I. Introduction

My name is Romkaew Broehm. I am a Principal of The Brattle Group, 44 Brattle Street, 3rd Floor, Cambridge, MA 02138. I am a consulting energy economist who has been active in Commission, international, and state regulatory proceedings for many years. I have provided testimony and/or advice in market-based rate proceedings for the past seven years. My credentials are attached to my comments.

My name is Gerald A. Taylor. I am a Principal of The Brattle Group, 44 Brattle Street, 3rd Floor, Cambridge, MA 02138. I am a consulting energy economist who has focused on litigation and regulatory proceedings in the petroleum, natural gas, electric power and transportation industries. I provided testimony and declarations in various proceedings before the Commission related to the crisis in the energy markets in the Western US during 2000-2001. My credentials are attached to my comments.

We appreciate the opportunity to offer our comments in response to the Commission’s Notice of Proposed Rulemaking on Refinements to Policies and Procedures for Market-based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities (hereafter 2014 MBR Refinements NOPR) in Docket No. RM14-14-000. These comments are our own and
do not represent those of The Brattle Group, other Brattle principals, or our many and varied past, present or future clients.

Since 2004,¹ the Commission has witnessed the implementation by public utilities of its current market power analyses and regulations governing market-based rate authorization for wholesale sales of electric energy and ancillary services. The Commission understood the pros and cons of these requirements. To reduce the burden to the industry, while ensuring adherence to the Federal Power Act (FPA) standards, in this 2014 MBR Refinements NOPR the Commission proposes and seeks comments on a number of changes to its market-based rate regulations.² Our focus our comments on two parts: 1) relevant geographic markets; and 2) availability factors of energy limited resources.

II. Relevant Geographic Markets

For the purpose of its market power analysis, it has been the Commission’s policy to define relevant geographic markets as balancing authority areas (BAAs) that include a BAA where the seller’s generation is located (Home BAA market) and first-tier BAAs that are interconnected to the Home BAA market ("default markets"). But through the course of the Commission’s market-based reviews, the Commission found that this definition may not be clear where a supplier

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² 2014 MBR Refinements NOPR at P.10.
(namely the independent power producer or “IPP”) is located in a generation–only BAA.\textsuperscript{3} Under this circumstance, there is no clear nexus between the supplier and the load that the supplier actually serves.\textsuperscript{4} The Commission proposes to define relevant markets as the BAAs that are directly interconnected to the generation-only BAA.

We agree with the Commission’s logic. The purpose of defining a geographic market is to measure market size, and ultimately assessing whether buyers have alternative supplies. In principle, if the BAA market does not have any load, it should not be considered a relevant geographic market. On the other hand, IPPs in a generation-only BAA are considered to be part of a nearby market, if their power can reach buyers in a nearby market.

Nevertheless, we encourage the Commission to look beyond the Commission’s default market rule when defining a proper relevant geographic market for a market power analysis. Our comment provided herein is not about whether or not the Commission should use a seller’s balancing authority area as a default market, but rather whether the BAA of a seller’s generation and its first-tier BAA would be adequate for determining relevant default markets. As the Commission may recall from the 2000-2001 Western power crisis experience, suppliers with generation more than two wheels away could easily reach the California buyers and became pivotal sellers.\textsuperscript{5} This was accomplished simply by having firm transmission rights at the key interfaces as these rights could facilitate a seller’s generation position. To illustrate this circumstance, consider the following example. Suppose Supplier A is located in BAA 1 with a topology as shown in Figure 1. Under the Commission’s market power test, Supplier A would only perform the indicative screen analyses for its home market, BAA 1 and BAA 2.

\textsuperscript{3} Id. at P.49

\textsuperscript{4} Id.

\textsuperscript{5} See Docket No. EL00-95 et al. and Docket No. EL-01-10.
Suppose further that Supplier A has transmission rights on Path 2-3 from the BAA 2 to BAA 3 direction. Under the Commission’s current test, Supplier A neither needs to study the BAA 3 market nor has obligation under its market-based rate regulations to report to the Commission whether it has any firm transmission rights on Path 2-3 in the direction of BAA 2 to BAA 3. The Commission generally addresses sellers’ import rights on transmission capacity leading into their default markets when performing a horizontal market power analysis. In the context of vertical market power, it focuses on a transmission provider’s discriminatory behavior.

Figure 1

Hypothetical Topology—For Illustrative Purpose Only

The transmission reservation data, which would be useful for determining a seller’s relevant geographic markets, are not required to be reported in its asset appendix (Appendix B). As in

6 Order 697 at P. 354.

7 The Commission relies on the Open Access Transmission Tariff (OATT) regulations to oversee whether a transmission provider with an affiliated MBR seller violates any OATT rules. See Id. at PP. 397-421.

8 Electric Transmission Assets and/or Natural Gas Interstate Pipelines and/or Gas Storage Facilities.
our example, if the Commission would require sellers to report their transmission reservation
data regardless of whether they are for the default markets, Supplier A would need to perform
the market power analyses for the BAA 3 market.

This suggests that the Commission should expand its review to consider sellers’ other
information. The Commission has long sought comments on factors (such as the transmission
information, historical wholesale trading data, and historical pricing patterns among neighboring
areas) that it should consider when assessing a geographic market boundary. In fact, pursuant to
Order 642, the Commission adopted a review process for approving a M&A transaction that
relies in part on the merger applicants’ two years historical trade data. It stated that it is
appropriate to consider whether certain market participants are likely candidates to be included
in the market when their historical sales data suggest that they actually have been able to reach
the market in the past.

We therefore recommend that the Commission require market-based rate sellers to summarize
their historical short-term trade patterns outside their Home BAA market and report their firm
transmission service reservations of one month or longer as part of their triennial update

9 Notice of Proposed Rulemaking on Market-based Rates for Wholesale Sales of Electric Energy,
Capacity and Ancillary Services for Public Utilities, Docket RM04-7, May 2006, PP.51-64. (hereafter
2006 MBR NOPR).

10 See Revised Filing Requirements Under Part 33 of the Commission’s Regulation Final Rule (Order No.
642), November 15, 2000, at §33.3 (6).

11 Id. at n 41.

12 In Order 697, the Commission required sellers to account for firm and network transmission
reservations with a duration of longer than 28 days when performing the net Simultaneous Import
Limit study for a home BAA market. See Order 697 at P.368.
market-based rate filing. An MBR seller is required to report these data to the Commission via the Electricity Quarterly Reports (EQRs), which was recently updated to include the E-tag information. This information can be used to determine whether or not default geographic markets as defined by the Commission are adequate for the purpose of the market power analyses.

III. Availability Factors of Energy Limited Resources

For availability factors of new energy limited resources, we propose that the Commission consider the use of the average historical capacity factor of existing energy limited resources with the same technologies within the same region instead of the use of the EIA-derived, regional capacity factor estimates that the Commission has proposed. The EIA-derived, regional capacity factor estimates are an annual average value that does not reflect seasonality creating a disconnect with the Commission’s two indicative screens, which are required to be performed on a seasonal basis. Generation patterns for certain energy limited resources such as solar and wind in certain locations may vary by months and seasons. As an example, Table 1 below compares the EIA–derived WECC Southwest 2009-2013 average annual capacity factor for wind generation with average seasonal capacity factors of wind generation located in Arizona and New Mexico (AZ & NM) of the same period.

13 Although the transmission reservation data can be obtained from the OASIS, it would be helpful to integrate key information in one place for the purposes of the market power review.

14 2014 MBR Refinements NOPR at P.69. The five-year average monthly (seasonal) capacity factors of existing energy limited resources can be derived using historical generation data reported in Form EIA-923. See www.eia.gov/electricity/data/eia923
Additionally, we seek Commission clarification on whether the availability factors are required to be applied only to nameplate capacity ratings of energy limited resources. Does the Commission’s statement that sellers without five years of historical data cannot use seasonal ratings imply that the availability factors should not be applied to seasonal ratings? If this is the case, it is appropriate to apply the same availability calculation to both new and existing units of energy limited resources. A cautionary note is that one needs to be consistent in using capacity ratings for calculating historical capacity factors. If the capacity ratings are nameplate in the historical capacity factor calculation, these capacity factors should be applied to nameplate capacity ratings.

The Commission also seeks comments whether peak hours should be used to calculate the availability factor of photovoltaic solar. However, the Commission did not provide the definition of peak hours whether it refers to those 16 hours under the standard trading period of hour

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Table 1
2009-2013 Historical Average Capacity Factors of Wind Generation
EIA-Derived WECC Southwest vs. EIA Form 923-Derived AZ-NM

<table>
<thead>
<tr>
<th>Location &amp; Fuel Type</th>
<th>Seasonal Capacity Factors</th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Winter</td>
<td>Spring</td>
<td>Summer</td>
<td>Fall</td>
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<tr>
<td>AZ &amp; NM Wind</td>
<td>[1]</td>
<td>[2]</td>
<td>[3]</td>
<td>[4]</td>
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<td></td>
<td>32.2</td>
<td>37.7</td>
<td>23.0</td>
<td>27.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>26.0</td>
</tr>
</tbody>
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Sources and Notes:
Monthly Net Generation from EIA Form-923

[5]: Calculated based on 2009-2013 GW and TWh data obtained from the 2012, 2013, and 2014 EIA Annual Energy Outlook public Table 58.19 - Renewable Energy Generation by Fuel - Western Electricity Coordinating Council / Southwest

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15 Id.
ending 7 am to hour ending 22 pm or 8 to 12 hours during daylight savings time. The number of daylight hours also varies depending upon season. Summer months would have longer daylight hours than winter months. Different study areas could also have different peak hours. Some market areas have daily peak hours towards the evening hours but some could have daily peak hours fall in the early afternoon. Moreover, these peak hours could vary from year to year. The Commission’s screens capture a study area’s daily peak load (either of the annual peak month for the Pivotal Supplier Screen or the average daily peak within each season for the Market Share Screen). We suggest that the Commission give reasonable flexibility to sellers with regard to the number of peak hours when calculating the availability factors for energy limited technologies as long as applicants justify their approach.
Dr. Romkaew Broehm is an economist whose practice is focused on the electric utility industry. She specializes in the areas of market deregulation and oversight, market power analyses, studies of bulk power markets, evaluation of demand-side management, and utility cost structures. She has led numerous Brattle Group studies in competitive impact analyses for M&A, market-based rate, price forecasting, network transmission simulation, strategic bidding behavior, and generation and transmission asset valuations. Dr. Broehm has submitted testimony and comments before the Federal Energy Regulatory Commission (FERC) on market-based rates (MBR) and merger and acquisition (M&A) matters. She also has experience in analyzing potential market manipulation allegations. Recently, she co-authored comments to the Commodities Futures Trading Commission (CFTC) that proposed a practical definition of market manipulation.

Dr. Broehm also has experience analyzing and testifying on potential market manipulation allegations. She has presented to energy audiences on navigating the complexities of the Dodd–Frank Wall Street Reform and Consumer Protection Act, which focuses on how energy companies should address the economic, governance, regulatory, and transaction issues that they will face as they begin implementing the requirements of the Act.

In addition, Dr. Broehm provides to her clients analyses and litigation support on the prudence of particular investment decisions and power procurement decisions, as well as the valuation of “provider of last resort” supplies. Her experience in pricing and ratemaking includes designing and evaluating dynamic pricing programs, such as a real-time pricing programs and block rate designs. She has implemented demand simulation models to analyze changes in net economic benefits due to changes in rate design.

Before joining The Brattle Group, Dr. Broehm worked at Christenson Associates and taught economics and statistics at the University of Wisconsin-Milwaukee and Cardinal Stritch College.

EDUCATION

B.S. in Economics, Chulalongkorn University, (1983).


AREAS OF EXPERTISE

- Market Monitoring and Market Power Analyses (including M&A and Market-Based Rate)
- Pricing and Ratemaking
- Valuation of Generation Assets/Contracts and Price Forecasting
- Resource Planning and Industry Restructuring
- Demand Response Bidding Strategy
EXPERIENCE

Market Monitoring and Market Power Analyses

- Provided testimony on market manipulation in the Pacific Northwest bilateral power market during 2001. Dr. Romkaew Broehm analyzed transmission data on major interfaces of the California ISO and found a supplier enjoyed and manipulated transmission dominance to strengthen its bargaining power and demand high power prices.

- Market-based rate (MBR) applications before the Federal Energy Regulatory Commission (FERC). Assisted electric utility clients in the eastern and western United States, developing expert testimonies and analyses in accordance with the FERC’s final MBR rules. Her understanding of transmission networks has allowed her to work closely with the client’s transmission team in preparing simultaneous import limits and determining relevant market product definitions.

- Oversee Southern Company’s Energy Auction from April 2009 to April 2010. The Brattle Group was selected as the Independent Auction Monitor (IAM) for the Southern Company Energy Auction. As part of its mitigation for prospective market power, Southern Company has offered a must-offer, bid-based energy auction for day-ahead and hour-ahead “Into SoCo” products for at least three years. The auction began on April 23, 2009. Dr. Broehm developed, designed, and managed the implementation of protocols used in monitoring the auction and Southern Company’s compliance to its tariff. Brattle’s first report as IAM was filed at FERC on April 23, 2010.

- Evaluation of competitive impacts of utility mergers on wholesale power and gas markets in various regions, including ISO-NE, NYISO, PJM, SERC, FRCC, SPP, Entergy System, and WSCC. Dr. Broehm led the development of The Brattle Group’s Delivered Price Test (DPT) model, as well as its strategic behavioral model used for analyzing potential horizontal and vertical (electricity and natural gas) market power. She led a team in examining whether a transaction potentially created any short-term incentive to exercise vertical wholesale market power using a locational-marginal pricing simulation model. She has conducted analyses in support of an M&A application as well as provided critical studies for opposing an M&A case.

- Examination of market conditions of the Southwest Power Pool (SPP) wholesale power markets, including day-ahead and energy imbalance markets and transmission congestion management in SPP. Dr. Broehm testified that the SPP wholesale power markets did not
provide Qualifying Facilities (QFs), particularly wind QFs, to have a meaningful opportunity to sell to third parties.

- Analysis for California investor-owned utilities in the competitiveness of wholesale power markets at major trading hubs in WECC. She examined liquidity of the day-ahead power markets, the CAISO real-time power market, the CAISO ancillary services markets, and the effectiveness of the CAISO market power mitigation measures.

- Investigation and evaluation of the California electric power crisis. She coordinated an extensive discovery effort and the in-depth analysis of market data and other evidence, such as trading records and compliance logs. She supervised the evaluation of numerous trading strategies and the extent to which individual market participants used those strategies to game market rules and manipulate the spot energy and ancillary service markets in California. She also provided a detailed analysis of market participants’ bidding strategies, the extent of economic and physical withholding by suppliers, the potential for coordinated interaction and collusion, and the relationship between market fundamentals, market rules, and the behavior of market participants.

- Evaluation of the impacts of the California power crisis on the western forward markets. She developed the methodology to estimate artificial price inflation in forward contracts transacted during the crisis period, based on estimated implied heat rates during outside crisis periods.

**Price and Ratemaking**

- Estimation of the incremental costs to the utility of serving additional demand and customers by time period, sub-region, and customer class. Assisted an integrated utility in PJM in conducting marginal cost studies for the utility’s transmission and distribution sectors.

- Assisted in the design of a demand simulation model used to analyze a block rate proposal in support of rate filing. Implemented the Constant Elasticity of Substitution demand model and analyzed changes in net economic benefits due to the change in rate design.

- Revision of the structure of transmission access charges in the context of membership negotiations with non-participating transmission owners for the California Independent System Operator and a working group of stakeholders. The effort involved data collection, cost-benefit analyses of various access charges and membership scenarios, and the presentation of these analyses at monthly stakeholder meetings.
Redesigned rates of transmission and ancillary services, and drafted testimony on these issues for the rate case as well as for the restructuring plan for a cooperative utility close to bankruptcy.

Analysis of the strategic considerations associated with various TransCo and ISO membership and design alternatives, and evaluated financial and customer rate impacts of those options.

Preparation and the development of cost of capital, for a Canadian electric utility, using standard estimation techniques (DCF, CAPM). The project also assessed more customized models specific to the industries or lines of business in question, e.g., based on the structure and risk characteristics of cash flows, or based on multi-factor models that better characterize regulated industries.

Valuation of Generation Assets/Contracts and Price Forecasting

Advisor to an investment firm in the valuation of the generation assets in the southeastern part of the U.S. This task involved reviewing the work done by third parties as well as the preparation of Brattle’s own evaluation of the assets. She unpacked the key drivers of the assets’ value and provided insights into how different variables (such as fuel prices, heat rates, early retirement option, and load growth) affect the underlying valuation. As part of the valuation, she also examined the transmission system surrounding the plants and market rules to determine whether they could diminish the value of these plants.

Provision of a market-based revenue forecast for energy and capacity for a valuation of a power plant in a property tax dispute to a cogeneration plant in the northeastern part of the U.S., The report prepared by The Brattle Group was used to negotiate a settlement of the plant’s assessed value.

Development of a multiple-factor price and load model which could estimate an optimal hedging strategy while recognizing limitations of the liquidity and competitiveness of the market for a utility seeking to demonstrate prudence of its forward contracts, which were used to hedge against spot market price volatility.

Analysis and support to demonstrate a utility’s prudence in procuring forward purchased contracts for both power and gas during the western crisis, even though those contract prices were high relative to actual spot prices. During the course of the project, she estimated the market-based credit-risk premium embedded on forward prices. The results of her analyses were presented before the Nevada Public Utility Commission.
Valuation of profitability of power plants in New York City and on Long Island. Developed and simulated the New York Independent System Operator (NYISO) wholesale power market conditions in order to obtain forecasting Locational-Based Marginal Prices (LMBPs) using DAYZER, a commercial, state-of-the-art LBMP simulation model.

Identification of components of short-run avoided costs for qualifying facilities (QFs) and assessed whether day-ahead power prices and “out-of-market” costs were a reasonable measure of the true short-run avoided costs, given QFs’ attributes.

Estimation of damages resulting from a breach of a land purchase contract on behalf of a plaintiff in a bankruptcy matter. Her work involved assessment of ability to build and finance a power plant, preparing energy price forecasts for the New York City market, and estimating associated capacity prices in accordance with the NYISO downward sloping demand curve requirement.

Advised electric power utilities on corporate strategy and structure issues in the areas of stranded costs, market power, and deregulated markets. Her project work has included development of methodology for market price forecasts, including modeling of scarcity premiums and volatility under alternative restructuring scenarios.

**Resource Planning and Industry Restructuring**

Developed a resource and procurement plan for an investor-owned utility in the West. She particularly focused on the development of a set of scenarios on key issues such as potential federal climate legislation, natural gas prices, electricity demand and demand side management strategies, and the complex interplay between these factors.

Conducted a series of studies for an EPRI/GRI joint research venture on the impact of electric utility restructuring on fuel use. Developed a new market condition that examined impacts of simultaneous changes in market conditions (such as new generation expansion risks and changes in transmission flow patterns) on various types of fuel consumption. These assumptions were then used in a price forecasting model. The results allowed her to examine power plants’ viability (particularly nuclear and old power plants) for each of the nine NERC sub-regions, their interaction with each other, and how restructuring was likely to play out in each region.

Construction of a model that calculated the option value of offering price-capped services, given uncertainty in the prices and quantities of power needed to cover the obligation. Additionally, a logit model was applied to simulate the impact of customer switching.
behavior on the option value. In response to utility clients seeking to demonstrate the costs of their potential exposure associated with being the Provider of Last Resort for non-switching customers, Construction of a model that calculated the option value of offering price-capped services, given uncertainty in the prices and quantities of power needed to cover the obligation. Additionally, a logit model was applied to simulate the impact of customer switching behavior on the option value.

- Examination of potential for hydroelectric generators, for an EPRI research project, to provide a larger share of operating reserve generating capacity in a restructured electricity market. She conducted interviews with several utilities to discuss strategies that the company wanted to pursue, versus what practices they were following.

- Preparation of a marginal cost study for an integrated electric utility in PJM, studying estimated incremental costs of the utility for serving additional demand and customer by time period, sub-region, and customer class. These costs consist of marginal costs of energy, capacity, transmission, distribution, and customer-related costs. Since the utility is operated in PJM and relies on the PJM markets to serve its customers, the study entailed projections of both the utility’s costs and wholesale power prices for energy, congestion, losses and generation capacity. The results of the study were used as a basis for their rate designs.

**Demand Response Bidding Strategy**

- Examination of a demand response and energy efficiency programs and the ISO-New England market rules in order to develop bidding strategies that maximize the utility’s demand responses and energy efficiency programs when participating in the ISO-New England’s Forward Capacity Market (FCM), for a utility in the ISO-New England.

- Led a seminar on load management strategies to mid-management executives for a large southeastern utility. Examples were drawn from other utilities’ strategies in other restructuring states. Evaluation of the value of the utility’s existing load-management program, and advised on appropriate strategic responses to retail competition.

- Development of marginal costing procedures, for a day-ahead and week-ahead two-part real-time pricing program for various utilities, For a Real-Time Pricing Program. Application of econometric techniques to analyze the actual and expected load response of large industrial customers with on-site generation.
PROFESSIONAL AFFILIATIONS
Northeast Energy and Commerce Association

PRESENTATIONS AND PUBLICATIONS


“Dodd Frank Compliance for Oil and Gas Companies,” (with Julia Sullivan and Cary Oswald) Oil and Gas Monitor, February 6, 2012.


Comments on the FERC Notice of Inquiry on Analysis of Horizontal Market Power Under The Federal Power Act, (with Peter Fox-Penner, Oliver Grawe and James Reitzes), Docket No. RM11-14-000, May 24, 2011.


Deregulated Electricity Pricing In the U.S. – Dramatic New Rules From the FERC (with Peter Fox-Penner), April 25, 2004.


TESTIMONY


Affidavit on behalf of National Grid USA, Triennial Market-Based Rate Update Filing, Federal Energy


Affidavit on behalf of Southern California Edison, Triennial Market-Based Rate Authority Filing, Federal Energy Regulatory Commission, Docket Nos. ER09-712, ER06-736, ER02-2263, ER01-2217, ER08-931 and ER08-337, December, 2009.


Mr. Gary Taylor’s areas of expertise include contract and market incentives, antitrust and regulatory economics. His consulting activities have focused upon litigation and regulatory proceedings in the petroleum, natural gas, electric power and transportation industries. Mr. Taylor has also provided assistance to clients in matters involving corporate financial and strategic planning. Prior to founding Incentives Research in 1983, he worked for the firm of Putnam, Hayes & Bartlett.

EDUCATION

B.A. in History, University of Kansas, 1970

J.D., University of Kansas, 1973

M.S. in Finance and Planning, Massachusetts Institute of Technology, Sloan School of Management, 1978

AREAS OF EXPERTISE: - CHECK THESE TO SEE IF ALL APPLY

- Contract and market risks and incentives
- Antitrust and Regulatory Economics
- Transition Markets
- Market Monitoring and Market Power Analyses (including M&A and Market-Based Rate)
- Valuation of Generation Assets/Contracts and Price Forecasting
- Resource Planning and Industry Restructuring
- Demand Response Bidding Strategy
- Pricing and Ratemaking

EXPERIENCE

- For the California Attorney General analyses and expert testimony (both written and at hearing) regarding the manipulation of prices in the bilateral power markets in the Pacific Northwest of the U.S. in late 2000 and through 2001. The proceeding before the Federal Energy Commission required the development of an extensive contract by contract database to address the potential application of the Mobile-Sierra Doctrine to short-term bilateral transactions. The allegations involved Coral Trading, (Shell North America), Powerex, Trans Canada and TransAlta.
- For the California Parties litigation support and extensive written and oral (hearing) expert testimony regarding manipulation of electric power and prices in the California Power Exchange day-ahead and hour-ahead markets and the California ISO real-time imbalance energy and ancillary services markets during 2000-01. The proceeding, before the Federal Energy Regulatory Commission involved Enron, Dynegy, Mirant, Reliant, Williams, Sempra, Powerex and many other suppliers in the U.S. and Canada.
For a major electric utility in the Southeast development of recommendations for the design of a greenhouse gas emissions control policy. The engagement involved detailed modeling and analysis of the impacts of pricing carbon on electric utilities and their customers in the Eastern half of the United States (the Eastern Interconnect) as well as upon fuel prices and households more generally. An assessment was made of the implications of various approaches for technology development and investment, for the potential scope of control programs and any resulting inequities, and for limiting economic disruption and hardship.

For a Public Utility District in the Pacific Northwest, an assessment of “down-the-road” economic impacts of an out of market long-term power purchase contract under the Mobile-Sierra standard.

For a large Canadian conglomerate, evaluation of refining assets serving the Northeastern US. The analysis included assessment of sales of comparable assets and modeling and evaluation of future inputs, outputs and cash flows.

In a proceeding before the Federal Energy Regulatory Commission an assessment of the impacts of price manipulation and market dysfunction in electric power spot markets upon the prices in forward power prices in contracts signed during the period of market dysfunction. The analysis was based upon the relationship between prices in forward power and natural gas contracts.

For the State of California an investigation of the impacts of the activities of the El Paso companies and others upon natural gas and electric power prices in California Markets. This investigation addressed pipeline operations and capacity, affiliate abuse, and potential collusion.

For a private litigant analysis of the impacts of OPEC cartel activities on petroleum products prices in the United States during the period from March 1999 to the end of 2000. The assessment included the development of a mean reversion model of oil prices that provided the basis for estimating oil prices in the absence of production restrictions undertaken by OPEC.

For several major petroleum firms involved in litigation over a disputed patent for reformulated gasoline, a review of avoidance costs and a critique of estimates of both avoidance costs and reasonable royalty rates provided by expert witnesses for the patent holder. This engagement required detailed assessment of gasoline product specifications, component blending characteristics and blending processes and costs.

For two electric utilities in the southwest an assessment of the market power implications of their proposed merger. The analysis required application of the Federal Energy Regulatory Commission’s
Appendix A methodology as well as that outlined in Department of Justice Horizontal Merger Guidelines. Existing modeling techniques were extended to encompass both a flow-based transmission representation and simultaneous, equilibrium market solution.

- For a major industrial concern, an analysis of balancing charges proposed by an LDC for its natural gas transportation customers, including a review and assessment of actual balancing costs and preparation of alternative proposals for cost recovery.

- For a Pennsylvania electric utility company, assistance in assessing options for procuring and transporting natural gas for re-powering oil-fired generating plants and in developing regulatory strategies and support for conversion of an oil pipeline to gas service. The analysis, which included estimating the cost of procuring gas supply and transportation under terms offered by the franchised LDC and comparing this cost to those that could be achieved by dealing directly with interstate gas pipelines and gas suppliers, support the utility’s application to interconnect with the interstates by converting an existing oil pipeline to gas service.

- For a large shipper of crude oil and petroleum products, an analysis of pipeline transportation rates proposed by a Midwestern carrier. Detailed assessment of carrier costs demonstrated rates were excessive even under “light-handed” oil pipeline regulatory standards.

- For a refiner in the western United States, an assessment of pipeline carrier concentration and market power in the Salt Lake City region and possible justifications for and market impacts of restrictive pipeline access terms proposed by a carrier.

- For the State of Alaska, a review of litigation positions and damage evaluation models developed for a large-scale court action to recover unpaid royalties on crude production from the Alaska North Slope.

- For the Internal Revenue Service, an assessment of the appropriate price levels for Alaska North Slope and Cook Inlet crude oil production and of the Windfall Profits Tax liabilities of crude oil producers in Alaska; the engagement involved determination of crude value in end markets, evaluation of crude oil exchange transactions, determination of crude oil disposition by market area, estimation of appropriate marine, pipeline and gathering costs, and consideration of the impacts of tax levies and royalty interests.

- For the State of California, the plaintiff in an antitrust action, ongoing litigation support in the area of West Coast crude oil market conditions including analyses of market logistics, major oil company crude oil pricing, valuation and trading practices, an assessment of the competitiveness of prices established by major refining companies for crude oil produced in California and other West Coast fields, and the computation of damages resulting from non-competitive pricing.

- For the City of Long Beach, California, ongoing support in the assessment of major oil company crude oil trading practices and agreements and their implications with respect to valuation terms in
contracts for the sale of crude oil produced from the Wilmington field. The analysis included modeling production and revenues resulting under alternative proposed contracting provisions.

- For a group proposing a large scale interstate natural gas pipeline project to serve the California enhanced oil recovery market, assistance in the development of expert testimony on the competitive benefits of the proposed project in support of a request for FERC certification.

- Assistance to counsel for a major oil company in an assessment of the competitive impacts of the Texaco/Getty merger.

- For the State of Connecticut, a review of the performance of the market for home heating oil in the Northeast during winter of 1989-90.

- For a natural gas pipeline company, assistance in preparation of expert testimony on the economics and regulation of the U.S. natural gas industry for use in ongoing antitrust litigation.

- For a producer of silicon and silicon alloys, an assessment of allegations of price fixing. The engagement included analysis of and expert testimony regarding market structure, the behavior of market participants and prices in the marketplace. Particular attention was given to product, market definition, the impact of imports on domestic prices, the production costs of domestic producers, and the effects of contracting practices in the industry.

- For the Internal Revenue Service, an assessment of the value of the unregistered common stock of a large newspaper company obtained in a stock swap. Option pricing concepts and analyses of pricing in similar large block transactions established that the discounts claimed by the taxpayer as a result of trading restrictions on the shares were too large.

- For a large conglomerate, an assessment of damages arising from misrepresentations regarding the sales of a consumer appliance manufacturer being purchased by the company. The analysis involved estimating the magnitude of the misrepresentation and its impact upon the value of the purchased entity.

- For a large New York electric utility, development of testimony on the level of variance around stated estimates of output in purchased power contracts that is “commercially reasonable” in the context of PURPA and New York statutes regarding pricing of power sales by small independent power producers. The analysis required identification of sources of variance in capacity and output, assessment of how and by whom variances might be controlled, a review of the allocation of risks between the parties and the impacts of relevant legal restrictions and market conditions. Twenty-two separate contracts were involved in the litigation.

- For a Massachusetts electric utility, assistance in responding to federal and state initiatives to deregulate and restructure portions of the electric utility industry. The engagement involved
assessment of the company’s stranded investment exposure, assessment of potential market power problems in a restructured power market, the development of incentive rates for portions of the company that would remain regulated and the development of testimony in response to a wide range of specific proposals made by the Massachusetts Department of Public Utilities including the divestiture of utility generating assets.

• For a Massachusetts electric utility involved in arbitrating a contract damage claim, an evaluation of the impacts/benefits upon ratepayers of completing a development-stage, coal-fired NUG facility whose developer failed to meet contract performance requirements and deadlines. The engagement required review of renegotiated contract terms and application of the utility’s capacity expansion planning/production costing models to assess the system impacts of proceeding under these new terms. The damage claims put forth by the NUG’s expert were also reviewed and critiqued.

• For an electric utility in New England, assessment of the financial exposure that might result from the breach of a purchased power agreement with a non-utility generator. The NUG had an operating facility (QF) using renewable fuels. The engagement involved development of contract performance and financial impact models for both the utility and the NUG, development of approaches for addressing uncertainties in parameters affecting contract performance such as fuel (wood chips) and O&M costs and dispatch pool system lambdas, and assessment of the damage exposure and feasible settlement ranges involved in litigation.

• For NASA, an evaluation of the appropriate prices to be charged for “in space” services provided to possible commercial users of NASA’s Space Station Polar Platform.

• For the U.S. Department of Energy, studies of the economic effects of alternative methods for establishing rates for petroleum pipelines with particular emphasis upon the impacts of the procedures set out by the Federal Energy Regulatory Commission in the Williams 154 Opinion.

• For the State of California, an analysis of the financial impacts of alternative contractual approaches for leasing oil and gas rights to state-owned offshore properties.

• For a large combined gas and electric utility company, the development of an integrated, computer-based planning system which encompassed electric and gas demand and pricing, rates and required revenues, generation/production planning, and financial forecasting.

• For a major research institution, specification of a financial model as part of a comprehensive system (EGEAS) for use in capacity expansion planning by electric utility companies.

• For numerous utility companies throughout the United States, assessment of the financial feasibility of continued investment in coal and nuclear electric generating plants under construction. The engagement involved critiquing construction cost escalation estimates derived through econometric techniques and developing alternative estimates.
• For a financially distressed major electric utility in the Mid-Atlantic region, an assessment of innovative financing options for end-user conservation programs.

• For the U.S. Office of Technology Assessment, development of a linear programming based refinery operations model and database for all major U.S. refiners for use in assessing refinery efficiency and costs.

• Research staff, Energy Laboratory, Massachusetts Institute of Technology. Mr. Taylor assessed the potential of photovoltaic power generation to displace central station alternatives. Included in the analysis was a review of the legal barriers to the penetration of photovoltaic technology.

• Staff attorney, Legal Services Corporation. Mr. Taylor practiced as part of a unit seeking to reform various aspects of the legal system for the benefit of clients with limited resources.

PUBLICATIONS


TESTIMONY


Prepared Direct and Supplemental Testimony of Gerald Taylor on Behalf of the California Parties, Docket No. EL03-180-000, to comment upon the filing of Enron Power Marketing, Inc., Enron Energy Services, Inc. and Public Service Co. of New Mexico in response to the Commission’s Order to Show

