BEFORE THE

TENNESSEE PUBLIC UTILITY COMMISSION

NASHVILLE, TENNESSEE

IN RE:	)	
CHATTANOOGA GAS COMPANY	)	**Docket No. 22-00032**
PETITION FOR APPROVAL OF ITS	)	
2021 ANNUAL RATE REVIEW	)	
FILING PURSUANT TO	)	
TENN. CODE ANN. § 65-5-103(d)(6)	)	

DIRECT TESTIMONY OF JAMES L. CRIST, P.E.

ON BEHALF OF

THE CHATTANOOGA REGIONAL MANUFACTURERS ASSOCIATION

Dated: June 17, 2022

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS, AND ON WHOSE BEHALF YOU ARE TESTIFYING.

A. I am James L. Crist, President of Lumen Group, Inc., a consulting firm focused on regulatory and market issues. My business address is 4226 Yarmouth Drive, Suite 101, Allison Park, Pennsylvania 15101. I am presenting testimony on behalf of Chattanooga Regional Manufacturers Association's ("CRMA").

Q. DO YOU HAVE ANY QUALIFICATIONS OR OTHER SPECIALIZED KNOWLEDGE THAT WOULD ASSIST THE TENNESSEE PUBLIC UTILITY COMMISSION ("COMMISSION") IN ITS DELIBERATIONS IN THIS CASE?

A. Yes. I have a B.S. in Chemical Engineering from Carnegie Mellon University and an M.B.A. from the University of Pittsburgh. Additionally, I am a Registered Professional Engineer in the Commonwealth of Pennsylvania. I have attached a copy of my CV and Regulatory Experience as Exhibits JC1.1 and JC1.2 respectively.

Q. BRIEFLY DESCRIBE YOUR RELEVANT BUSINESS QUALIFICATIONS.

A. I have run a consulting practice for the past 26 years focused on regulated and deregulated energy company strategy, market strategy, and regulatory issues. During 2004 and 2005, I undertook a consulting assignment as the Vice President of Consumer Markets for ACN Energy. ACN is a gas and electric marketer that is active in eight states. Prior to my consulting practice, I worked at three major energy companies for a total of 19 years. Most recently I was Vice President of Marketing for Equitable Resources. In that function I was responsible for the development of the company's deregulated business strategy.

Prior to that I was Vice President of Marketing for Citizens Utilities, responsible for gas, electric, water and wastewater marketing activities in several service territories within the United States. The gas and electric utility operations were in Vermont, Louisiana, Arizona, Colorado, and Hawaii. Under my direction, Citizens initiated commercial and industrial transportation and supply services at its gas operation in Arizona. I also directed significant gas supply contracting activities with large industrial and commercial customers in Citizens' gas operation in Louisiana.

Before that, during 1988 through 1994, I was the Marketing Director at the Peoples Natural Gas Company where I was actively involved in many gas transportation programs as the company relaxed transportation requirements so that customers would have supply choices.

In summary, I have considerable experience in several states involving residential, commercial, and industrial customer energy procurement, regulatory issues and industry restructuring programs.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE TENNESSEE PUBLIC UTILITY COMMISSION?

A. No. However, I have provided testimony on a variety of issues relating to energy procurement, industry restructuring, demand response and customer choice before regulatory Commissions in Arizona, Illinois, Kentucky, Maryland, New Mexico, Ohio, Pennsylvania, Wyoming and the U.S. Virgin Islands.

I. <u>ISSUES</u>

Q. WHAT ARE THE ISSUES YOU WILL DISCUSS IN THIS TESTIMONY?

A. After a review of Chattanooga Gas Company's ("CGC" or "Company") Annual Review Mechanism ("ARM") filing, I have identified issues that impact all customer classes, including the commercial and industrial customers that are members of CRMA, along with residential customers. In my direct testimony I will address the Company's base rate requests and then address its Cost of Service Study ("COSS") and revenue allocation recommendations. Issues involving gas delivery service and costs along with revenue allocation are not reflective of cost causation and are discriminatory and the Company's revenue allocations should not be accepted. I am also concerned about issues of incremental gas costs and the Company's management of its capacity and LNG facilities.

II. <u>COST OF SERVICE STUDY</u>

Q. WHEN DID CHATTANOOGA GAS COMPANY LAST INCREASE ITS BASE RATES?

A. Chattanooga Gas Company has an Annual Review Mechanism that results in increases to customers' delivery rates each year. Prior to the filing of an ARM in 2021, Chattanooga Gas Company filed a traditional base rate increase in 2018. In November, 2021, the results of the 2021 ARM filing imposed an increase of $6.8 million on all customers. Once again CGC wishes to impose and increase of $6.8 million and defer $1.2 million to the 2023 ARM. Such requested increases should be expected annually.

Q. WHAT IS A COST OF SERVICE STUDY?

A. A Cost of Service Study ("COSS") examines costs incurred by the utility and allocates those costs into distinct customer classes. To produce an accurate COSS it is necessary to possess quality accounting data detailing utility expenses and be able to determine assignment of expenses to customer classes. Expenses must be examined in detail to determine what customer or class of customers created the need for the utility to make the expenditure. This identification of expense responsibility is known as cost causation.

A COSS can be defined as a benchmark for evaluating customer class cost responsibility with the fundamental purpose of aiding in the accurate and reasonable design of rates by identifying all the capital and operating costs incurred by the utility in serving its customers, and then directly assigning or allocating these costs to each individual rate class ***based on established principles of cost-causation***. It is critical that the Commission recognize that the COSS must be based on cost causation.

Q. WHAT IS COST CAUSATION?

A. This fundamental principle of ratemaking assigns costs to those classes of customers that are responsible for the incurrences of costs. Cost causation as a fundamental principle and the bedrock of cost assignment in the ratemaking process. Failure to adhere to proper cost causation will create mis-allocations of cost which result in cross-class subsidization. This principle may not be violated just because some customers do not like bearing the costs or want to lessen the impact of the cost of the benefits they receive at the expense of others, nor may it be violated because a utility wishes to benefit one customer class at the expense of another. Cost of service is the "polestar" of ratemaking, and the Commission should direct the Company to set non-discriminatory, reasonable rates.

Q. HOW ARE REVENUE REQUIRMENTS DETERMINED?

A. In her direct testimony, Company witness Ms. Weems computed the rate adjustment to allow CGC to earn its authorized rate of return to be $8.02 million, however the she capped the increase at $6.8 million in accordance with a stipulation approved by the Commission in the 2021 ARM proceeding. The uncollected amount does not simply vanish but is carried over to the next ARM filing where it will be recovered. In other words, customers must expect another increase after the 14.7% increase proposed in this year's ARM.

Q. WHAT IS THE CLASS RATE OF RETURN?

A. Company witness Mr. Hickerson presented testimony about the Company's COSS model which shows the allocations of capital and operating costs by customer class. In the model are customer classes for residential, multi-family, small commercial, medium commercial & industrial, and industrial. Based on the revenues collected within each class of customers and the allocation of rate base and operating costs Mr. Hickerson determined a class rate of return for each of the five classes, along with the overall rate of return for the Company as a whole. The overall return at present rates is 4.95% and the class rates of return range from a remarkedly low -0.59% for the residential class, 47.66% for multi-family, 5.32% for small commercial, 25.45% for medium C&I, and 36.36% for industrial. Such disparities in the returns indicate an existing cross-subsidization. Classes whose return is greater than the system average (all classes except residential) are providing subsidies to the residential class. This is blatantly unfair, and does not conform to fundamental ratemaking principles and must be corrected. In this current ARM the

Company choose to not correct this unfair allocation and distributed its requested increase to all classes by increasing each rate by 14.7%. This allocation must be rejected.

Q. HOW SHOULD REVENUE REQUIRMENTS BE ALLOCATED TO CUSTOMER CLASSES?

A. In my experience, using the results from an COSS to develop class revenue requirements, utilities and regulatory authorities usually have a goal of moving the revenue recovered from each class as close as possible to the costs allocated to that class. That is, in each proceeding, regulators try to move class revenues more into line with cost-based rates. Thus, rate classes whose revenues substantially exceed allocated costs are assigned either relatively low rate increases or rate decreases. Rate classes whose revenues are well below allocated costs are assigned larger rate increases than those classes whose revenues are only slightly below allocated costs.

The underlying principle is that the costs are assigned to the rate classes that cause the costs to be incurred. This is not only fair but it is also economically efficient. It provides a price signal to customers so they can make cost-based purchasing decisions. If a customer class return is below the Company's return, the customer is being subsidized and pays an artificially low price for energy, and will purchase more than he otherwise would.

Q. WHAT MUST BE DONE TO CORRECT THE IMPROPER CROSS-SUBSIDIZATION IN THE COMPANY'S REVENUE REQUIREMENT ALLOCATION?

A. In the Company's 2018 base rate case it proposed a revenue requirement allocation based on the customer class returns and such an allocation complies with established ratemaking principles. It proposed no increase for the interruptible customers served on transportation rate T-1. After a full preponderance of the facts the Commission agreed with the Company and ordered no increase for rate T-1. Likewise, in this proceeding rate T-1 should not be increased as that class does not receive the same level of benefits and service as the firm service customers.[1] In fact, in absence of the interruptible customers, firm service customers would realize substantially higher costs during cold periods when flow orders are in effect. Indeed, the interruptible customers provide a substantial system benefit to all other classes. Therefore, Mr. Hickerson should be directed to redo his cost allocation so that each class rate of return is equal to the Company's rate of return. Such leveling of rates will eliminate the cross-subsidization currently experienced.

III. PEAK DAY CAPACITY ASSETS

Q. WHAT PIPELINES DELIVER GAS TO THE COMPANY'S DISTRIBUTION SYSTEM?

A. CGC contracted for firm transportation and storage services from three interstate pipelines during the review period: East Tennessee Natural Gas (ETNG), Tennessee Gas Pipeline (TGP), and Southern Natural Gas Company (SONAT). Of these three interstate pipelines, CGC is interconnected to two: ETNG and SONAT.

Q. WHAT CAPACITY DOES THE COMPANY HOLD?

A. The table below illustrates capacity held prior to, and after January 2022. The Company now holds 116,917 Dth/day of peak capacity. This is in excess of what the Company has

[1] See Direct Testimony of Chance Donahue whereby CGC denied KordSA and the T-1 customers any benefit from CGC's LNG peaking asset.

experienced, and has predicted what will be experienced in the future year for its peak day needs. Pipeline capacity in excess of the amount needed for firm system deliveries should be offered to customers (presumably industrial interruptible customer) prior to attempting to sell capacity off-system. Such capacity may be offered on a recallable basis, meaning that if the receiving party does not meet the operational requirements for actually using the released capacity to obtain gas and adhere to gas, the Company may recall the capacity.

TABLE	Thru Jan 2021		New Capacity	
CGC Pipeline Capacity	13000	East Tenn	13000	East Tenn
	28350	East Tenn	28350	East Tenn
	23000	OPC capacity	48000	OPC capacity
	13221	Sonat	13221	Sonat
	14346	Sonat	14346	Sonat
Total	**91,917.0**		**116,917.0**	

Q. WHAT ADDITIONAL ASSETS DOES THE COMPANY HAVE TO MEET ITS DESIGN DAY PEAK?

A. In addition to the pipeline capacity cited, the Company operates an LNG facility. The capital costs for construction, and the annual operating costs are recovered in the Company's delivery rates that apply to all classes, residential, commercial, and industrial, and levels of service, firm and interruptible. I will explain the discriminatory operational practices of the Company regarding the use of the LNG facility that disadvantages the commercial and industrial interruptible customers.

Q. HOW HAS THE COMPANY MANAGED ITS LNG ASSETS IN THE PAST?

A. Historically, and through 2018, the Company's affiliate Pivotal, would profit by selling LNG off system. After August 2018 this behavior ceased, and the Company sold no LNG off system or on system. It did use a minor amount of LNG during cold periods but never exhausted its total LNG volumes.

Q. WHAT IS THE RECENT HISORY OF PEAK DAY USAGE?

a. Prior to the acquisition of the additional Oglethorpe capacity of 25,000 Dth/day the Company had 92,000 Dth/day firm pipeline capacity, and now holds approximately 117, 000 Dth/day. During the relatively cold January 2021, CGC actually used 129,000 mcf of LNG to supplement gas it flowed on the interstate pipeline. The reason it needed to use LNG was because the asset manager, its affiliate Sequent Energy Services ("Sequent"), was diverting some of CGC's capacity for sale off-system. The created revenues for Sequent and CGC and under the current sharing mechanism, Sequent retained 50% of those revenues.

In the Company's response to data request II-25 in Docket 22-0004, included as Exhibit JC1.3, provides the actual peaks for each year from 2011 to 2021. These peak data include 10,000 Dth/day which represents the interruptible load delivered by third parties, it is clear that with the current capacity of 117,000 Dth/day the Company will almost never have need to use LNG to meet peak day demands.

	Annual Total (Dth)	Peak Day (Dth)
2011	15,201,302	111,569
2012	13,646,626	103,146
2013	16,000,945	92,985
2014	16,153,670	134,821
2015	14,542,754	126,499
2016	14,503,249	115,823
2017	13,494,686	108,038
2018	15,464,175	129,424
2019	14,911,931	108,713
2020	14,556,350	110,983
2021	15,161,639	118,020

Q. WHAT IS "INCREMENTAL GAS"?

A. Incremental gas is "gas supply that is over and above the amount needed for design day and reserve margin requirements." (Santolin Rebuttal at 4, Docket 18-00017). LNG gas is incremental gas.

Q. WHAT CUSTOMER GROUPS ARE ALLOCATED COSTS OF THE PEAK DELIVERY ASSETS?

A. The capital cost and operating costs of the LNG facility were and continue to be borne by all customer classes, and both firm and interruptible customers. This means that all customers have an equal right to benefit from the LNG facility. Since I have established that the Company does not require the LNG facility to satisfy its peak demand requirements, then the LNG facility including the LNG stored in the facility should be available to customers upon request. Unfortunately, the Company has not provided such access to LNG to customers, and this behavior of the Company has resulted in customers paying exceptionally high amounts for gas during cold periods when flow orders are issued. Such behavior by the Company must be ordered to end.

Q. WHAT CUSTOMER EXAMPLE ARE YOUR FAMILIAR WITH?

A. I reviewed the direct testimony of Chance Donahue of KordSA and am familiar with the actual event in January 2022, when the Company issued flow orders on 25 of 31 days. KordSA requested incremental gas, yet the Company offered no incremental gas on any of the days requested. The Company's behavior cost the customer $350,000 during January alone. The Company has not limited the unavailability of LNG solely to January 2022. In fact, it has not provided access to LNG since January 2019, and then only offered LNG on two days out of 31. It is clear than the Company is abusing its possession of the LNG asset. This must be changed.

Q. WHAT DID THE EXETER REPORT RECOMMEND REGARDING THE PEAK DAY ASSETS?

A. The Exeter report mapped out the logic trail that explains how the Company's affiliate profits by not allowing customers to access LNG. It explained several items:

- Sequent, an affiliate asset manager has managed CGC's assets for 20 years. Requests for proposals from asset managers favor selection of Sequent. Exeter findings include that there has been a historical bias in awarding the AMA to the affiliate because Sequent had experience and more data to make manage these assets over a non-affiliate. Exeter recommended changes to address this bias.
- Revenues from off system sales of LNG and capacity release are shared with Sequent retaining 50% of the profits and the Chattanooga Gas Company receiving 50%. CGC's share is applied to it system gas costs.
- Pivotal, another affiliate, sells off system LNG to parties and shares 50% with ratepayers and Company.
- Exeter evaluated CGC purchases from Sequent for all gas commodities on various pipelines and found CGS's purchases prudent.
- The 50% refund going back to Firm Transportation customers is credited back to the PGA demand component which benefits firm transportation customers by reducing the reservation charge.
- Company's incentive to earn a 50% share of off system sales would be a negative incentive for them to assign assets.
- Company has excessive assets to handle peak day.

- Exeter wants them to consider selling more displacement out of the LNG, I agree with this only after the needs of system customers are satisfied, for reasons I will explain.

Q. WHY SHOULD THE COMPANY NOT SELL INCREASED VOLUMES OF LNG OFF SYSTEM THROUGH DISPLACMENT?

A. Such activity should only be undertaken after the needs of its own customers, both firm and interruptible, are met. This means offering LNG for sale to its interruptible customer without refusal except during periods of a system emergency. All operational flow orders are not system emergencies.

Q. WHEN SHOULD THE COMPANY MAKE INCREMENTAL GAS AVAILABLE TO CUSTOMERS?

A. With the new 25,000 Dth/day capacity recently acquired, Chattanooga Gas Company will not need LNG to meet its peak delivery requirements over the future rate year. Based on the metered volumes from January 2022, which was relatively cold winter month, it would have never used the LNG as a source of system supply. Because the Company has significant excess firm pipeline capacity to manage its winter delivery requirements, even on peak days, the Company should make LNG available to customers that request such incremental gas. In fact, the only time the Company should deny a customer request for incremental gas is if it cannot meet its delivery requirement with the existing pipeline capacity.

Q. WHEN IS THE COMPANY SUBJECT TO AN AUDIT?

A. Every three years the Company is subject to an audit, known as the triennial review. In the Order issued on October 27, 2020 (Docket No. 07-00224) the Commission ordered, "A triennial review of the gas procurement activities of Chattanooga Gas Company shall commence in the Fall of 2022, and a final report shall be issued by July 1, 2023." (Order at 9). The scope of the audit includes capacity management and storage as topics to be investigated, therefore, an audit of the incremental gas issue by Exeter is well within the scope of the upcoming audit. My recommendation that the Company make incremental gas available is based on the Company's data filed in this docket which proves that there is more than sufficient capacity available to meet the Company's peak needs and therefore should be offered upon request immediately and ongoing. If the findings of the 2023 Triennial Review uncover data that demonstrates otherwise then the practice of making incremental gas available will need to be examined.

Q. WHAT IS THE SUMMARY OF YOUR TESTIMONY?

A. To ensure that the correct cost allocation of the revenue requirement is based on cost causation, the allocations submitted by the Company must be rejected and it must recast class revenues base on the class rate of return, with the objective of reducing and ending cross-subsidization by having equivalent returns in each class. Company recommendations of allocating revenue increases evenly to each class does not adhere to cost causation principles must be rejected. Should the Commission wish to gradually move to the correct cost allocations that are based fully on cost causation, in the alternative, at the very least the averaging of the two studies should be adopted.

Effective immediately the LNG gas should be offered on a non-discriminatory basis to any customer that requests such supply. Excess pipeline delivery capacity should be offered to requesting customers via a capacity release mechanism that allows for recall in the event a customer is not using the released capacity.

Q: DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

Exhibit 1

JAMES L. CRIST

PRESIDENT, LUMEN GROUP, INC.

Suite 101, 4226 Yarmouth Drive ● Allison Park, PA 15101

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DEMONSTRATED AREAS OF EXPERTISE

- GENERAL MANAGEMENT — Proven executive-level management expertise with excellent capabilities in developing, implementing, and supervising corporate-wide policies and procedures in areas including sales, marketing, customer service, public relations, rates, regulatory affairs, and administration. Possess a unique combination of abilities to set goals, develop winning business strategies, organize structures and work methods, and train the right people for the right positions to make it all work. Skilled in strategic short and long-term planning and budgeting with effective abilities in reducing the "fat" and increasing organizational efficiency. A creative, decisive leader who can successfully meet challenges and overcome obstacles to achieve profit objectives.

- REGULATORY STRATEGY — A thorough strategist with an extensive background in utility business unit operation (electric, natural gas, water/wastewater) the full range of rate and regulatory functions, from tariff development and special contract negotiation. Proven personal testifying skills with an outstanding record of developing and presenting successful written and oral testimony, along with settlement negotiations.

- PERSONNEL MANAGEMENT — Effective interpersonal communications skills support outstanding capabilities in recruiting, training, motivating, and directing staff at all levels. Proven ability to build productive, highly motivated teams of sales/marketing, operations, technical, and customer service personnel who contribute to top organizational performance.

- PERSONAL ATTRIBUTES — A determined, hardworking, challenge-driven executive with the skills and experience to bring excellence to any business organization. A high-energy mover and shaper ... experienced in successful start-ups and turn-arounds. An excellent communicator - written and verbal. A frequent speaker at professional symposiums, able to interpret and communicate complex concepts for diverse audiences. An engineering/technical specialist and a management generalist. Active in civic and community affairs.

EMPLOYMENT HISTORY

LUMEN GROUP, INC., Pittsburgh, PA — 1996 - Present

President - A consulting practice specializing in strategic planning, business planning, regulatory strategy, marketing and venture development in the electric, natural gas and energy services industries. Please see Addendum for amplification of consulting assignments.

ACN ENERGY, Farmington Hills, MI — 2004-2005

Vice President, Consumer Markets

OPTIRON, Pittsburgh, PA — 2003-2004

Vice President, Marketing

E R I SERVICES, Pittsburgh, PA — 1996

Vice President, Marketing & Product Development

CITIZENS UTILITIES, Harvey, LA & Stamford, CT — 1994 - 1995

Vice President, Marketing

CONSOLIDATED NATURAL GAS, Pittsburgh, PA — 1977 - 1994

Director, Residential & Commercial Marketing (1988 - 1994)
Manager, Technical Sales/Market Development (1985 - 1988)
Market Development Specialist (1982 - 1985)
Project Engineer (1979 - 1982) ... promoted from ... **Process Engineer** (1977 - 1979)

OCCIDENTIAL CHEMICAL CORP., Niagara Falls, NY — 1975 - 1977

Research Engineer

PENNSYLVANIA STATE UNIVERSITY, State College, PA — 1988
CLEVELAND STATE UNIVERSITY, Cleveland, OH — 1984

Instructor (Evening Division) - Economics, Engineering Economics

SELECTED ACCOMPLISHMENTS

VICE PRESIDENT, CONSUMER MARKETS - ACN ENERGY

Retained for a turnaround assignment with an independent energy marketing company. Participated on the executive management team and directed a decentralized 3-person market management staff responsible for sales to 85,000 customers. Worked directly with the parent company executives and business unit management to create market-driven strategies for the corporation. Sharpened marketing and sales efforts of an energy marketing company operating in seven states and packaged company for eventual sale to Commerce Energy.

- Primary executive responsible for sales. Directed a team of market managers that was responsible for all aspects of 11 different markets (electric and natural gas) around the country. Provided direction and support to sales channel organization of commissioned representatives. Turned around five-year annual loss to significant gain in 2004. Tightened focus on market decisions.
- Directed regulatory involvement to insure compliance with market rules. Focused on maintaining positive relationships with state utility regulators to avoid penalties.
- Led weekly operations meetings during absence of COO. This involved direction of call center, provisioning, billing, credit & collection, and marketing.
- Worked in a team setting with other executives (VP Finance, VP Supply, COO) to provide consistent, professional focus to workforce experiencing changing environment.
- Directed development of annual business plan and budget with targets resulting in both goal achievements and income improvements.
- During transition period working with merger partner Commerce Energy's executive team to train and advise incoming executives.
- Directed customer service improvements in the customer acquisition process which resulting in replacing outdated paper/fax process with phone order process.
- Organized and directed trade show presence at national sales convention for alliance sales channel to create awareness of new product and market focus.

VICE PRESIDENT, MARKETING - OPTIRON

Retained as part of executive team in venture capital startup company developing new CIS/CRM software for the energy industry. Worked closely with CEO, COO, and Director of Sales to determine business strategy and develop marketing strategy to create market awareness and brand attributes in medium and small energy companies.

- Added in-house marketing communications function and personnel and revamped all marketing materials.
- Added new website functionality and content.
- Implemented first print advertising campaign in industry publications.
- Using industry contacts, positioned Option as expert presenter at several conferences and trade shows.
- Developed business plan to identify sales prospects and created competitive database of CIS/CRM vendors.
- Participated in development of exit strategy plan resulting in the successful sale to large software company.

VICE PRESIDENT, MARKETING & PRODUCT DEVELOPMENT - ERI Services

Assumed responsibility for creating a new corporate marketing vision and strategy to facilitate entry into new deregulated energy markets nationally.

- Recruited and selected an exceptional management team and integrated marketing and sales activities into one functional operating unit.
- Established the product innovation process to identify and create new and profitable market-driven service offerings.
- Directed strategic branding to launch the new corporate identity; managed a $2 million national advertising campaign; and developed over $1 million of new sales/marketing collateral materials.
- Instituted financial controls that reduced costs 60% in the Iowa market rollout while maintaining 80% market share and high customer satisfaction.

VICE PRESIDENT, MARKETING - Citizens Utilities

Directed a decentralized 20-person sales staff and a five person marketing staff. Worked directly with the Board of Directors, Corporate President, and Sector Vice President to create market-driven sales strategies for the corporation. Revamped and redirected sales efforts of a five-state energy utility with 440,000 customers.

- Increased industrial sales revenues by reorganizing unregulated gas marketing effort.
- Revamped merchandising utilizing inbound telemarketing in Louisiana Gas.
- Revised training programs for entire sales force, identifying and correcting missing technical and equipment training, adding a greater competency in the commercial and industrial sectors.
- Developed first business plan in sales and marketing organization with monthly budget monitoring and

targets resulting in both goal achievements and cost improvements.

- Launched an aggressive direct marketing program that increased sales 500% over previous year.
- Increased share of gas transportation business in Arizona by 15% in first year of operation through marketing efforts.
- Created a telephone long distance business in Louisiana that captured a 20% share (2nd to AT & T).

DIRECTOR, RESIDENTIAL & COMMERCIAL MARKETING - Consolidated Natural Gas

Managed a marketing staff of 12 and a "dotted-line" 24-person field sales force. Directed marketing and sales efforts in consumer, business, and manufacturing markets with $154 million revenue.

- Added $6 million in revenue by developing new products in gas transportation, supply, and agency.
- Directed sales activities in residential, commercial, institutional and governmental accounts for both product sales and technology sales.
- Produced $600,000 annual revenue and doubled competitive project wins by revamping market approaches to residential and commercial new construction.
- Secured 50% increase in customer decisions over 5 gas companies and 4 electric companies.
- Experienced in PUC and Legislature lobbying. Increased revenues $2.3 million through regulatory strategy/testifying and received major competitive program approval.

MANAGER, TECHNICAL SALES / MARKET DEVELOPMENT - Consolidated Natural Gas

Directed new market development and competitive market support.

- Focused on commercial and industrial accounts and increased the depth of relationship beyond the typical utility provider of service to a rich full service information provider and business partner.
- Captured $150,000 in new business annually by competitive pricing analysis, sales tool development, and market approach.
- Developed total advertising and promotional plan launching new market programs.
- Compiled extensive technical database and developed economic model for project analysis, eliminating a $100,000 operating budget expense.
- Led statewide coalition with customers and government agencies for fair treatment of new technology.

EDUCATION - PROFESSIONAL

UNIVERSITY OF PITTSBURGH, Pittsburgh, PA — 1982

M.B.A. Degree

CARNEGIE - MELLON UNIVERSITY, Pittsburgh, PA — 1975

B.S. Degree in Chemical Engineering

Registered Professional Engineer AGA Hall of Fame, 4/1991

JAMES L. CRIST

Lumen Group, Inc.

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AMPLIFICATION OF LUMEN GROUP CONSULTING ASSIGNMENTS

A consulting practice specializing in strategic planning, business planning, marketing and venture development in the telecommunications, energy, and services industries.

REGULATORY

Represented the National Energy Marketers Association and their members in Equitable-Dominion Peoples merger case. Developed strategy, presented written and oral testimony and negotiated on behalf of clients. Worked with other interveners and FTC on anti-competitive issues.

UTILITY RATE NEGOTIATION

Represented large client group seeking to obtain rate reduction from electric utility. Prepared strategy, wrote testimony, and exceeded expectations by achieving a 40% reduction in charges, producing a $2 million annual reduction.

STRATEGIC PLANNING FOR ON-SITE POWER GENERATION

Participated in proposal development for a 27-MW power plant on Kauai. Handled critical customer needs assessment in rapid turnaround fashion to meet proposal deadline. Maintained relationships with clients, vendors and proposal partners. Our proposal was selected as the preferred bidder out of five strong competitors.

NEW BUSINESS START-UP / TARIFF NEGOTIATIONS

Participated in the development of a new gas distribution utility in New York. Handled tariff development, pricing structure, transportation contracting, and operations, maintenance, and emergency manual preparation.

SALES STRATEGY/BUSINESS DEVELOPMENT

Developed sales strategy to focus on profitable accounts and markets. Developed sales training and account management plans and provided consulting to energy marketing organizations to improve overall sales.

BUSINESS STRATEGY/BUSINESS DEVELOPMENT

Developed business strategy to verticalize eCommerce/Customer Relationship Management product for the energy/utility industry. Produced sales training for global applications, product promotion presentations, developed alliance relationships with system integrators and software partners, developed business. Client is market leader in North America.

JOINT VENTURE/PRODUCT DEVELOPMENT

Assembled joint ventures resulting in sales to offer new hedge-based weather risk management retail product. Identified venture partners, and developed business arrangements and closed million-dollar deals

ENERGY PROCUREMENT

Served as energy expert on project team that obtained long-term natural gas supply for major government facilities. Prepared project specifications, negotiated with suppliers, prepared RFP, negotiated major reduction in delivery charges. This project resulted in annual cost reduction of $2.5 million.

NEW BUSINESS DEVELOPMENT - TELECOMMUNICATIONS

Analyzed use of electric utility assets for possible telecommunications business venture. Wrote the business plan that identifies regulatory and non-regulatory issues, marketing plans, financial analysis, and organizational requirements. Launched the new non-regulated business unit in 1996.

JOINT VENTURE DEVELOPMENT - TELECOMMUNICATIONS

Conducted analysis of potential joint venture partners for new unregulated telecommunications venture, bypassing the Bell operating company. Held screening discussions with potential partners and selected lead candidate for venture. Developed working agreement with partners along with business case to launch venture.

JOINT VENTURE DEVELOPMENT - TELECOMMUNICATIONS & ENERGY

Developed strategic plan for joint venture involving gas, electric, and telecommunications partners. Screened potential business partners and held discussions with lead candidates. Assembled justification for top management approval.

PRODUCT DEVELOPMENT - UNREGULATED ENERGY SERVICES

Developed energy products for start-up subsidiary of major energy utility. Identified potential products and selected most likely candidates for further development. Developed market plans and sales plans for products.

MARKET PLAN - DIRECT MARKETING

Developed the market plan for large, global direct marketing agency to enter the energy industry. Identified strategies, strengths, weaknesses, and target prospects. Initiated sales effort and developed new business.

CORPORATE IMAGE DEVELOPMENT

Developed complete business unit identity for a new operations and services company. Produced capabilities brochure for use with prospects.

MARKET RESEARCH

Conducted market research to identify new customer/new business opportunities for major energy utility. Comprehensive project with two additional similar projects were completed. Entailed determination of goals, development of research methodology, script preparation, vendor selection, data analysis, and development of action plan.

MARKET DEVELOPMENT

Organized intervener group in Illinois consisting of retail marketers and intervened in three rate proceedings (Nicor Gas base case, WPS-Peoples merger case, Peoples Gas base case) and secured significant improvements in rules and procedures enabling marketers to increase their business and profitability. Developed strategy and presented written and oral testimony.

Exhibit 2

PARTIAL LIST OF REGULATORY EXPERIENCE OF JAMES L. CRIST

1. Columbia of PA General Base Rate Increase, Docket R-2020-3018835, Representing the Pennsylvania State University
2. Dominion Energy Ohio Motion, Case No. 18-1419-GA-EXM, Representing Retail Energy Supply Association
3. Aqua America/Peoples Natural Gas Merger, Docket R-2018-3006061, Representing Natural Gas Supplier Parties and Retail Energy Supply Association
4. Peoples Natural Gas General Base Rate Increase, Docket R-2018-3006818, Representing Peoples Industrial Intervenors
5. Duquesne Light Company General Base Rate Increase, Docket R-2018-3000124, Representing the Duquesne Industrial Intervenors
6. Columbia of PA General Base Rate Increase, Docket R-2018-2647577, Representing the Pennsylvania State University
7. West Penn Power Company, Default Service Program, Docket R-2017-2637866, Representing the Pennsylvania State University
8. Vectren Energy Delivery Ohio, Alternative Rate Plan, Case No. 18-0049-GA-ALT, Representing Retail Energy Supply Association
9. Columbia of PA Gas Cost Increase, Docket R-2017-2591326, Representing the Pennsylvania State University
10. West Penn Power Company, General Base Rate Increase, Docket R-2016-2537359, Representing the Pennsylvania State University
11. Columbia of PA General Base Rate Increase, Docket R-2016-2529660, Representing the Pennsylvania State University
12. UGI Utilities General Base Rate Increase, Docket R-2015-2518438, Representing Dominion Retail, Inc., Shipley, Choice, LLC, Interstate Gas Supply, Inc., Amerigreen Energy, and Rhoads Energy
13. Columbia of PA General Base Rate Increase, Docket R-2015-2468056, Representing the Pennsylvania State University
14. West Penn Power Company, General Base Rate Increase, Docket R-2014-2428742, Representing the Pennsylvania State University
15. Herman Oil & Gas Company, General Base Rate Increase, R-2014-2414379, Representing Herman Oil & Gas Company
16. Columbia of PA General Base Rate Increase, Docket R-2014-2406274, Representing the Pennsylvania State University
17. Ameren Gas- General Base Rate Increase, Docket No. 13-0192, Representing Dominion Retail and Interstate Gas Supply of Illinois
18. Columbia of PA General Base Rate Increase, Docket R-2012-2321748, Representing the Pennsylvania State University, Dominion Retail, Interstate Gas Supply, and Shipley Energy
19. Columbia of PA Petition for Approval of a Distribution System Improvement Charge Docket R-2012-2338282, Representing the Pennsylvania State University
20. PUC PA Generic Investigation Regarding Gas-On-Gas Competition, Docket No. P-2011-2277868, Representing the Pennsylvania State University
21. Ameren Gas- General Base Rate Increase, Docket 11-0282 (Cons.), Representing Dominion Retail and Interstate Gas Supply of Illinois
22. Water and Power Authority (USVI)- Electric Base Rate Case, Docket 575, June 2009, Representing Frenchman's Reef Marriott
23. Water and Power Authority (USVI)- Water Base Rate Case, Docket 576, June 2009, Representing Frenchman's Reef Marriott
24. Public Service of New Mexico 2010 Base Rate Case, Informal rate design workshops pursuant to the stipulation in NMPRC Case No. 08-00273-UT, Representing City of Albuquerque
25. Public Service of New Mexico, Electric base case at Case No. 08-00273-UT, Representing City of Albuquerque
26. Public Service of New Mexico 2009 Renewable Energy Procurement Plan for 2010, Case No. 09-00260-UT, Representing City of Albuquerque and Santa Fe County
27. Public Service of New Mexico, Gas sale case at Case No. 08-00078-UT, Representing City of Albuquerque
28. UGI Utilities, Central Penn Gas, Penn Natural Gas, Gas Cost Increase, Docket No. R-2011-2238953, Representing Shipley Energy, Rhodes Energy, and CenterPoint Energy
29. UGI Utilities- Gas Division, Gas Cost Increase, Docket No. R-2010-2172933, Representing Shipley Energy
30. Columbia of PA General Base Rate Increase, Docket R-2010-2215623, Representing the Pennsylvania State University, Dominion Retail, Interstate Gas Supply, and Shipley Energy
31. Columbia of PA General Base Rate Increase, Docket R-2009-2149262, Representing the Pennsylvania State University, Dominion Retail, Interstate Gas Supply, and Shipley Energy
32. Columbia of PA General Base Rate Increase, Docket R-2008-2011621, Representing Hess Energy, Dominion Retail, Interstate Gas Supply, and Shipley Energy
33. Columbia of PA Gas Cost Increase, Docket R-2008-2028039, Representing Dominion Retail, Interstate Gas Supply, and Shipley Energy

34. PPL Electric Utilities Voluntary Purchase of Accounts Receivables Program and Merchant Function Charge, Docket No. P-2009-2129502
35. Nicor Gas Company, Provision of facilities and services and the transfer of assets between Nicor Gas Company and Nicor Inc., Docket No. 09-0301, Representing Dominion Retail
36. North Shore Gas and Peoples Gas Light and Coke Company, General Base Rate Increase, Dockets 09-0166 and 09-0167, Representing Dominion Retail, Interstate Gas Supply and Nicor Advanced Energy
37. Nicor Gas Company, Base Rate Increase, Docket No. 08-0363, Representing Interstate Gas Supply and Dominion Retail
38. North Shore Gas and Peoples Gas Light and Coke Company, General Base Rate Increase, Dockets 07-0241 and 07-0242, Representing Dominion Retail, Interstate Gas Supply and U.S. Energy Savings
39. WPS Resources, Peoples Energy, Peoples Gas Light and Coke Company, North Shore Gas Company, Application pursuant to Section 7-204 of the Public Utilities Act for authority to engage in a Reorganization, Docket 06-0540, Representing Dominion Retail, Interstate Gas Supply, US Energy Savings, MxEnergy, and Direct Energy Services.
40. Allegheny Energy, Approval of Retail Electric Default Service Program and Competitive Procurement Plan, Docket No. P-2008-2021608, Representing the Pennsylvania State University
41. Allegheny Energy, Generation Rate Cap, Docket No. P-2007-2001828, Representing the Pennsylvania State University
42. Equitable Gas Company, Rate Increase, Docket R-2008-2029325, Representing Independent Oil & Gas Association and Hess Corp.
43. Equitable Gas Company and Peoples Gas, Merger Case, Docket A-122250F5000, Representing National Energy Marketers, Hess Corporation, and Constellation New Energy.

Exhibit 3

BEFORE THE TENNESSEE PUBLIC UTILITY COMMISSION
NASHVILLE, TENNESSEE

Chattanooga Gas Company	)	
Petition for Approval of Tariff	)	Docket No. 22-0004
Amendments to T-1, T-2, and T-3	)	

CHATTANOOGA GAS COMPANY'S
SUPPLEMENTAL RESPONSE AND OBJECTIONS TO CRMA'S
SECOND DISCOVERY REQUESTS, NOS. 2-10, 2-24, AND 2-25

Chattanooga Gas Company ("CGC" or "Company") files this Supplemental Response and Objection to the Chattanooga Regional Manufacturers Association ("CRMA") Second Round Discovery Requests, Nos. 2-10, 2-24, and 2-25. In making this Supplemental Response, CGC hereby incorporates its General Objections to CRMA's Second Set of Discovery Requests, served by CGC on June 14, 2022, and filed with the Tennessee Public Utility Commission on June 15, 2022.

2-10. Follow up on Set I-19, during the 2019-2021 calendar years, if the T-1 and I-1 customers daily deliveries were added to the Company's daily deliveries, is that less than the amount of capacity the Company has?

CGC RESPONSE (June 14, 2022):

Subject to any objections it may offer, CGC is continuing to assess whether and to what extent it may be able to compile some or all of this information in a timely manner.

CGC SUPPLEMENT RESPONSE (June 16, 2022):

CGC objects to this request as overly broad and unduly burdensome as it is vague and confusing. It is not clear if the request is for CGC to add the daily deliveries of the T-1 and I-1 customers to the Company's daily deliveries for each day of calendar years 2019, 2020, and 2021 or if the request is for CGC to add the T-1 and I-1 deliveries to the Company's daily deliveries for the peak days for calendar years 2019, 2020, and 2021. Since Rate Schedule I-1 customers do not transport their own gas, but purchase gas from CGC, it isn't clear what is being requested relative to I-1 customers daily deliveries. Subject to and without waiving the foregoing objections, CGC states as follows: the total throughput (Company System Supply plus Transportation Customers Supply) on the peak days in calendar year 2019, 2020, and 2021 was less than the Company interstate pipeline capacity and the peaking supply from the LNG facility.

2-24. Provide the historic forecast of annual consumption and peak day submitted in prior years for the year immediately following the specific filing. Please provide data for the period 2011 through 2021.

CGC RESPONSE (June 14, 2022):

CGC objects to this request as overly broad and unduly burdensome, seeking privileged and/or confidential information, and not reasonably calculated to lead to the discovery of admissible evidence. The purpose of this docket is to establish a penalty for those T-1, T-2, and T-3 customers who fail to nominate gas deliveries on a daily basis or who may materially under- or over-schedule and not maintain daily balances, and by whose actions, inappropriately shift costs from the transportation customers to the sales customers. This docket is not about CGC's gas forecasts, but the actions certain customers take to the detriment of other customers. Subject to and without waiving the foregoing objections, CGC states as follows: See CRMA DR 2-24 CONFIDENTIAL Attachment. Please note that the Annual Total and Peak Day load represents all load from all customer classes.

CGC SUPPLEMENTAL RESPONSE (June 16, 2022):

Please note that the information previously provided in CGC's response to CRMA DR 2-24 was actually responsive to CRMA DR 2-25. In making this correction, you should return to CGC or otherwise destroy the CRMA DR 2-24 CONFIDENTIAL Attachment provided on June 14, 2022; since this is the historic information, this is not confidential and is being provided in the substantive response to CRMA DR 2-25 below. This corrected information is also noted below in CGC's Supplemental Response to CRMA DR 2-25.

Substantively, with respect to the correct response to DR 2-24, CGC states:

CGC objects to this request as overly broad and unduly burdensome as it is vague and confusing. While CGC is asked to provide the historic forecasts of annual consumption and peak day submitted in the prior year for the year immediately following the specific filing, it is not explained to whom the forecast was to have been submitted or what is meant by "specific filing." The request is for "historic consumption" but doesn't explain if the forecasts consumption is for CGC sales customers, or if the request is for the forecasts of all customers' (sales and transportation customers) consumption. Subject to and without waiving the foregoing objections, CGC states as follows: The annual forecasts include non-transportation customer volumes with the exception of the design day which additionally include the transportation customers that have elected firm backup service. CGC projects the design day throughput and does not produce a peak day forecast. Since peak day forecasts were not produced, the design day projections are provided as an alternative. See the CRMA DR 2-24 CONFIDENTIAL Attachment that provides the information available.

2-25. Provide the actual annual consumption and peak day for the period 2011 through 2021.

CGC RESPONSE:

Subject to any objections it may offer, CGC is continuing to assess whether and to what extent it may be able to compile some or all of this information in a timely manner.

CGC SUPPLEMENTAL RESPONSE (June 16, 2022):

CGC's original response to CRMA DR 2-24 was actually the substantive response to CRMA DR 2-25, and the CRMA DR 2-24 CONFIDENTIAL Attachment is responsive to CRMA DR 2-25 and is not confidential. Thus, CGC states as follows:

CGC objects to this request as overly broad and unduly burdensome, seeking privileged and/or confidential information, and not reasonably calculated to lead to the discovery of admissible evidence. The purpose of this docket is to establish a penalty for those T-1, T-2, and T-3 customers who fail to nominate gas deliveries on a daily basis or who may materially under- or over-schedule and not maintain daily balances, and by whose actions, inappropriately shift costs from the transportation customers to the sales customers. This docket is not about CGC's gas forecasts, but the actions certain customers take to the detriment of other customers. Subject to and without waiving the foregoing objections, CGC states as follows: See the table below with the historic information being provided. Please note that the Annual Total and Peak Day load represents all load from all customer classes.

	Annual Total (Dth)	Peak Day (Dth)
2011	15,201,302	111,569
2012	13,646,626	103,146
2013	16,000,945	92,985
2014	16,153,670	134,821
2015	14,542,754	126,499
2016	14,503,249	115,823
2017	13,494,686	108,038
2018	15,464,175	129,424
2019	14,911,931	108,713
2020	14,556,350	110,983
2021	15,161,639	118,020

RESPECTFULLY SUBMITTED this 16th day of June, 2022,

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