STATE CORPORATION COMMISSION

MAY 0 2 2005

Docket Room

BEFORE THE STATE CORPORATION COMMISSION

OF THE STATE OF KANSAS

DIRECT TESTIMONY

OF

GEORGE L. FITZPATRICK

WESTAR ENERGY

DOCKET NO. _____

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. George L. Fitzpatrick, 1239 Route 25A, Suite 5, Stony Brook New York 11790

Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?

A. Harbourfront Consulting Group, LLC. as Managing Principal and CEO.

Q. PLEASE DESCRIBE YOUR EDUCATION AND BUSINESS EXPERIENCE.

A. I have a B.A. and M.B.A. in Economics from St. John's University with a concentration in statistics and econometrics. My complete resume can be referenced in Exhibit ___ (GLF-1).

I have been performing statistical analyses for electric and gas utilities since 1974. Further, I have developed Performance Standard measurement analyses for companies such as Georgia Power Company, Atlanta Gas Light, El Paso Electric and Long Island Lighting Company.

I have developed and testified to statistically based normalization and forecast analyses for such utilities as Western Resources, Arizona Public Service, Texas Utilities, Georgia Power Company, Freeport Electric, KeySpan Energy, Long Island Lighting Company, The New York Power Pool, El Paso Electric Company, Oklahoma Natural Gas, Missouri Public Service, Empire District, and Minnegasco.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. My testimony relates to the Reliability-Based Sharing Proposal that Westar is making in this case.

Westar is proposing to implement a set of metrics to measure its performance in five areas of its operations. Westar's performance in these areas could result in rewards or penalties to Westar based on adjustments to its allowed return on equity. Mr. Harrison describes the proposal in detail. My testimony describes the metrics and the basis for the penalty/reward portion of Westar's proposal.

II. PERFORMANCE TO BE MEASURED

Q. WHAT AREAS OF WESTAR'S PERFORMANCE WILL BE MEASURED UNDER ITS PROPOSAL?

A. Westar's performance in the key areas of its operations – generation, distribution and customer service – will be measured.

Q. WHAT WAS YOUR ROLE IN DEVELOPING THE PROPOSAL?

A. I used a statistical analysis to determine the appropriate structure of the metrics for use in the Reliability-Based Sharing Proposal to ensure that penalties and rewards are based on factors that measure Westar's performance and which Westar's actions can affect.

Q. WHY IS IT IMPORTANT THAT THE METRICS ARE BASED ON FACTORS THAT WESTAR CAN AFFECT?

A. Application of the metrics may trigger rewards or penalties. It would not be fair to customers if Westar can be rewarded due to good results that are merely fortuitous, nor would it be appropriate to penalize Westar for poor results due to factors beyond its control.

Q. WHAT ARE THE METRICS OF WESTAR'S PERFORMANCE THAT YOU HAVE INCLUDED IN YOUR ANALYSES?

A. They are:

- Equivalent Forced Outage Rates (EFOR) for Westar's generating facilities – a measure of generation reliability.

- System Average Interruption Duration Index (SAIDI) for Westar's distribution system – a measure of distribution system service restoration efficiency.
- System Average Interruption Frequency Index (SAIFI) for Westar's distribution system a measure of distribution system integrity.
- Answered Call Rates for Westar's Customer Service Call Centers – a measure of customer service response.
- Percentage of Meters Read for Westar's Customer Billing function – a measure of customer billing accuracy and timeliness.

Q. WHY WERE THESE METRICS SELECTED?

A. Westar, with input from Mr. Davies and myself, selected these elements because, taken together, they will provide the Commission with comprehensive measurements of Westar's performance across all areas of its utility operations.

Q. PLEASE DESCRIBE THE MEASUREMENT METHOD THAT YOU ARE PROPOSING.

A. I propose a performance measurement method that will employ Westar's recent historical performance in the above-named five performance categories as a benchmark for measuring future performance for the application of rewards and penalties.

First, I propose that there be a range of outcomes centered on the average – a "deadband" – in which no adjustment to Westar's authorized return would be made. A deadband is appropriate because each of the elements has significant variability due to factors that are largely outside of any utility's control. The deadband encompasses approximately the middle 50% of each performance metric's statistical frequency distribution.

Second, I propose two penalty steps that would assign 40% of the total "basis point" penalty in the first penalty step – the "band" of outcomes adjacent to the deadband – and add the remaining 60% of the total "basis point" penalty if Westar's performance falls into the second penalty step – the band farthest from the deadband.

Third, I propose two reward steps that would be symmetrical in construction to the two penalty steps, if Westar's performance falls on the reward side of the respective performance element distributions.

Q. WHY IS IT APPROPRIATE TO HAVE A DEADBAND IN THIS TYPE OF ANALYSIS?

A. As I mentioned before, it would not be fair to either customers or Westar for rewards or penalties to be assessed for results within the range of outcomes that are not affected by Westar's activities. It is also important that the metrics be applied on a precise,

consistent basis year-to-year. A deadband is a way to insure that rewards and penalties are assessed for performance that is clearly above or below average, respectively, for that metric.

Q. WHY DID YOU SELECT A DEADBAND THAT ENCOMPASSES 50% OF THE NORMAL YEAR-TO-YEAR VARIATION IN THE FIVE METRICS CHOSEN?

A. A performance standard should be designed to reward or penalize either significantly good or significantly poor performance by the company to which they are applied. In my multiple regression analyses of SAIDI and SAIFI data, for example, I found that the best multiple regression models included a number of weather-related variables that explained variations in both SAIDI and SAIFI with a high degree of statistical confidence. However, all of these variables, save one, which was a three-year rolling average of O&M expenditures by Westar, are clearly outside of Westar's control on a year-to-year basis. Because variables such as precipitation, heating degree days, cooling degree days and extreme temperatures are all statistically significant modifiers of SAIDI and SAIFI performance, I concluded that there is a significant amount of year-to-year variance as a result of factors beyond Westar's control.

Setting the deadband equal to a conservative estimate of the year-to-year variance that is attributable to factors outside of

Westar's control minimizes the likelihood that rewards will be given or penalties assessed for outcomes that result from factors beyond Westar's control. In fact, many of the same variables that have been shown to impact SAIDI and SAIFI will also affect most of the other metrics – for example, bad weather will normally increase customer call rates and can reduce the effectiveness of meter reading personnel. In some instances, extreme temperatures will place additional customer demand and harsher operating environments upon Westar's generating fleet.

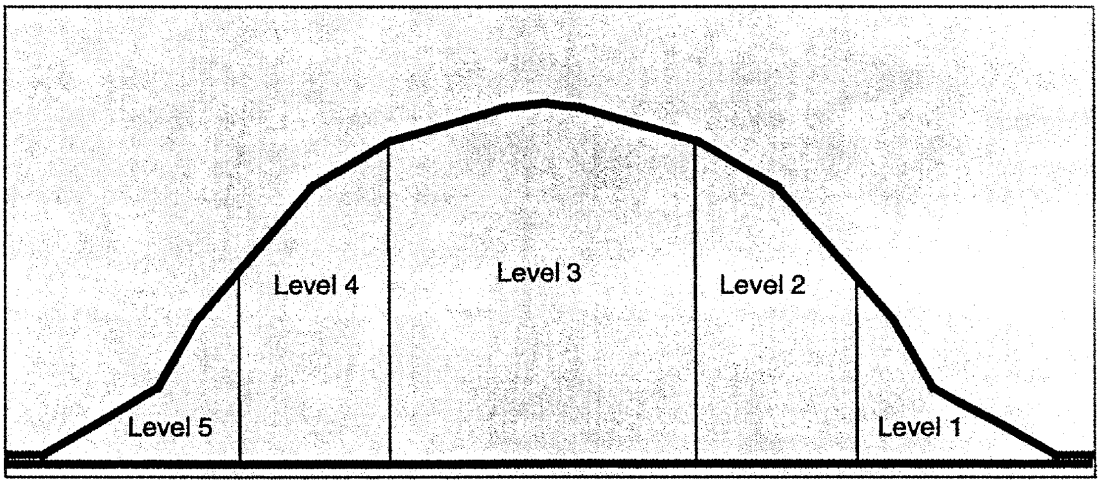
Thus, a year-to-year deadband that encompasses the middle 50% of all possible observations, coupled with the specific construct of each performance metric, should be effective in ameliorating the potential for assessing unearned rewards or penalties.

Q. IN YOUR OPINION, HOW SHOULD THE SERVICE QUALITY PERFORMANCE ELEMENTS BE MEASURED?

A. For each of the metrics identified above, I suggest that separate distributions, reflecting the most recent three years (36 months) of Westar history, be developed for the initial 2006 evaluation period. Thus, I suggest that the 2002-2004 analyses contained in my testimony be employed as the bases for evaluation of each metric in the 2006-2008 initial proposed evaluation period.

In general, once a deadband is constructed, I suggest that two reward and two penalty areas corresponding to increasing areas under a "t" distribution be segmented into partitions as I will describe further. Thus, there will be five performance levels, with four of the five having reward or penalty implications for Westar as shown in Figure 1.

FIGURE 1
Service Quality Measurement Ranges
The Level Performance Levels

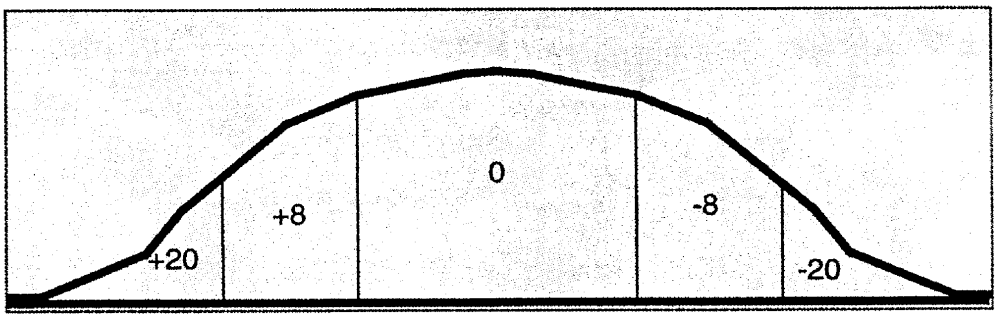


Q. PLEASE DESCRIBE THE FIVE PERFORMANCE LEVELS AND DISCUSS THE METHOD OF CALCULATING PENALTIES AND REWARDS.

A. Because there are five metrics associated with the proposed Reliability-Based Sharing Proposal, I suggest that each metric be equally weighted for the purposes of assigning rewards or penalties. Each metric should carry a maximum adjustment to the allowed rate of return band of plus or minus 20 basis points.

Level 1 would be the lowest level of performance for each metric and would have a penalty equal to 100% of the allocated amount or 20 basis points. Level 2 would be the second lowest performance level and would have a penalty equal to 40% of the allocated amount – 8 basis points. Level 3 would be the deadband level and would have neither a reward nor penalty. Level 4 would be the lowest level of reward with an attendant 40% reward – 8 basis points. Level 5 would be the highest level of reward and would have an attendant reward of 100% of the 20 basis point allocation for each metric. Each of the five metrics would be graded separately and then the plus or minus basis point adjustment would be added to a total at the end of each calendar year evaluation period. This is shown in Figure 2.

FIGURE 2
Service Quality Measurement Ranges
Basis Points



Q. HOW LARGE WOULD THE DEADBAND BE?

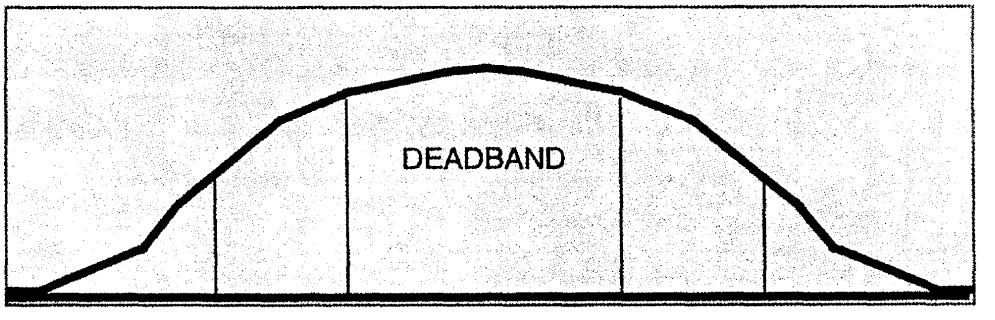
A. As I indicated, the deadband would include the middle 50% of all observations. In a data sample such as we are using in this model,

we would expect that half of the observations would fall within .674 standard errors of the mean.

Q. WHY IS THAT?

A. Because we are working with a small sample with an unknown population variance, statistical theory indicates that the observations should follow what is known as a "t"-distribution. "t"-distributions tend to be similar to the familiar bell shape of a normal distribution but smaller sample sizes show increased variability. An unskewed t-distribution based on 30 or more observations (one for each month of a three-year period) would look like Figure 3.

FIGURE 3
Service Quality Measurement Ranges
DEADBAND



In a "t"-distribution, half of all observations would fall within the area defined by the mean plus or minus .674 standard errors of the mean.

Q. HOW LARGE SHOULD EACH OF THE PENALTY AND REWARD STEPS BE?

A. I recommend that the first reward/penalty step should capture an additional 30% (that is, plus or minus 15% additional area under the distribution beyond the deadband) of the total area, or potential occurrences, under the distribution. The second reward/penalty step captures the final 20% (plus or minus 10% additional area under the distribution beyond the deadband) of the total area, or potential occurrences, under the distribution.

Q. YOUR FIRST RECOMMENDED REWARD/PENALTY BAND HAS AN ASSOCIATED PROBABILITY OF PLUS OR MINUS 15% ABOVE OR BELOW THE DEADBAND, YET THE SECOND RECOMMENDED REWARD/PENALTY BAND HAS AN ASSOCIATED PROBABILITY OF PLUS OR MINUS 10% ABOVE OR BELOW THE FIRST STEP. WHY ARE THE FIRST AND SECOND STEPS OF UNEQUAL MAGNITUDE?

A. Intuitively, it will require much worse or much better performance for Westar to post results that fall into the second penalty band or the second reward band. Performance poor enough to get into the second penalty band should get a significantly larger penalty than performance in the first penalty band. Likewise, performance good enough to achieve the second reward band should be rewarded much more than performance in the first penalty band.

Q. IN YOUR OPINION, SHOULD THE OPPORTUNITY FOR REWARD BE EQUAL TO THE EXPOSURE TO PENALTY IN EACH EVALUATION YEAR?

A. Yes. First of all, such a balanced approach is only fair. It would not be reasonable to expose Westar to penalties for poor performance without providing the opportunity for rewards for good performance.

Further, the KCC should set a reward/penalty magnitude that remains constant for a long enough period of time so that Westar and its employees have time to adjust their business processes to respond to the incentives of the Reliability-Based Sharing Plan. Performance targets should be fair and equitable. They should also be known far enough in advance of the measurement period so that these standards can have the maximum effect.

Q. WHY HAVE YOU DEVELOPED THE METRICS BASED UPON A COMPARISON OF FUTURE PERFORMANCE WITH HISTORICAL WESTAR PERFORMANCE?

A. Originally, I evaluated the idea of developing a performance standard method that would be based upon a comparison of Westar performance with other utilities. I began this analysis by looking at industry data on SAIDI and SAIFI. My initial concept was to use a method that looked at widening concentric circles of utilities around the Westar service territory until a sufficiently robust

comparison sample was obtained. However, this analysis quickly became impractical.

Q. WHY IS SUCH AN ANALYSIS IMPRACTICAL?

A. There are several reasons.

First, different utilities – including those in close proximity to Westar – have differing customer densities as measured by number of customers per mile of distribution lines. This is a key variable in comparing differences in utilities' SAIDI and SAIFI. The fact of these differences means that the utilities are not comparable to each other.

Second, different utilities collect outage data in different ways – some measurement systems are completely automated and others employ various combinations of automated and manual processes. From my experience, the more automated the collection process, the higher the SAIDI and SAIFI values that will be observed, all else equal. Westar's system is highly automated. Because we cannot determine the magnitude of the effect on SAIDI and SAIFI statistics that result from such automation, we cannot make a meaningful comparison between Westar and other companies.

Third, in reviewing SAIDI and SAIFI information from other utilities, I observed many instances of missing annual data, illogical

annual entries and the like. The result is that data from other companies is not reliable as a basis for comparison.

Q. WHY IS USING WESTAR'S MOST RECENT THREE YEARS OF PERFORMANCE REASONABLE?

A. In their testimonies, Messrs. Sterbenz and Henry and Ms. Williams have addressed the overall reasonableness of Westar's recent performance in each of the categories I analyzed. I did test longer periods of time for historical benchmarking purposes, but when I reviewed the application of rewards and penalties for longer historical series, there was an observable trend of penalties in the earlier years and rewards in the later years. However, the use of the 36 monthly observations for the 2002-2004 historical timeframe resulted in a fairly random application of rewards and penalties over the three-year period. Further, there was no observable trend in either penalties to rewards over time, or the converse.

There are two additional factors that support the use of the 2002-2004 historical comparison. First, this proposal is designed to have an initial implementation period of three years. After that, if the program is to be continued, I would expect that Westar and the Commission would take a new look at the historical benchmarks to be employed. Second, it is important for Westar and its personnel to have fixed performance targets to meet over the initial timeframe.

The use of the latest three years of information gives the most up-to-date benchmarks for evaluation of individual metric comparison.

III. APPLICATION OF THE METRICS

A. *Method*

Q. HOW DID YOU DETERMINE THE SIZE OF THE BANDWIDTH AND THE REWARD/PENALTY BANDS FOR EACH METRIC?

A. I computed the same measures of central tendency and variance for each of the metrics. From those calculations, I determined the appropriate limits for the deadbands and the thresholds for rewards and penalties.

Q. WHAT "MEASURES OF CENTRAL TENDENCY AND VARIANCE" DID YOU COMPUTE?

A. For each metric, I computed the mean, median value, standard deviation, standard error of the mean and coefficient of skewness for each set of data. As I have indicated, each set consisted of 36 months of the most recently observed results on the Westar system.

Q. WHY DID YOU COMPUTE THE MEAN, MEDIAN VALUE, STANDARD DEVIATION, STANDARD ERROR OF THE MEAN FOR EACH SET OF DATA?

A. In a "t" distribution, the results of these computations will indicate the shape and width of the distribution.

Q. WHY DID YOU COMPUTE THE COEFFICIENT OF SKEWNESS?

A. The Coefficient of Skewness was computed to ascertain the amount of deviation of the resultant distribution from a normally-shaped distribution upon which a symmetrical performance standard should be based. In real world experience, one would not expect a perfectly symmetrical distribution for any of these metrics. It was important, therefore, to check to see the relative skewness of the original distributions so that, in the future, if anomalous distributions are detected, both Westar and the Commission will be better able to recognize these anomalies and use informed judgment in applying the rewards and penalties under this mechanism.

B. *SAIDI and SAIFI*

Q. WHY DID YOU SELECT SAIDI AND SAIFI?

A. SAIFI is an industry-recognized measure for assessing distribution system reliability. After discussions with Messrs. Henry and Davies, I decided that this metric would be most appropriate to use as an indicator of distribution system performance. Further, although the KCC has prescribed the so-called "10% rule" for normalizing such data for extreme occurrences, we recommend, as part of the implementation of the Reliability-Based Sharing Proposal, that the IEEE 1366 2003 normalization procedure be employed. This procedure is in widespread use throughout the electric utility industry and has behind it a significant amount of research and analysis.

SAIDI is also an industry-recognized measure for assessing distribution system repair efficiency and the effectiveness of utility maintenance practices. Again, after discussions with Messrs. Henry and Davies, I decided that this would be another appropriate metric to use as an indicator of distribution reliability and repair efficiency. Again, we recommend that the IEEE 1366 2003 normalization method be employed.

Q. WHAT WERE THE RESULTS OF YOUR CALCULATIONS FOR SAIDI?

A. SAIDI reflects the average time customers are interrupted. It is calculated by dividing the sum of customer interruption durations by the total number of customers served. It is stated in minutes. I determined the following values based on Westar's data:

Mean: 137.39 minutes

Median: 132.70 minutes

Standard Deviation: 82.54 minutes

Standard Error of the Mean: 13.94 minutes

Coefficient of Skewness: +.17

(Note that a skewness coefficient can range from 0 to +/-3, with 0 representing a perfectly normal distribution.)

Q. WHAT WERE THE RESULTING DEADBAND AND PENALTY/REWARD BANDS?

A. Level 1 – the second penalty step – would be greater than 160.32 minutes.

Level 2 – the first penalty step – would be greater than 146.79 minutes but less than or equal to 160.32 minutes.

Level 3 – deadband – would be from 127.99 minutes to 146.79 minutes, inclusive.

Level 4 – the first reward step – would be less than 127.99 minutes but greater than or equal to 114.46 minutes.

Level 5 – the second reward step – would be less than 114.46 minutes.

Q. WHAT WERE THE RESULTS OF YOUR CALCULATIONS FOR SAIFI?

A. SAIFI reflects the average frequency of sustained interruptions per customer. It is reported in number of outages per customer. The values I calculated were:

Mean: 1.51 Outages per Customer

Median: 1.39 Outages per Customer

Standard Deviation: .74 Outages per Customer

Standard Error of the Mean: .13 Outages per Customer

Coefficient of Skewness: +.49

Q. WHAT WERE THE RESULTING DEADBAND AND PENALTY/REWARD BANDS?

A. Level 1 – the second penalty step – would be greater than 1.72 outages per customer.

Level 2 – the first penalty step – would be greater than 1.60 outages per customer but less than or equal to 1.72 outages per customer.

Level 3 – the deadband – would be from 1.42 to 1.60 outages per customer, inclusive.

Level 4 – the first reward step – would be less than 1.42 but greater than or equal to 1.30 outages per customer.

Level 5 – the second reward step – would be less than 1.30 outages per customer.

C. *Equivalent Forced Outage Rate (EFOR)*

Q. PLEASE DESCRIBE YOUR ANALYSIS AND RESULTS FOR THE EQUIVALENT FORCED OUTAGE RATE FOR WESTAR'S GENERATING UNIT PERFORMANCE SERVICE QUALITY COMPONENT.

A. As a first step, I conferred with Westar's generation experts in order to identify a metric that would capture the relative performance of Westar's generating side of the business. After some discussion, I decided it would be appropriate to use the Equivalent Forced Outage Rate (EFOR) metric to measure this component of Westar's operation. There were three basic reasons for this choice:

- EFOR is a good overall measure of generation performance because it takes into account all of the generating units Westar operates.
- EFOR is a fairly stable measure year-to-year. Only significant shifts in a utility's generation mix, or significant forced outage events, will affect the level of this measure.
- EFOR is used by many utilities to measure both their unit availability from year-to-year as well as the effectiveness of their maintenance practices. Thus, these data are widely collected on a consistent basis and are readily available for evaluation purposes.

I then asked Westar for the most recent EFOR data and comparisons that it had available for its generating units. The most recent Westar-specific report was for the period 2000-2004. However, the most recent available NERC comparison database for a group of similar plants that Westar had been tracking was for the period 1999-2003. The data for both components were based upon weighted average EFOR, with the data weighted according to MW size of each unit in the database. For consistency in comparing Westar's performance to the NERC data, we used the period 1999-2003. For that period, Westar's EFOR for its operated and non-operated units combined was 5.3% compared to 6.9% for

similar systems in the five-year period from 1999-2003 in the NERC comparison group.

These data show that Westar unit performance, as measured by EFOR, has been superior to the NERC average for comparable units for the time periods available for this study.

Q. HOW DID YOU CALCULATE THE PERFORMANCE MEASUREMENT FOR EFOR?

A. I used weighted monthly EFOR means for the Westar system for the most recent three years (i.e., 2002-2004). The most recent three-year average is appropriate for this metric because it smooths out year-to-year variations that are inherent in this metric. I used weighted monthly means to account for the capacity of each unit in the average and to weight each observation in accordance with its MW output. The result reflects the importance of each unit to the Westar system and its customers. For EFOR, based on these data, I calculated the same measures of central tendency and variance that I calculated for SAIDI and SAIFI.

Q. WHAT WAS THE RESULT OF YOUR CALCULATIONS?

A. For EFOR, I calculated the following:

Mean: 4.98%

Median: 4.67%

Standard deviation: 2.94%

Standard Error of the Mean: .50%

Coefficient of Skewness: +.32

Q. WHAT WERE THE RESULTING DEADBAND AND PENALTY/REWARD BANDS?

A. Level 1 – the second penalty step – would be greater than 5.80%.

Level 2 – the first penalty step – would be greater than 5.32% but less than or equal to 5.80%.

Level 3 – the deadband – would be from 4.64% to 5.32%, inclusive.

Level 4 – the first reward step – would be less than 4.64% but greater than or equal to 4.16%.

Level 5 – the second reward step – would be less than 4.16%.

D. *Answered Call Rates*

Q. PLEASE DESCRIBE YOUR ANALYSIS AND RESULTS FOR WESTAR'S ANSWERED CALL RATES.

A. As with the other metrics, I used three years of data covering the years 2002–2004. Using these data, I calculated the following measures:

Mean Answered Calls as a Percent of Total Calls: 94.29%

Median Percent of Answered Calls to Total: 96.37%

Standard Deviation of Answered Calls to Total: 4.88%

Standard Error of the Mean of Answered Calls to Total: .82%

Coefficient of Skewness: -1.28

Q. WHAT WERE THE RESULTING DEADBAND AND PENALTY/REWARD BANDS?

A. Level 1 – the second penalty step – would be less than 92.94%.

Level 2 – the first penalty step – would be less than 93.84% but greater than or equal to 92.94%.

Level 3 – the deadband – would be from 93.84% to 94.74%, inclusive.

Level 4 – the first reward step – would be greater than 94.74% but less than or equal to 95.64%.

Level 5 – the second reward step – would be greater than 95.64%.

E. *Percentage of Meters Read*

Q. PLEASE DESCRIBE YOUR ANALYSIS AND RESULTS FOR WESTAR'S PERCENTAGE OF METERS READ.

A. I performed my calculations based upon the most recent 36 months of data. The following measures were calculated:

Mean of Percentage of Meters Read to Total: 98.96%

Median of Percentage of Meters Read to Total: 99.0%

Standard Deviation of Percentage of Meters Read to Total: 0.43%

Standard Error of the Mean of Percentage of Meters Read to Total: .07%

Skewness Coefficient: -0.33

Q. WHAT WERE THE RESULTING DEADBAND AND PENALTY/REWARD BANDS?

A. Level 1 – the second penalty step – would be for performance in less than 98.84%.

Level 2 – the first penalty step – would be less than 98.91% but greater than or equal to 98.84%.

Level 3 – the deadband – would be from 98.91% to 99.01%, inclusive.

Level 4 – the first reward step – would be greater than 99.01% but less than or equal to 99.08%.

Level 5 – the second reward step – would be greater than 99.08%.

Q. PLEASE SUMMARIZE YOUR RESULTS.

A. Figure 4 and Table 1 summarize my results.

FIGURE 4
Service Quality Measurement Ranges
Basis Points

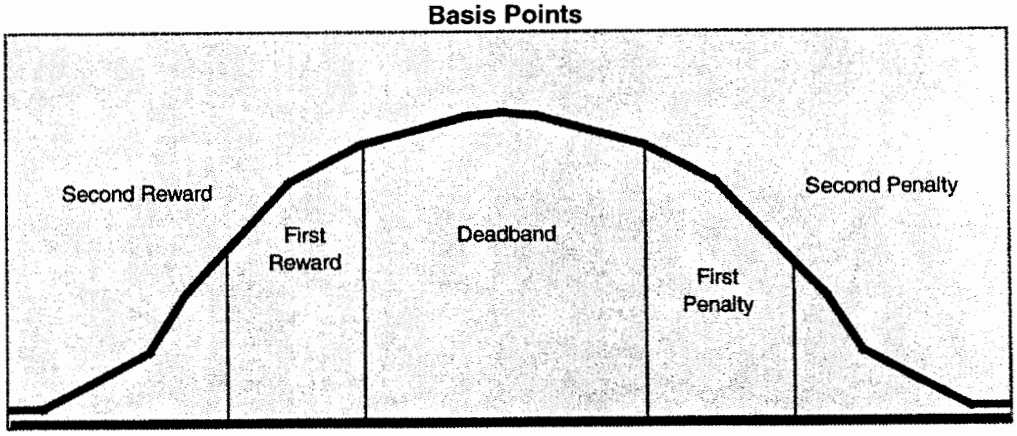


TABLE 1 – DEADBAND AND REWARD/PENALTY BANDS

Measure	Second Reward	First Reward	Deadband	First Penalty	Second Penalty	
SAIDI	Less than 114.46 minutes	Less than 127.99 minutes but greater than or equal to 114.46 minutes	From 127.99 minutes to 146.79 minutes, inclusive	Greater than 146.79 minutes but less than or equal to 160.32 minutes	Greater than 160.32 minutes	
SAIFI	Less than 1.30 outages per customer	Less than 1.42 but greater than or equal to 1.30 outages per customer	From 1.42 to 1.60 outages per customer, inclusive	Greater than 1.60 outages per customer but less than or equal to 1.72 outages per customer	Greater than 1.72 outages per customer	
EFOR	Less than 4.16%	Less than 4.64% but greater than or equal to 4.16%	From 4.64% to 5.32%, inclusive	Greater than 5.32% but less than or equal to 5.80%	Greater than 5.80%	
Answered Call Rate	Greater than 95.64%	Greater than 94.74% but less than or equal to 95.64%	From 93.84% to 94.74%, inclusive	Less than 93.84% but greater than or equal to 92.94%	Less than 92.94%	
Percentage of Meters Read	Greater than 99.08%	Greater than 99.01% but less than or equal to 99.08%	From 98.91% to 99.01%, inclusive	Less than 98.91% but greater than or equal to 98.84%	Less than 98.84%	

Q. WHAT WOULD THE RESULTS HAVE BEEN HAD THE RELIABILITY-BASED SHARING PROPOSAL BEEN IN EFFECT IN 2004 AND FOR THE PREVIOUS THREE YEARS?

A. Table 2 shows the results for each of the metrics in the Reliability-Based Sharing Proposal for the 2001-2004 time period:

TABLE 2 — RESULTS FOR METRICS

YEAR	SAIDI	SAIFI	EFOR	Answered Call Rate	Percentage of Meters Read
2002	169.94	1.72	3.33	89.83	98.93
2003	119.62	1.43	4.65	97.65	99.08
2004	117.03	1.37	6.87	95.39	98.87

Table 3 translates these results into basis point adjustments (penalties and rewards) to the deadband.

TABLE 3 — PENALTY / REWARDS (BASIS POINTS)

YEAR	SAIDI	SAIFI	EFOR	Answered Call Rate	Percentage of Meters Read	TOTAL
2002	(20)	(8)	20	(20)	0	(28)
2003	8	8	0	20	8	44
2004	8	8	(20)	8	(8)	(4)

IV. IMPLEMENTATION

Q. DO YOU RECOMMEND THAT THE METRICS BE UPDATED DURING THE THREE YEARS THAT THE RELIABILITY-BASED PERFORMANCE PROPOSAL IS TO BE IN EFFECT?

A. No.

Q. WHY NOT?

A. First, because the test run of the Reliability-Based Performance Proposal will last only three years, the data I have used in my analysis will be fresh enough to provide a reasonable basis for judging Westar's performance.

Second, updating the data based on Westar's performance during the term of the Reliability-Based Performance Proposal would mean that Westar's performance would affect the penalty and reward bands. Although that might be a result customers would like if Westar performs well, poor performance by Westar would result in a lowering of the targets – a result that would clearly not benefit customers.

I recommend that the targets be revisited at the end of the three-year term of the Reliability-Based Performance Proposal. At that time, it can be determined whether the targets need to be adjusted.

Q. THANK YOU.

EXHIBIT ____GLF-1

RESUME OF GEORGE L. FITZPATRICK

George L. Fitzpatrick –

Managing Principal and CEO

OVERVIEW

George L. Fitzpatrick is the Managing Principal/CEO of Harbourfront Consulting Group LLC. His professional experience includes eight years of service at Long Island Lighting Company managing the Load Research, Forecasting, and Cost of Service Divisions. After that, he held the position of Vice President of Demand Planning with Stone and Webster Management Consultants, Inc.

Twenty-two years of his career have been spent with Applied Energy Group, Inc. as its founder, CEO and Managing Principal. Over his tenure as CEO, he built the firm from one consultant to over twenty-five employees. In 2002, he reached an agreement to sell his share of the firm in order to pursue consulting and expert witness assignments that were specific to his experience, expertise and past utility client relationships.

In 2002, Mr. Fitzpatrick formed Harbourfront Consulting Group LLC to focus on the provision of expert witness services and litigation support in areas that have been central to Mr. Fitzpatrick's practice over his career. More information about the firm and its professional resources can be found at **www.harbourfrontllc.com** .

Mr. Fitzpatrick has provided expert direct and rebuttal testimony before federal and state regulatory bodies and judicial authorities on subjects such as:

- Lifecycle Economic Evaluation of Utility Investments
- Econometric/statistically-based Load and Energy Forecasting
- Weather Normalization Studies of both gas and electric test year sales
- Weather Normalization probabilistic correction of System Peaks and Class components
- Strategic Planning
- Comparative Economics of Electric Generation Investments
- Load Research Program Sample Design, Implementation and Analysis
- Nuclear and Fossil Power Plant Cost and Performance analyses
- Econometric and Statistical Studies on Utility- related Issues

- Rate Design
- Cost of Service Studies
- DSM/ Renewable Program Evaluation
- Performance Standard design and statistical construction
- SAIDI / SAIFI-related statistical investigations
- Rebuttal testimony on a wide range of statistical and econometric-related subjects.

Over Mr. Fitzpatrick's consulting career he has provided services to over 50 electric and gas utility clients both in the U.S. and abroad. However, there are a number of clients that have utilized his services on an ongoing basis over the years as a senior management consultant and/or expert witness. These clients include:

- Arizona Public Service Company (Pinnacle West)
- Bermuda Electric Light Company Limited
- Consolidated Edison Company of New York
- El Paso Electric Company
- Entergy
- Freeport Electric
- Georgia Power Company (Southern Company)
- KeySpan Energy
- New England Electric System
- Niagara Mohawk Power Corp. (National Grid)
- New York Power Authority
- Northeast Utilities
- TXU Electric (TXU)
- Westar Energy (and its three predecessor companies)

Over his 24 year professional consulting career, he has also served his client base as a negotiator, often playing a key role in the negotiation of multi-million dollar, short and long term utility power supply and franchise contracts (e.g., Ft Bliss, White Sands Missile Range, University of Texas, and El Paso Water Utilities and El Paso Electric Vs. the City of Las Cruces).

Mr. Fitzpatrick has a Master of Business Administration degree in Economic Theory and a Bachelor of Arts in Economics, both from St. John's University. He has also completed course work toward a Master of Science degree in Management Engineering from Long Island University (C.W. Post) as well as advanced training in Box Jenkins forecasting techniques and econometric and statistical modeling. He possesses a Certificate of

Mastery in Reengineering from the Hammer Institute and is a member of the Association of Energy Engineers (AEE) and the Energy Services Marketing Society.

PROFESSIONAL EMPLOYMENT

2003-Present Harbourfront Consulting Group, LLC

Managing Principal and CEO

Founded Harbourfront in 2002. HFG's focus is the development of strategies, analyses and expert testimony to assist its primarily investor-owned utility client base in objectively and expertly presenting and defending issues central to the client's corporate mission. Primary areas of the practice are electric and gas forecast development and review; engineering economic studies; comparative economic studies; lifecycle economic studies; statistical and econometric analyses and rebuttal; rate design and cost of service studies; performance standard statistical design and rebuttal; distribution reliability-related analyses and utility accounting-related matters.

1982 - 2003 Applied Energy Group, Inc.

Founder, President & CEO

Founded AEG in 1982. The focus of this consulting practice centered in the areas of Peak Load and Energy Forecasting, Load Research program sample design, implementation and analysis, Demand Side Management Program Evaluation, Electric and Gas Weather Normalization Studies, Nuclear and Fossil Generation Cost and Performance Studies and Comparative Engineering

Economic Studies of Utility Generation and other investments. Mr. Fitzpatrick provided expert testimony on the above-mentioned areas and also provided clients with leadership services in the startup of new diversification ventures.

1979 - 1981 Stone & Webster Management Consultants, Inc.

Vice President—Demand Planning

Responsible for the coordination and direction of consulting activities in the Planning, Load Research, Load Forecasting, and Load Management areas within the corporation. Additional responsibilities included analysis of data processing requirements and potential new markets for consulting activities - a diversification from Stone & Webster's traditional lines of business.

1971 - 1979 Long Island Lighting Company

Manager—Load Research, Costing and Forecast Division

Primary responsibilities centered on Electric Peak and Energy Forecasts; Electric and Gas Weather Normalization; Statistical Sample Design Development; Load Research Study Implementation; Load Data Management and Analysis; Long Island Lighting Company's Annual Population Survey; all Long-Range Demographic Projections; the collection, processing, and overall supervision of the billing of customers under the Long Island Lighting Company's commercial/industrial time-of-use rate, the Electric Class of Customer Annual

System Load Research Study; and all statistical and econometric- based studies performed by Long Island Lighting Company's Economic Research Department.

In 1978, responsibilities were expanded to include fully allocated and marginal cost-of-service studies for electric and gas and total factor productivity studies.

PROFESSIONAL EXPERIENCE

EXPERT TESTIMONY AND REGULATORY SUPPORT (SELECTED ASSIGNMENTS)

El Paso Electric vs. City of Las Cruces, New Mexico-2000 Federal Court-Ordered Mediation:

Participated as part of El Paso Electric's officer/attorney team in the final court-ordered mediation sessions that resulted in the settlement of the 10 year dispute between the two parties. Prior to this mediation, worked on behalf of the Company to negotiate a settlement with the City's consultants. .

Freeport Electric-1995 Docket No. 95-E-0676, 2001 Docket No. 01-E0965, 2003Docket No. 03-E-0686:

Provided direct testimony supporting Freeport's KWH sales and peak demand forecasts in four NYPSC proceedings. Constructed econometric models based forecast method by calls along with weather normalization of the test year sales. Provided testimony on the selection of Freeport-specific DSM programs to meet Commission requirements.

Indian Point 2 and Indian Point 3 / Consolidated Edison Company of New York, Inc. and New York Power Authority - NRC Docket Nos. 50-247-SP and 50-286-SP:

Prepared rebuttal testimony comparing the economics of early retirement of the Indian Point units vs. potential conservation investment alternatives in New York State.

KeySpan Energy-1998 Docket Nos. ER98-11-000 and EL98-22-000, 2003; Docket Nos. ER04-112-000 and ER04-112-001:

Provided expert testimony before FERC on the appropriate segmentation of fossil generating plant fixed and variable O&M Costs. Developed statistical models, by plant, to support this segmentation. Testimony was updated again in 2003 for the FERC Docket related to the renewal of the contract that was originally brought before FERC in 1998.

Oklahoma Natural Gas Company- 1991 PUD Docket No 001017:

Provided rebuttal testimony on the comparative economics and efficiency of electric and gas DSM programs and made recommendation to the Oklahoma Commission on incentive rate making for DSM-related investments.

Palo Verde 1, 2, & 3 / Arizona Public Service Company-Docket Nos. U-1345-85-156 and U-1345-85-367:

Provided direct testimony presenting comparative economic analysis of Palo Verde vs. hypothetical coal unit alternative. Provided econometrically developed estimates of Operation and Maintenance Costs, as well as Capital Additions

Costs. Provided independent statistically derived estimates of lifecycle Capacity Factors for the Palo Verde units. Participated in the training of APS witnesses.

Palo Verde 1 & 2 / El Paso Electric Company / Texas - Docket No. 7460:

Provided direct testimony on lifecycle economics of nuclear vs. coal alternative. Provided direct testimony on decisional prudency of company to enter into nuclear investment. Provided load forecast of company's future energy and peak demand needs. Participated in the training of Company witnesses.

Palo Verde 1, 2, & 3 / El Paso Electric Company Docket Nos. 8892, 9069 and 9165:

Provided Direct Testimony presenting comprehensive industry analysis and statistical analysis of Nuclear Performance Standards. Presented statistically derived optimal Performance Standard for Palo Verde Units 1, 2, and 3. Provided Rebuttal Testimony discussing theoretical and statistical flaws in intervenor's Performance Standard proposal.

Plant Hatch and Plant Vogtle / Georgia Power Company / Georgia - Docket Nos. 3554-U and 3673-U:

For the Vogtle Financing Case, the Vogtle Rate Case and the Hatch Rate Case: Provided rebuttal testimony on comparative economics of Plant Vogtle, provided rebuttal testimony (with presentation to Commission) on Vogtle's economics, and statistically derived projections of Vogtle's performance and Hatch O&M Costs,

participated in witness training, and developed internal statistically-based O&M and Capital Additions "Targets" for Plant Hatch and Plant Vogtle.

Plant Hatch and Plant Vogtle / Georgia Power Company - Docket No. 3840-U:

Provided Rebuttal Testimony that pointed out methodological and statistical flaws in Staff consultant's Performance Standard proposal. Presented parameters for a statistically unbiased, optimal Performance Standard.

Shoreham / Long Island Lighting Company / New York-Docket No. 28252:

Provided rebuttal testimony on most likely performance of Shoreham Unit. Provided testimony on most likely Operation and Maintenance Cost levels and Capital Additions Cost level for Shoreham based upon econometric analysis of nuclear industry. Provided testimony on demand-side vs. supply-side alternatives for the Long Island Lighting Company.

Western Resources-2001 KCC Docket No. 1-WSRE-436-RTS:

Provided direct testimony and supporting statistical / engineering economic analyses on the prudence of Western's investment in the Stateline Generating Plant. Also provided direct testimony on the statistical weather normalization of test year sales..

Developed comparative economic analysis on the benefits to Westar and remaining customers of special power supply contracts for Large C&I customers.

Western Resources – 1996 KCC Docket Nos.193,305 and 193,30;-U96-KG&E-100-RTS:

Developed an accelerated depreciation plan for Wolf Creek Nuclear Unit to reduce cost of production to market-based competitive levels by 2000 - 2005.

Western Resources – 1996 KCC Docket No. 193,307-U96-WSRE-101-DRS:

Provided expert testimony and supporting statistical analysis for test year, class weather normalization, as well as, primary and secondary economic benefits of key customer discounted contracts.

Western Resources - Missouri Testimony in Generic Proceeding (1994:)

Provide expert testimony during the Missouri Public Service Commission's rule-making proceeding concerning Integrated Resource Planning. The testimony discussed the consideration of alternative fuel sources as an end-use measure when developing their resource plan.(MPSC Docket)

Wolf Creek / Kansas Gas and Electric Company / Kansas City Power and Light Company/Kansas-1984 Docket Nos. 84-KG&E-197-R-142, O98-U / Missouri Docket #ER-85-128, EO-85-185:

Provided rebuttal testimony on lifecycle economics of nuclear vs. coal alternative. Provided first-year and lifecycle statistically based estimates of Wolf Creek's Operation and Maintenance Costs and Capital Additions Costs. Provided first-

year and lifecycle estimates of Wolf Creek's Capacity Factors. Participated in the preparation of KG&E witnesses on the subjects of statistics, econometrics, forecasting, and engineering economics.

Atlanta Gas Light – Georgia (1997):

Worked with senior management to develop testimony for a performance based rate plan in support of the unbundling of gas service.

El Paso Electric Company -Texas (1997-1998):

Developed unbundling strategy and performance based rate plan in support of ongoing Texas PUC workshops on the unbundling of electric service.

Empire District - Missouri (1992):

Provided econometric rebuttal testimony critiquing MPSC Staff's direct testimony on Empire District's forecast. Rebuttal testimony was accepted by Staff and the Company's forecast was accepted for use in the rate case.

Minnegasco - Docket No. G-008/GR-92-400 (1993 - 1994):

Developed a set of econometrically derived, short run forecasts for Minnegasco's major customer classes. Provided direct expert testimony regarding the use of these forecasts as a factor in determining the need for and magnitude of Minnegasco's requested rate increase. Assisted in preparation of cross-examination of intervening parties.

On rebuttal, supported the implementation of weather normalization adjustments and discussed the effects of an adjustment on varying classes of customer use. All testimony was accepted by Staff .

Missouri Public Service (MOPUB) - (1992):

Provided econometric-based rebuttal testimony critiquing MPSC Staff's direct case criticizing MOPUB's forecast. Rebuttal testimony resulted in Staff stipulating to the use of the Company's forecast.

Palo Verde / Arizona Nuclear Power Project:

Developed computer software to facilitate budget tracking and comparison. Developed econometric-based target estimation models of Operation and Maintenance Costs. Developed target estimation of Capital Additions Costs based upon econometric modeling. Developed forced and planned outage statistical models to be used in regulatory proceedings for all participants as well as for internal outage planning. Acted as Advisor to Palo Verde Participant's Engineering and Operating Committee on Palo Verde Cost and Performance budget targeting.

Iowa Power Company:

Preparation of a generic proceeding-related evaluation of Iowa Power Company's current and planned DSM activities in light of its specific planning related need for DSM resources.

Long Island Lighting Company :(1974-1979)

Testified as an expert witness, usually in both the direct and rebuttal phases, in the following New York State Public Service Commission proceedings: Docket Numbers:

- 26733
- 26829
- 26985
- 27136
- 27154
- 80003
- 27319
- 27374
- 27375
- 28223
- 28252

on subjects such as econometric and econometric-end use Electric and Gas Peak and Energy Forecasts, Load Research studies for cost-of-service analysis, Load Management, Cogeneration, Conservation and statistical studies for weather normalization of gas sendout and electric energy requirements data.

Selected Consulting Assignments

El Paso Electric Company

Developed a business plan for and then implemented an Energy Services Business Unit (ESBU) that had as its mission key customer retention contracting and the provision of value added products and services in the areas of energy efficiency, power quality, standby generation, and "behind the fence" maintenance and support services.

Bermuda Electric Light Company, Ltd.

Consulted senior management on opportunities for diversification and franchise protection; from 1993 through 1997. Businesses developed include a full service ESCO (BESCO) and Power Protection Leasing Programs for Residential and Commercial customers.

Western Resources

In 1995, was retained by Western Resources to provide expert advisory services and supporting research to assist in the development of a non-traditional Energy Service Company (ESCO). This engagement also involved the analysis of profitability of certain customer classes.

WPI Group International

In 1993 through 1994, provided advisory services for the acquisition of MICROPALM by WPI. After acquisition, provided strategic market and product planning advisory services to the CEO.

Delmarva Power & Light Company (DP&L)

From 1994 to 1998, supported a market research and business plan development project for the development of a dispatchable photovoltaic power supply system business. Based on our initial contribution, DP&L turned over the entirety of the Phase II commercialization to my firm.

Richardson & Associates

Since 1982, has provided expert technical, economic and business plan analysis for over 15 energy-related venture capital business opportunities. This consulting relationship is ongoing.

Applied Energy Technologies Corporation (AET)

Led the formation of a jointly held subsidiary with Delmarva Power & Light Company, A.C. Battery Corporation (a subsidiary of General Motors) to advance both grid-connected and non-grid-connected dispatchable photovoltaics to domestic and international commercialization. Other contributors include the U.S. Department of Energy, Solarex Corporation (a division of Amoco/Enron), and Ascension Technologies

NCR Corporation

In 1981 through 1983, was retained by NCR to develop a diversification business in the automatic meter reading field. Developed business plans, marketing plans, and product functional specifications. Worked with NCR's CEO and senior management team.

Confidential Diversification Studies and Business Planning Engagements

Senior Management advisory services, development of business plans, and diversification strategies for twelve nationally known organizations. Because these assignments are governed by strict confidentiality agreements, they cannot be publicly identified.

Planning & Forecasting (Selected Projects)

New York State Electric & Gas Corporation (NYSEG) - (1994 -1997)

Served as Responsible Officer for AEG's development of a Multi-Equational Small Area Forecast Modeling System. This system is used to track monthly sales geographically in the NYSEG system, identifying significant weather normalized monthly variances almost in "real time" so that NYSEG can recognize and react to significant changes in a shorter elapsed time.

Western Resources/Westar - (1984 - 2004)

Provide continuing advisory services to Western Resources (now Westar) on potential methodological upgrades to their forecast and weather normalization methodologies.

Long Island Lighting Company (LILCO)

Directed the preparation of LILCO's Annual Long Range Peak and Energy Forecasts during the years 1974 - 1979. Constructed the first Engineering End Use and Econometric End Use models for electric forecasting in New York State; utilized Box-Jenkins stochastic and multiple transfer functions for short run electric forecasts; employed two and three stage regression techniques in SIC-based commercial-industrial forecasting.

In 1994, provided advisory services to review adequacy of the econometric methodologies for the capture of "market transformation" DSM and efficiency effects.

Saudi Arabia – 1995

Selected from an international list of experts to perform a comprehensive review of Saudi Arabia's largest utility's overall planning and forecasting procedures, methodologies, and results. This two-phase project also called for the reengineering of these processes once the analytical and fact-finding phase was complete.

Bermuda Electric Light Company, Ltd. (BELCO) - (1994)

Reviewed BELCO's existing forecasting process and provided a "phase in" solution for enhancing their forecasting systems.

Freeport Light & Power - (1995-2004)

Have and continue to prepare Freeport's short and long term electric peak and energy forecasts.. Have presented and defended Freeport's forecasts and weather normalization studies in its last three rate cases.

Innovative Market Segmentation & Profitability Studies

Western Resources

Served as Responsible Officer for a Competitive Assessment of Western Resources key customer's responses to cost competition.

CINergy

In 1995, advisor to senior staff in a multi-phase project that had as its objective the meaningful (from a risk-profit perspective) segmentation of CINergy key customer markets and the analysis of profitability of the segments. This was followed by the development of strategies to optimize the use of CINergy's

marketing resources to maximize shareholder returns while ensuring the long-term viability of the company.

Demand-Side Management Program Design, Reengineering, & Evaluation

Bermuda Electric Light Company, Ltd.

Directed a multi-faceted evaluation of the potential for DSM on Bermuda. Conducted in-depth research of various customer classes to determine likelihood of adoption of available DSM technologies. Building on this research, developed a series of pilot programs that were implemented in 1993, as well as evaluation strategies to be employed at the programs' conclusion.

Consolidated Edison Company of New York, Inc.

Project Manager for a Conservation Assessment Study which included designing a method and performing analysis to impact Conservation measures in the residential and commercial sectors to meet requirements imposed by New York PSC in Case No. 28223.

Long Island Lighting Company (LILCO)

Directed a research project focusing on the right-sizing of LILCO's DSM program in the face of a maturing market condition, as well as on the measurement of the extent to which LILCO's programs have successfully moved the market to energy efficient technologies. Research includes an assessment of the impacts of pure

market forces on DSM and the role of rebates and information in overall market capture for DSM technologies.

Project Manager for LILCO's 1992 Research and Development Initiative entitled, "Institutional Barriers to Conservation in Master-Metered, Tenant-Occupied Commercial Office Space." The project involved determining the market conservation potential, identifying institutional barriers through focus groups and interviews with landlords and tenants, and establishing a pilot program and blueprint lease to implement in order to enhance DSM measures in the relevant market.

Directed the comprehensive evaluation of LILCO's 1987 Conservation and Load Management Programs. This evaluation is contained in a three-volume report which has been called the "most comprehensive" effort to date in this area.

Directed the evaluation of LILCO's 1988 and 1989 Conservation and Load Management Programs. Directed the preparation of a June 1988 Load Management Study. Specific responsibilities included estimating Load Management reductions included in LILCO's Load Forecasts by major components.

Minnegasco

Served as the Senior Management Advisor to Minnegasco's DSM/Load Research Program from 1993 through mid-1995. Responsibilities included contract negotiations with consultants, supervision of consultant's activities, and resolution of technical issues, and on-site presence as required to effectively oversee all Load Research-related activities.

New York Power Authority (NYPA)

Served as the Senior Management Advisor for NYPA's $120 million High Efficiency Lighting Program (HELP) having primary responsibility for drafting and negotiating DSM cost sharing umbrella contracts with New York State and New York City.

Analysis on behalf of NYPA of Energy Systems Research Group's (ESRG) Conservation Assessment Report submitted in FERC Case No. 2729: Prattsville Pumped Storage Facility.

Supervised the development of an evaluation of potential Load Management strategies for the NYPA's municipal customers, including a cost/benefit analysis and specific Load Management test programs.

Named "Advisor" to NYPA's extensive Conservation Ten-Year Program.

New York Power Pool

Analyzed the conservation forecasts contained within the Member Systems' individual long range forecasts and critiqued intervenors' conservation forecasts and analyses.

New York State Electric & Gas Corporation (NYSEG)

Served as Responsible Officer for NYSEG's 1991 & 1992 Commercial / Industrial Process and Impact Evaluations. Served as Responsible Officer in the development of NYSEG's June 1994 DSM Market Transformation Study.

Orange and Rockland Utilities (O&R)

Assessed the potential for and designed an Energy Cooperative Program for O&R's commercial customers. Directed project to assess new regulated and unregulated business opportunities to diversify O&R from its core business.

Rochester Gas & Electric Corporation

Served as Responsible Officer for RG&E's 1990-94 DSM Evaluations. Represented RG&E in all DSM-related interactions with PSC Staff.

Load Research

Electric Power Research Institute (EPRI)

Advisor to EPRI's Demand Program. Author of RP 1588-3 "Load Data Management and Analysis"; co-author of EPRI Rate Design Study Topic Paper 3: "Issues in Load Research."

Elizabethtown Gas Company

Asked by Senior Management to assess Elizabethtown's Load Research Program and develop a set of recommendations that would result in full cost-effective utilization of the Load Research resource, developed study plan, conducted in-depth technical interviews of potential load research clients, and presented findings and recommendations to all levels of Management.

Iowa Power Company

Directed weather normalization analysis on historical system peak demands. Results from analysis will be utilized in future system peak demand forecasts.

Long Island Lighting Company (LILCO)

Designed and implemented stratified sampling software that employed Dalenius-Hodges and Neyman Allocation techniques with stratum optimization and validation. Also directed LILCO's Load Research Program.

New England Power Service Company (NEPSCo)

Reviewed NEPSCo's Load Research Data Management and Analysis System from analytical and data perspectives and developed a NEPSCo-specific computer hardware and software plan for implementation.

New York Power Authority

Directed the review of the existing Load Research Program and formulated a Management Plan to specify future needs in the areas of sample design, hardware, software, and staffing.

Assisted in the development of specifications for a microcomputer-based Load Research Data Collection, Editing and Analysis System.

New York State Electric & Gas Corporation (NYSEG)

Served as Technical Advisor to the Manager of NYSEG's Load Research Department.

Northeast Utilities Service Company

Performed a comprehensive audit of the technical, software, and organizational aspects of the Northeast Utilities Load Research Program, including the identification of current uses and recommended future cost-effective uses within the company.

Supervised development of a study to analyze load research, weather, and attribute data for the small Commercial and Industrial customer group.

Northern States Power Company (NSP)

Directed the review of all aspects of NSP's load research process and presented findings in a comprehensive presentation to senior management.

Pacific Gas & Electric Company (PG&E)

Performed a comprehensive audit of the PG&E Load Research Data Management and Analysis System. Also, assessed the value of Load Research to all relevant departments in the company including recommendations for more cost-effective uses of Load Research data for both current and future applications.

Tennessee Valley Authority (TVA)

Conducted review of TVA's Sampling Plan strategies and methodologies.

DSM Bidding:

Orange and Rockland Utilities

Directed the economic evaluation of the first utility bidding program in New York State.

Cogeneration

Caribbean Gulf Refining Corporation

Performed an economic review for the construction of a nine megawatt Cogeneration facility.

Day and Zimmermann, Inc.

Performed a detailed analysis on the potential for Cogeneration Systems in the United States, which included the development of a comprehensive marketing strategy.

Orange and Rockland Utilities

Developed a Corporate Strategy for Cogeneration in the O&R service territory.

PUBLICATIONS, PRESENTATIONS, AND SEMINARS

Speaker, "The Electrotechnologies Conference," El Paso Electric Company; El Paso, Texas; March 31, 1998.

Speaker, "The Customer Information Seminar," El Paso Electric Company; El Paso, Texas; October 7, 1997.

Speaker, "The Energy Revolution Conference," El Paso Electric Company; UTEP Campus; El Paso, Texas; June 3, 1997.

Speaker, "Customer/Market Segmentation to Optimize Competitive Opportunities," AMRA 1996 Annual Symposium; New Orleans, Louisiana; September 10, 1996.

Speaker, "Customer Segmentation," Infocast; Deloitte & Touche; Strategic Marketing Seminar; Atlanta, Georgia; May 1996.

Speaker, "Reengineering Customer Service & DSM - Keys to Building Competitive Advantage in the Future" with Steven J. Maslak; CARILEC CEO Conference; Freeport, Bahamas; June 1 & 2, 1995.

Speaker, "A Presentation To The Deloitte & Touche Partners" with Steven J. Maslak; Public Utilities SLIP Meeting; Las Vegas, Nevada; December 12-13, 1994.

Speaker, "Demand Side Management Alternatives for the Caribbean," Caribbean High-Level Workshop on Renewable Energy Technologies; December 5-9, 1994.

Speaker, "Projects For Energy Efficiency, And The Conservation Of Economic And Environmental Resources," The Caribbean Workshop On Renewable Energy Technologies; St. Lucia, West Indies; December 5-8, 1994.

Speaker, "Demand Side Management As An Economic Development Tool," MEUA Conference; Syracuse, New York; October 13, 1994.

Speaker, "The Effect Of The Market Transformation Phenomenon On DSM And Utility Competitiveness," EUMMOT Fall 1994 Meeting; Corpus Christi, Texas; September 9, 1994.

Speaker, "Evaluation Protocols: Preparing For DSM Evaluation," Presentation to the 4th Quarter EUMMOT Meeting; Columbia Lakes, Texas; December 13, 1993.

Author, "Incentive Regulation in the United States: an Update," EEI; 1992.

Speaker, "The Career Challenges Facing the Electric Industries in the 1990's," Hofstra University, M.B.A. Career Forum; Hempstead, New York; April 1992.

Speaker, "DSM Evaluation for Incentives: How Heavy Should the Burden of Proof Be?," Washington Gas Least-Cost Planning Conference; Washington D.C.; April 1992.

Speaker, "Practical Cases in Evaluating Energy Efficiency Initiatives," Hydro-Quebec Symposium; Montreal, Canada; November 1992.

Author, "Integration of Load Research into the DSM Evaluation Framework," Chapter 8; DOE DSM Evaluation Handbook.

Speaker, "Measuring the Impacts of Demand Side Management Programs," Northern States Power DSM Evaluation Overview; Minneapolis, Minnesota; December 1991.

Speaker, "Incentive Regulation an Overview of Operating Incentive Programs in the U.S. Today," The Southeastern Electric & Gas Conference; University of Georgia; Atlanta, Georgia; August 1991.

Speaker, "The Comparative Costs of and Sensitivities Surrounding the ALWR vs. Alternate Generation Options," EEI Working Group; Washington D.C.; July 1991.

Speaker, "The Role of Load Research in DSM Evaluation," NYSEG Conference; Saratoga Springs, New York; May 1991.

Speaker, "The Role of Load Research in Demand Side Management" with Joseph Lopes; Northeast AEIC Load Research Conference; Farmington, Connecticut; September 1989.

Speaker, "The Role of Load Research in Demand Side Management," 1989 APPA Accounting, Finance, Rates and Information Systems Workshop; Chicago, Illinois; September 1989.

Speaker, "Demand Side Management; The Key to Measuring Success and Cost Recovery," Iowa Utility Association; Integrated Resource Planning Conference; Des Moines, Iowa; August 1989.

Speaker, "DSM Program Monitoring & Evaluation Workshop," Rochester, New York; December 1988.

Speaker, "The Massachusetts Joint Utility Monitoring Projects" with Eric P. Cody; Northeast Regional AEIC Load Research Conference; Farmington, Connecticut; September 1986.

Author, "The Load Research Process Above and Beyond PURPA," Public Utilities Fortnightly; March 18, 1982.

"Load Data Management and Analysis," EPRI RP1588-3; December 1981.

Co-Author, "Issues in Load Research," Topic Paper 3; EPRI Rate Design Study; 1981.

Instructor, "Load Research and Load Management Seminar," Stone and Webster Utility Management Development Course; New York (2 courses); 1980.

Speaker, "Allocating Revenues Between Service Classifications: Necessary Load Research," National Regulatory Research Institute; Ohio State University; 1980.

Speaker, "Issues in Load Research," EPRI Rate Design Study Executive Transfer Conferences; San Francisco, Kansas City, and Washington D.C.; 1980.

"How Electric Utilities Forecast," EPRI Peak Load Forecasting Methodologies; EPRI Symposium Proceedings; New Orleans, Louisiana; 1979.

"Report of the Member Electric Systems of the New York Power Pool and the Empire State Electric Energy Research Corporation pursuant to Article 3, Section 5, 112 of the Energy Law of New York State, Exhibit 7," LILCO Load Forecast Method; 1979.

Speaker, "Load Forecasting Working Group Chairman Reports (3)," Utility Modeling Forum (EPRI sponsored); San Francisco, California; 1979.

"Report of the Member Electric Systems of the New York Power Pool and the Empire State Electric Energy Research Corporation pursuant to Article 8, Section

149-b of the Public Service Law, Exhibit 7," LILCO Load Forecast Method; 1974-1978.

AFFILIATIONS

Association of Energy Engineers

American Statistical Association

American Economic Association

Mathematical Association of America

Omicron Delta Epsilon

Advisor to American Management Association

EDUCATION

St. John's University, M.B.A., Economic Theory, 1972

St. John's University, B.A., Economics, 1969

C.W. Post College, course work toward an MS, Management Engineering

Mr. Fitzpatrick has also completed course work in Engineering Economics, Load Research, Demand Forecasting in Electric Power Systems, Box-Jenkins Forecasting Techniques, logistic curve analyses; two and three stage multiple regression techniques; advanced econometric modeling and the utilization and interpretation of multiple regression models and associated analytical techniques. Mr. Fitzpatrick also holds a "Certificate of Mastery" in Reengineering from the Hammer Institute's Speaker: Center for Reengineering Leadership.