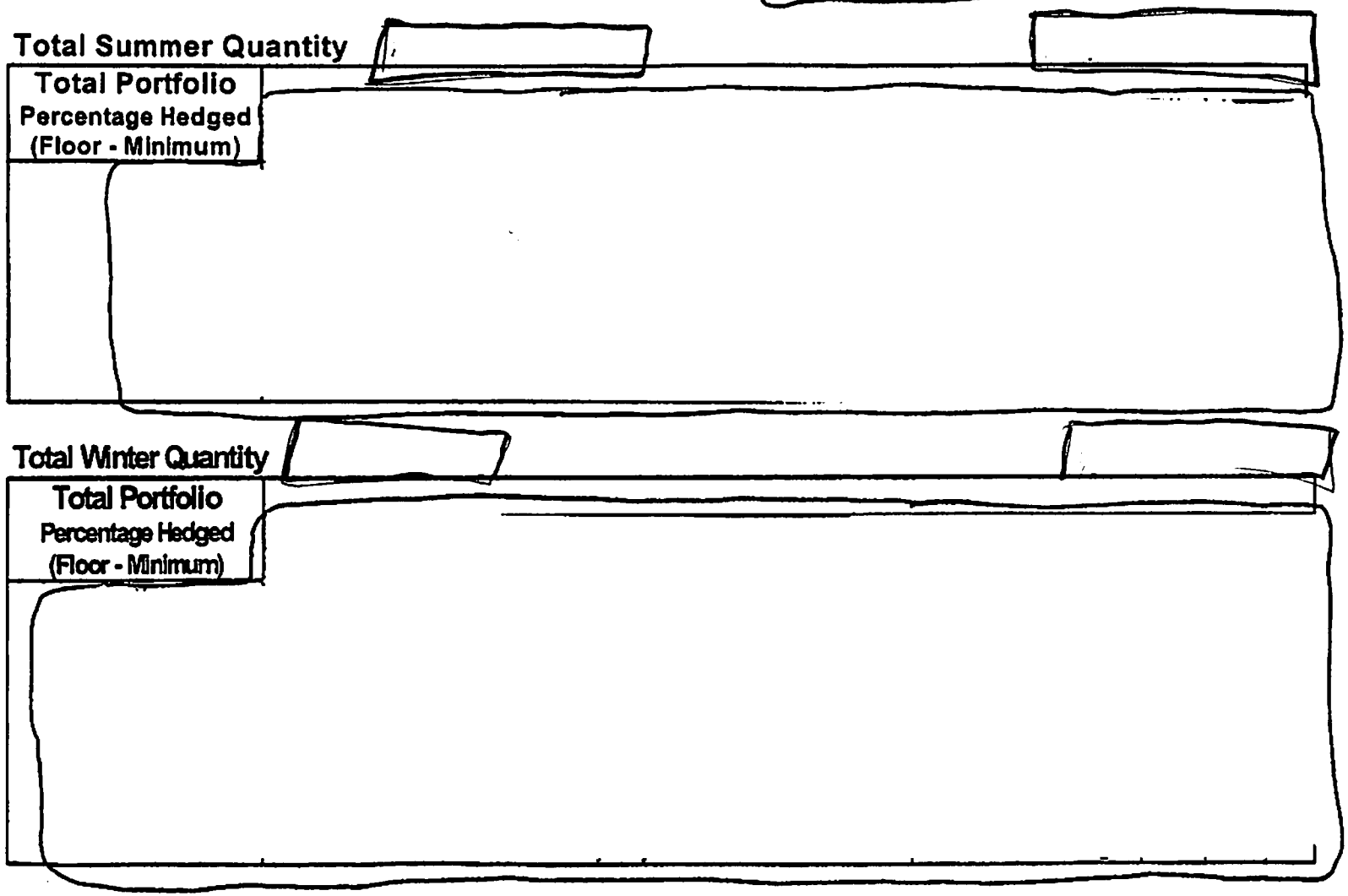
Illustrative Power Hedging Methodology: Quarterly Hedges



Text in box is Confidential

CONFIDENTIAL
Per WAC 480-07-160

Revised Core Gas strategy would add [redacted] gas "seasons", beginning with the [redacted] season



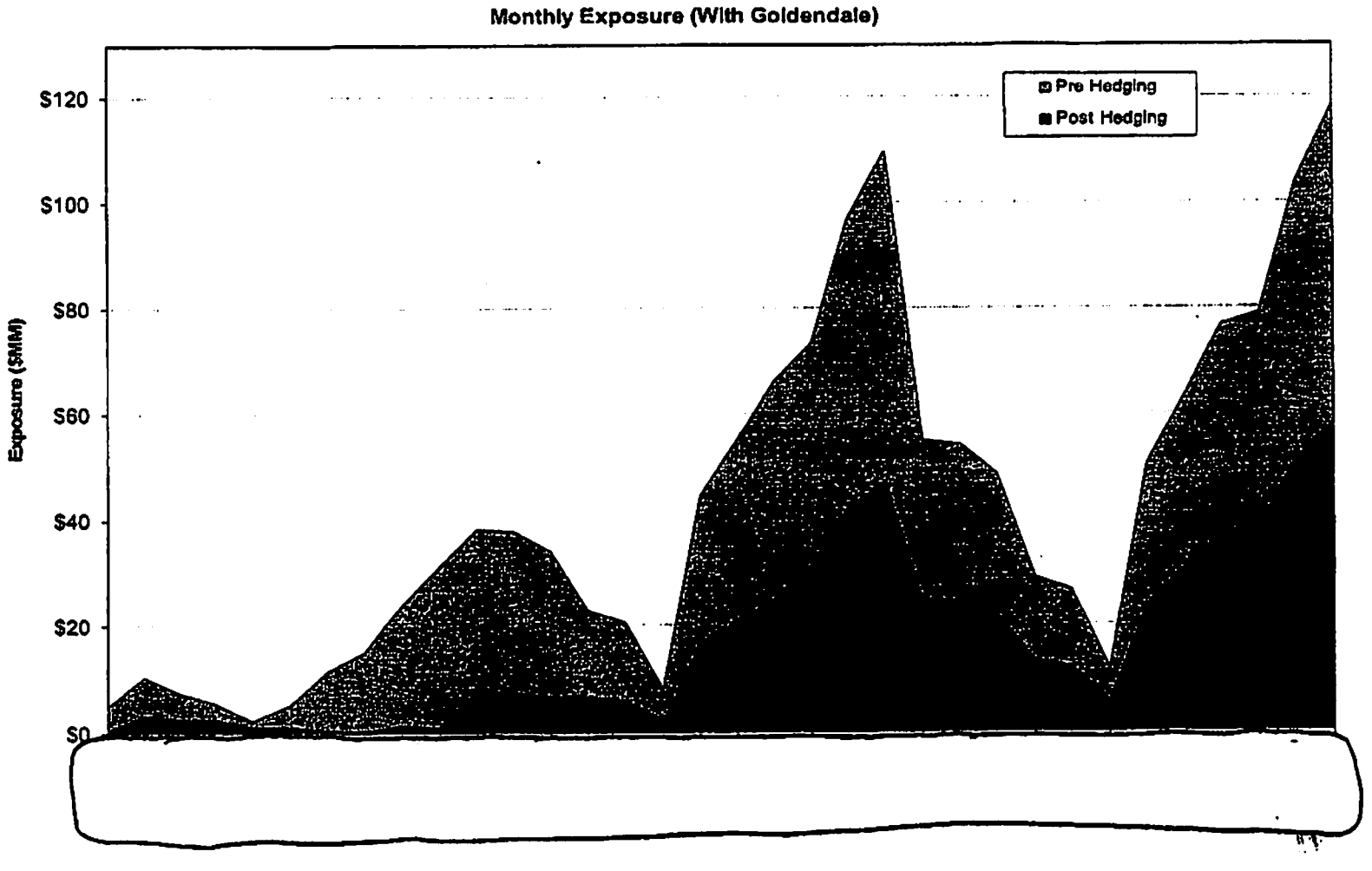
Redacted

Text in box is Confidential

CONFIDENTIAL
Per WAC 480-07-160

Power book exposure before and after revised hedging strategy

Redacted



Text in box is Confidential

CONFIDENTIAL
Per WAC 480-07-160

APPENDIX:

Survey of Current Hedging Practices

External benchmarking of other utility practices support [redacted] tenor of hedging

- It can be concluded from the data collected from other regulated companies that the majority of hedging programs are conducted in the [redacted] forward periods. Almost none hedge beyond [redacted] forward.
  - According to two Risk Advisory surveys of 20 gas and electric utilities in North America, utility hedges are for [redacted].
  - According to the Western Energy Institute survey, 7 entities, including Avista Corp, engage in hedging of [redacted] and most have incorporated short-term programmatic hedging protocols.
- In general, those companies who hedged solely customer risk tended toward [redacted]

Redacted

Benchmarking: What we learned about the Industry

- Differences between gas & electric utilities:
  - Power hedged more than gas & for longer periods of time
  - Power often unwound hedges, while gas kept them in place
  - Annual budgets trigger hedging for electric, <u>not</u> gas utilities:
    - Most gas utilities are "full pass through"; electric less so
    - Cost control perception
  - All electric utilities surveyed measure credit exposure as A/R + MTM, not gas all gas utilities do

- Similarities between gas & electric utilities:
  - 70% of <u>all</u> utilities hedge to reduce volatility
  - Supply & Risk personnel
  - Hedging approaches: 50%+ programmatic, 27% discretionary
  - Creditworthiness is the most important counterparty characteristic

Findings of 6 leading utilities' Annual Reports

- Overall Impressions: Transparency
  - Explicit VaR calculations detail actual and potential losses
  - Describe volatilities used & how they are applied
  - Describe all types of derivatives & financial instruments
  - Attempt to show risk / reward profile of deregulated business
- Credit
  - Credit derivatives & default swaps are sometimes used
  - Detail of the impact of forward market moves & ratings downgrades
- FAS 133
  - Much time is devoted to the impact of these rules on earnings
- Other
  - AEP - Actively involved in the Committee of Chief Risk Officers

Benchmarking (Sources Reviewed)

- Consultants' Recommendations
  - Pace Global Consulting Group
  - National Economic Research Associates
- Annual Reports (10K) of Industry Leaders
  - Constellation
  - Duke
  - Entergy
  - AEP
  - Cinergy
  - XCEL
- Surveys & Benchmarking studies
  - KWI (survey of 7 companies)
  - Western Energy Institute (survey of 8 Western energy companies)
  - Risk Advisory (2 surveys of Canadian utilities & US utilities)